

электронное периодическое издание

ЭКОНОМИКА

и

социум

ISSN 2225-1545

№1(128)-2025



ЭЛЕКТРОННОЕ НАУЧНО-ПРАКТИЧЕСКОЕ
ПЕРИОДИЧЕСКОЕ ИЗДАНИЕ

«Экономика и социум»

iupr.ru

УДК 004.02:004.5:004.9

ББК 73+65.9+60.5

ISSN 2225-1545

Регистрационный номер
средства массовой коммуникации
Эл № ФС77 - 80454 от 01 марта 2021г.

Журнал включен в систему НЭБ (e-library) [№ 594-09/2013 от 26.09.2013](#)

Тематика журнала: актуальные вопросы современной экономики и социологии - от теоретических и экспериментальных исследований до непосредственных результатов управленческой и производственной деятельности. Публикации в журнале учитываются как опубликованные работы при защите диссертаций на соискание ученых степеней России и зарубежья.

РАЗДЕЛЫ НОМЕРА:

- Основной раздел: социально-экономические аспекты развития современного государства;
- Современные технологии управления организацией;
- Актуальные вопросы политики и права;
- Современные науки и образование;
- Информационные и коммуникативные технологии;
- Здоровоохранение в обществе.

Выпуск №1(128) часть 2 (январь, 2025). Сайт: <http://www.iupr.ru>

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OPTIMIZATION OF LOAD SCHEDULES OF ENTERPRISES WITH PHOTOVOLTAIC PLANTS

Abstract: *At present, one of the most important issues at the level of various manufacturing enterprises is the development of ways for building and efficiently using of renewable energy sources, especially solar energy. In this regard, this article proposes a mathematical model of the problem of determining the optimal daily mode of operation of a photovoltaic system in an enterprise with a private photovoltaic system connected to the electrical system.*

Keywords: *optimization, renewable energy source, power station, load schedule, mathematical model, photovoltaic station.*

In the world today, consumers with power plants operating on renewable energy sources are using the particle swarm optimization method to optimally control the power, find the best configurations and determine the dimensions of the components. [1-3]. Many scientific publications have considered the issues of determining the optimal size of power plants working on renewable energy sources, and minimization of production and maintenance costs is considered as an objective function. However, optimal scheduling of consumer load schedules has not been considered in these developments [4-6].

The advantages of renewable energy sources, unlike oil and gas reserves, are that they are environmentally friendly and unlimited. Therefore, sooner or later, the energy supply system of all countries is moving to the widespread use of renewable energy sources. [7-8]. Therefore, a number of works are being carried out in the Republic of Uzbekistan on the construction and use of solar and wind power systems from devices operating at the expense of renewable energy sources. In order to effectively build and use such devices, it is necessary to determine their optimal parameters in advance based on the use of suitable mathematical models and algorithms.

In addition to the solar panels that generate electricity, the solar photoelectric power station installed at the enterprise includes additional equipment, such as

hybrid inverters, a device that controls the power generated in the photoelectric station and converts direct current into alternating current, and a monitor system that monitors the parameters of the station's operating mode. Among these equipments, it is possible to include the accumulator battery, which is used for rational use of the generated electricity.

In solving this problem, the electric capacity of the battery W , the load graph of the consumer for the planned day $P_L(t)$, the definition of the purchase of electricity from the electric power system C_t , the power graph of the solar photovoltaic power plant $P_{PV}(t)$, the minimum and maximum limit capacities of the battery battery charging (the discharge capacity is taken with a negative sign) is known data. The unknowns that can be determined as a result of solving the problem are the optimal active power graph $P_{G,PV}(t)$ provided by the solar photovoltaic power plant to the consumer, the optimal active power graph received from the electric power system (optimal load graph of the consumer in relation to the electric power system) $P_{PS}(t)$ and the optimal charging of the accumulator battery/ the discharge power graph is $P_{B,PV}(t)$.

To solve this problem, the following mathematical model of the optimization problem is proposed. According to it, the objective function to be minimized is the function of the total costs associated with the electricity received from the solar photovoltaic power plant and the electric power system during the day [9]:

$$Z = \sum_{t=1}^{24} [C_t P_{PS}^{(t)} + \beta P_{G,PV}^{(t)}] \rightarrow \min$$

here, C_t is the price (tariff) of electricity received from the electric power system at t -th hour of the day; $P_{PS}^{(t)}$ – active power received from the electric power system at t -th hour of the day; $P_{G,PV}^{(t)}$ is the active power provided by the solar photovoltaic power plant at the t -hour of the day; β - the coefficient that includes the costs of production, installation, operation and maintenance of solar modules and equipment serving it is calculated.

Boundary conditions:

active power balance in enterprise for each hour of the day:

$$P_{PS}^{(t)} + P_{G,PV}^{(t)} = P_L^{(t)}, \quad t = 1, 2, \dots, 24$$

the condition that for each hour of the day the power of photovoltaic plant is equal to the sum of power consumed to charge the battery and power output from the inverter:

$$P_{PV}^{(t)} - P_{B,PV}^{(t)} = P_{G,PV}^{(t)}, \quad t = 1, 2, \dots, 24$$

the limit condition for the maximum possible charge/discharge capacity of the battery (negative sign means the discharge power):

$$-P_{B,PV.\max} \leq P_{B,PV} \leq P_{B,PV.\max}, \quad t = 1, 2, \dots, 24$$

inequality on minimum and maximum power that can be produced every hour of the day (determined by the power of inverter):

$$0 \leq P_{G,PV}^{(t)} \leq P_{G,PV.\max}^{(t)}, \quad t = 1, 2, \dots, 24$$

inequality on energy capacity of the battery:

$$W_{bal.PV} + \sum_{k=1}^{t-1} [P_{PV}^{(k)} - P_{G.PV}^{(k)}] * \Delta t^{(k)} \leq W_{PV}, \quad t = 2, 3, \dots, 24$$

where: $P_{PV}^{(t)}$ is the active power of the solar photovoltaic power station at the t -th hour of the day; $P_L^{(t)}$ – the total active power load of the consumer at the t -th hour of the day; $P_{B.PV.max}$ is the maximum possible charge or discharge capacity of the battery; $P_{G.PV.max}^{(t)}$ is the maximum power that can be produced for consumption by the solar photovoltaic power plant at the t -th hour of the day; W_{PV} is the electrical capacity of the battery installed in the solar photoelectric plant; $W_{bal.PV}$ is the remaining electric charge of the battery installed in the solar photovoltaic power station from the previous day

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PEDAGOGICAL AND DIDACTIC FOUNDATIONS FOR THE EFFECTIVE USE OF DIDACTIC MATERIALS IN TEACHING GEOGRAPHY

Abstract: *This article examines the pedagogical and didactic foundations for the effective use of didactic materials in teaching geography. It highlights the role of interactive materials in enhancing educational quality and student engagement. The study presents research findings and recommendations for developing multimedia tools and methodical guides for teachers.*

Keywords: *geography, didactic materials, interactive learning, multimedia technologies, critical thinking, educational process, innovative methods, pedagogy.*

Relevance. Improving the quality of the educational process is one of the primary tasks of modern pedagogy. Achieving high effectiveness at every stage of education requires enhancing students' knowledge, skills, and competencies. This is particularly important in geography, a subject that demands the development of spatial understanding and logical thinking skills. Geography not only helps in understanding the natural environment but also fosters ecological responsibility toward the surrounding world [1].

Didactic materials are essential tools for improving the efficiency of the educational process and deepening the comprehension of topics. These materials enable students not only to memorize but also to analyze and apply knowledge practically. Therefore, structuring and enriching didactic materials with innovative approaches are of significant importance today [4; 5].

In Uzbekistan, the modernization of general secondary education places a high priority on the creation of interactive and innovative didactic materials for geography. Digital technologies, multimedia tools, and interactive methods are vital for engaging students, enhancing independent thinking, and fostering the practical application of knowledge in real life [5; 7; 10].

Scientific and Methodological Approaches. Numerous studies highlight the effectiveness of didactic materials. They not only enhance students' knowledge but also develop critical thinking and problem-solving skills. For example,

European pedagogical practices emphasize the positive impact of modern technology-based materials on students' ability to analyze and think independently. These insights underline the importance of incorporating creative approaches and interactive tools into educational processes [2; 3].

Applying such methodologies in school geography can make lessons more engaging and effective. Interactive materials help visualize topics, increase interest, and involve students in independent activities. This approach enables students to connect theoretical knowledge with real-world processes.

Research Methodology. The study utilized various methods to deeply explore the educational process and draw scientifically grounded conclusions, including:

- Analysis and comparison of sources,
- Pedagogical observations and interviews,
- Tests and surveys to gather students' opinions,
- Natural and statistical analysis methods.

These methods facilitated the development and integration of didactic materials into the educational process.

Research Results. A survey conducted among 120 teachers revealed valuable insights into the usage frequency, types, and effectiveness of didactic materials. The findings are as follows:

Frequency of Usage (See Figure 1):

- Every lesson: 45%
- Several times a week: 35%
- Special lessons only: 15%
- Rarely: 5%

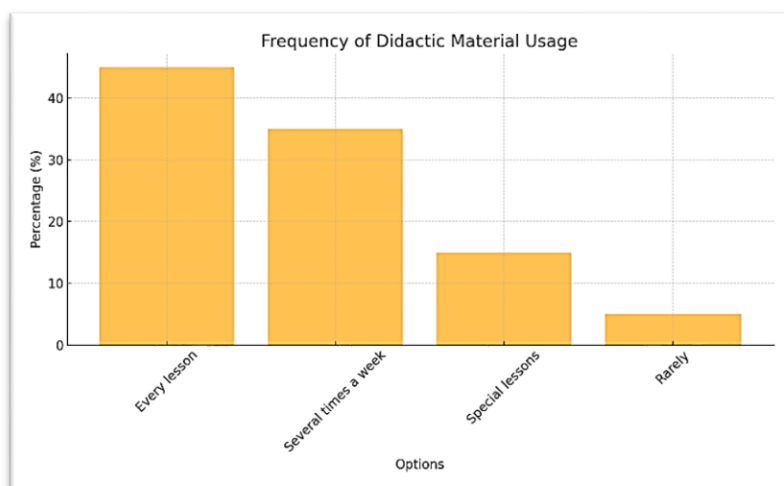


Figure 1. Frequency of Usage.

Types of Materials Used (See Figure 2):

- Printed (maps, posters): 40%
- Electronic (slides, software): 30%
- Both equally: 30%

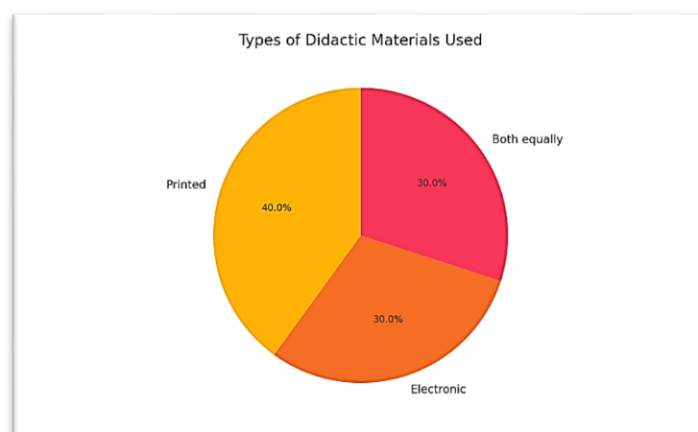


Figure 2. Types of Materials Used.

Effectiveness of Materials (See Figure 3):

- Highly effective: 60%
- Positive impact: 30%
- Low impact: 5%
- No impact: 5%

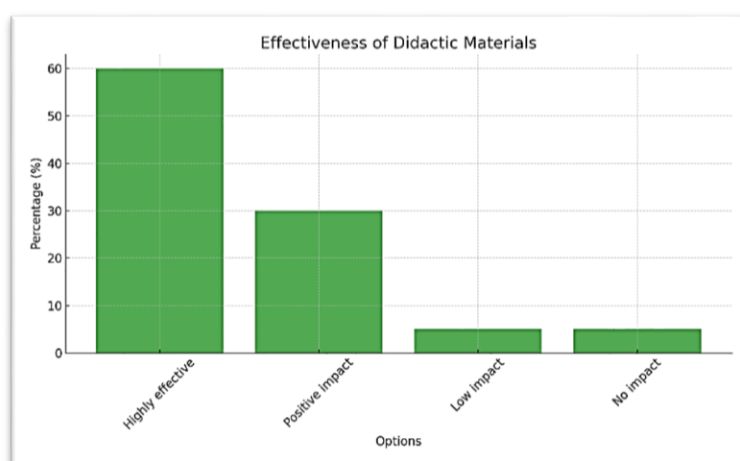


Figure 3. Effectiveness of Materials.

The results indicate that interactive materials not only make lessons more engaging but also deepen students' understanding of topics. These findings form the basis for recommendations on enriching lessons and widely adopting innovative methods.

This survey is aimed at deep study of the practice of working with didactic materials used by teachers of geography in the course of the lesson, improving the effectiveness of these materials.

This survey provides for the analysis of the current state of didactic materials used in the teaching of school geography and the collection of basic information for their further improvement. In the survey, teachers can comment on the importance, methods of Use and difficulties of materials based on their experiences. Because geography lies at the intersection of natural, economic and social sciences, it is

important to organize its educational process interestingly and interactively. Therefore, the study of the practice of teachers using didactic materials:

- Promotes the quality of Education;
- Allows you to determine the professional needs of teachers;
- Helps to assess the effectiveness of the use of electronic and printed materials.

Importance

▪ This survey ensures that teachers of geography contribute positively to the development of the educational system by analyzing and expressing their experiences. It also allows the application of advanced technology in education, taking into account the needs of the teacher and students;

▪ Your completed questionnaire makes an important contribution to the formation of new approaches in geography education and making lesson processes more interesting.

Survey results are used in the following areas:

▪ Determination of the relevance and type of didactic materials used in the teaching of geography;

▪ Develop innovative recommendations for interactive and effective organization of classes;

▪ Development of new educational and methodological materials aimed at supporting teachers;

▪ Formation of optimal approaches to improve the quality of school geography education.

Conclusions and Recommendations

The study concludes:

1. Developing and utilizing didactic materials significantly enhances education quality, strengthening students' critical thinking and analytical skills.

2. Interactive materials make learning processes more dynamic and engaging.

Recommendations for Further Development:

▪ Develop multimedia tools for geography, including interactive maps, educational games, and simulations;

▪ Create methodical guides for teachers to integrate interactive lessons and address students' individual needs;

▪ Expand the use of digital technologies, such as mobile applications and digital platforms, to make learning more innovative and effective.

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DAROMADLARNI BUXGALTERIYA HISOBI OBYEKTI SIFATIDAGI TASNIFI VA TAVSIFI

Annotatsiya: Maqolada daromadlarni buxgalteriya hisobi obyekt sifatidagi tasnifi va tavsifi hamda muallif tomonidan daromadlar tushunchasiga takomillashgan tariflar ishlab chiqilgan.

Kalit so'zlar: daromad, buxgalteriya hisobi, moliyaviy natija, foyda, resurs, iqtisodiy naf, xarajat.

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CLASSIFICATION AND DESCRIPTION OF INCOME AS AN OBJECT OF ACCOUNTING

Annotation: The article presents the classification and description of income as an object of accounting, as well as the author's improved tariffs for the concept of income.

Keywords: income, accounting, financial result, profit, resource, economic profit, cost.

Har bir iqtisodiy davrda ham daromad olish korxonalarning asosiy maqsadlaridan biri bo'lib hisoblangan. Bozor iqtisodiyoti sharoitida ham xo'jalik yurituvchi subyektlarning eng asosiy maqsadi daromad topish bo'lib hisoblanadi. Cheklangan resurslardan samarali foydalangan holda yuqori daromad olish har bir xo'jalik yurituvchi sub'ektning asosiy muammosi bo'lib qolmoqda.

Daromad tushunchasi turli manbalarda turlicha yoritilgan. Respublikamizning «Buxgalteriya hisobi to'g'risida qonuni»ning 7-moddasida daromadlar buxgalteriya hisobining muhim obyekt ekanligi, shuningdek uning 18-moddasida daromadlarni pul kelib tushgan sanadan qat'i nazar, qaysi davrga taalluqli bo'lsa, o'sha hisobot davrida aks ettirish tartibi belgilangan. O'zbekiston Respublikasi Soliq kodeksida (129-139-moddalar) xo'jalik yurituvchi subyektlar daromadlarining tasnifi va tavsifi ochib berilgan.

Respublikamizning buxgalteriya hisobi milliy standartlarida (BHMS) xo'jalik yurituvchi subyektlarning daromadlari alohida faoliyat turlari bo'yicha tasniflangan hamda, mos ravishda, ularni tegishli schyotlarda hisobini yuritish tartibi belgilangan. Xususan 2-son BHMS «Asosiy xo'jalik faoliyatidan olingan daromadlar» xo'jalik yurituvchi subyektlar daromadlarini uchta guruhga ajratishni nazarda tutadi. Bular: (1) asosiy xo'jalik faoliyatidan olingan daromadlar; (2)

operasion faoliyatdan olingan daromadlar; (3) moliyaviy faoliyatdan olingan daromadlar.

«Moliyaviy natijalar to'g'risida hisobot» nomli 3-son BHMSda xo'jalik yurituvchi subyektlar daromadlarini moliyaviy natijalar to'g'risida hisobotda quyidagi turlarga ajratib aks ettirishni nazarda tutadi: (1) sotishdan olingan sof tushum; (2) asosiy faoliyatdan olingan boshqa daromadlar); (3) moliyaviy faoliyatdan olingan daromadlar; (4) favquloddagi foydalar; (5) sof daromad.

Daromad tushunchasiga iqtisodchi olimlar tomonidan berilgan ta'riflar

Iqtisodchi olimlar	Ta'riflar
Klassik iqtisodchilar ta'riflari	
Adam Smit (1776)	individual mehnat mahsuli sifatida ta'riflab, u shaxs yoki korxonaning o'z mulki yoki mehnati orqali qo'lga kiritadigan har qanday iqtisodiy foyda deb izohlagan. Uning fikricha, daromadning asosiy manbai yer, kapital va mehnatdan olinadigan foydadir
David Rikardo (1817)	iqtisodiy resurslar, xususan yer va mehnatdan olingan mahsulotlar qiymati sifatida ko'rgan. Uning ta'kidlashicha, daromadning taqsimlanishi ijtimoiy sinflar (yer egalari, kapitalistlar va ishchilar) o'rtasidagi munosabatlarga bog'liq.
Karl Marks (1867)	kapitalistik tizimdagi mehnat ortiqchasidan olingan foyda sifatida ta'riflagan. Unga ko'ra, daromad ishlab chiqaruvchilarning mehnati orqali yaratiladi, ammo kapital egalarining qo'lida to'planadi.
Neoklassik iqtisodchilar ta'riflari	
Alfred Marshall (1890)	shaxs yoki korxonaning iqtisodiy faoliyati natijasida uzoq muddat davomida barqaror ravishda olingan foyda deb ta'riflagan. U daromadni narx va talab o'rtasidagi o'zaro ta'sir natijasi sifatida ko'rgan.
John Maynard Keynes (1936)	investitsiya va iste'mol harajatlari o'rtasidagi aloqaga bog'lagan. U daromadni shaxsiy iste'molni moliyalashtirish uchun ishlatiladigan iqtisodiy resurs sifatida ta'riflagan.
Zamonaviy iqtisodchilar ta'riflari:	
Paul A. Samuelson (1947)	iqtisodiy faoliyat natijasida tovarlar va xizmatlar ishlab chiqarishdan olinadigan sof foyda sifatida ko'rgan. U daromadni tovarlar va xizmatlar qiymatini bozor bahosida o'lchash usulini taklif qilgan.
Milton Friedman (1957)	shaxs yoki korxonaning uzoq muddat davomida iste'molni ta'minlash uchun ishlatiladigan iqtisodiy resurslari yig'indisi deb hisoblagan. U daromad barqarorligini iste'mol va jamg'arma darajasi bilan bog'lagan.
Yevropa iqtisodchilari fikrlari	

Jean-Baptiste Say (Fransiya)	ishlab chiqarish jarayonida yaratilgan qiymat va mehnatning iqtisodiy natijasi sifatida ta'riflagan. Uning fikricha, daromadning asosiy manbai inson mehnati va resurslarning oqilona boshqaruvi hisoblanadi.
Léon Walras (Shveysariya)	umumiy muvozanat nazariyasi doirasida ko'rib, uni bozorning talab va taklif o'rtasidagi barqaror munosabatlari natijasi sifatida belgilagan. U daromadni ishlab chiqarish omillari, jumladan kapital va yer bilan bog'laydi.
Vilfredo Pareto (Italiya)	iqtisodiy resurslarning optimal taqsimlanishi natijasida yaratiladigan qo'shimcha qiymat sifatida ko'radi. U daromadni nafaqat moliyaviy muvaffaqiyat, balki ijtimoiy farovonlik ko'rsatkichi sifatida ham talqin qiladi.
John Hicks (Buyuk Britaniya)	"xo'jalik yurituvchi subyektning kelajakda iqtisodiy farovonlikni kamaytirmasdan qo'lga kiritishi mumkin bo'lgan iqtisodiy foyda" deb ta'riflagan. Bu yondashuv moliyaviy barqarorlik va davomiylik tushunchalariga asoslanadi.

O'zbekistonlik iqtisodchilarning ta'riflari

K.B. Urazov	Korxonalarining yalpi daromadi mahsulot (ish, xizmat) sotishdan olinadigan sof tushumlar, shuningdek aktivlarni sotish, investitsiya kiritish va boshqa moliyaviy harakatlardan kelib chiqadigan qo'shimcha iqtisodiy foyda yig'indisidir."
B.I. Isroilov	"Jami daromad sotilgan tovar, bajarilgan ish va ko'rsatilgan xizmatlardan olingan tushum, shuningdek boshqa operatsiyalar natijasida kelib tushadigan iqtisodiy foyda yig'indisidir."
M.M. Tulaxodjayeva va X.A. Tuxsanov	"Daromadlar - bu korxonaning odatdagi xo'jalik faoliyati davomida ishlab chiqarilgan mahsulot, bajarilgan ish va ko'rsatilgan xizmatlardan, shuningdek foizlar, dividendlar va boshqa moliyaviy manbalardan kelib tushgan iqtisodiy naf."

Rus olimlari

I.A. Blank	"moliyaviy boshqaruvning asosiy ko'rsatkichi" deb hisoblaydi. U daromadni korxonaning barcha faoliyatidan kelib chiqadigan foyda yig'indisi deb ta'riflagan. Blankning ta'kidlashicha, daromadni to'g'ri rejalashtirish va taqsimlash korxonaning rivojlanish strategiyasini muvaffaqiyatli amalga oshirishga xizmat qiladi.
A.N. Azrilyan	xo'jalik yurituvchi subyektning iqtisodiy faoliyati natijasida olingan va uning moliyaviy holatini yaxshilash uchun xizmat qiladigan sof tushumlar yig'indisi sifatida ta'riflagan. Uning fikriga ko'ra, daromadning barqarorligi subyektning boshqaruv samaradorligini belgilovchi muhim omildir.
E.A. Utkin	"xo'jalik yurituvchi subyektning o'z kapitalini ko'paytirish maqsadida amalga oshiradigan iqtisodiy faoliyatining moliyaviy natijasi" deb ta'riflaydi. U daromadni faoliyat turlari (operatsion,

moliyaviy, investitsion) bo'yicha tasniflashga alohida e'tibor qaratgan.

V.V. Kovalev daromad korxonaning barqaror rivojlanish ko'rsatkichi bo'lib, u xo'jalik subyektlarining iqtisodiy samaradorligi va moliyaviy holatini aniqlashda muhim rol o'ynaydi. U daromadni faoliyatning operatsion va moliyaviy natijalariga bog'liq bo'lgan sof iqtisodiy foyda sifatida izohlaydi.

M.A. Falkovich iqtisodiy foyda va xarajatlar o'rtasidagi farq sifatida ta'riflagan. U iqtisodiy daromadni odatdagi foydadan farqlab, undan korxonaning qo'shimcha qiymat yaratuvchi faoliyatini aniqlash uchun foydalanish kerakligini aytgan.

Zamonaviy yondashuvlar

Joseph Stiglitz (2001) global va mahalliy darajadagi iqtisodiy o'zgarishlar bilan bog'lab, u shaxs yoki korxonaning iqtisodiy faoliyatidan olinadigan nafaqat sof daromad, balki ekologik va ijtimoiy mas'uliyatni hisobga olgan foyda sifatida ta'riflaydi.

Robert J. Shiller (2013) aktivlar qiymatining ortishi, investitsiya samaradorligi va bozor barqarorligi asosida shakllanadigan iqtisodiy foyda deb hisoblaydi.

Iqtisodchi olimlarning daromad tushunchasiga bergan ta'riflari turli davr va makroiqtisodiy sharoitlarga mos ravishda farqlanadi. Klassik iqtisodchilar daromadni resurslar va mehnat samarasi sifatida ko'rgan bo'lsa, zamonaviy olimlar uni investitsiya, innovatsiya, ekologik barqarorlik va ijtimoiy mas'uliyat kontekstida talqin qiladilar.

Rus va yevropa iqtisodchilarining daromad haqidagi ta'riflari daromadning iqtisodiy jarayonlarda muhim indikator ekanligini ko'rsatadi. Klassik iqtisodchilardan zamonaviy iqtisodiyotni o'rganuvchi olimlarga bo'lgan ta'riflar daromadni ishlab chiqarish, innovatsiya, resurslardan samarali foydalanish va ijtimoiy mas'uliyat doirasida talqin qilishga asoslanadi. Zamonaviy iqtisodiy muhitda daromad tushunchasi nafaqat moliyaviy natija, balki barqaror rivojlanishning ajralmas qismi sifatida ham ko'riladi.

Hozirgi axborot asrida daromadlarga ta'riflar berishda bir qancha jihatlarni ham hisobga olish maqsadga muvofiqdir.

U quyidagi xususiyatlar orqali zamonaviy iqtisodiy muhitga moslashgan:

1. Raqamli iqtisodiyot omillari: Daromadni shakllantirishda sun'iy intellekt, blokcheyn, big data, bulutli texnologiyalar va raqamli aktivlardan foydalanish orqali hosil qilinadigan qiymat.

2. Yashil iqtisodiyot talablari: Daromadga atrof-muhitga zarar yetkazmasdan, resurslardan oqilona foydalanish orqali barqaror iqtisodiy o'sish manbai sifatida qarash.

3. Innovatsion rivojlanish: Daromad yangi texnologiyalar va ilmiy ishlanmalarni tijoratlashtirish orqali shakllanadi, bu esa bozor ehtiyojlariga tezkor moslashish imkonini beradi.

4. Barqarorlik va ijtimoiy mas'uliyat: Subyektning faoliyati nafaqat iqtisodiy naf keltirishi, balki jamiyat va atrof-muhit manfaatlariga ham xizmat qilishi lozim. Zamonaviy daromad tushunchasining asosiy komponentlari

1. Raqamli daromad manbalari: Elektron tijorat, raqamli xizmatlar, onlayn platformalar orqali yaratiladigan daromadlar.

2. Ekologik omillarni hisobga oluvchi daromadlar: Resurslardan samarali foydalanish, karbon izlarini kamaytirish va yashil texnologiyalarni joriy etish orqali olingan iqtisodiy naf.

3. Ijodiy va innovatsion iqtisodiyot daromadlari: Intellektual mulk huquqlari, ijodiy mahsulotlar va xizmatlar orqali yaratilgan daromadlar.

4. Moliyaviy texnologiyalar orqali olingan daromadlar: Fintex platformalaridan foydalanish orqali yaratiladigan yangi moliyaviy oqimlar.

Bugungi globallashtirish va raqamli transformatsiya davrida daromad korxonaning nafaqat moliyaviy muvaffaqiyatini, balki uning ijtimoiy va ekologik mas'uliyatini ham aks ettiradi. Zamonaviy daromad modeli korxonaning:

- Raqobatbardoshlik darajasini;
- Ijtimoiy qabul qilish darajasini;
- Atrof-muhitga ta'sirini minimallashtirish ko'rsatkichlarini;
- Investitsion jozibadorligini belgilovchi asosiy indikator hisoblanadi.

Biz yuqoridagilarni hisobga olib daromad tushunchasiga o'zimizning quyidagi tarifimizni ishlab chiqdik.

Daromad – bu raqamli transformatsiya va yashil iqtisodiyot tamoyillari asosida, xo'jalik yurituvchi subyektning iqtisodiy, texnologik va ijtimoiy faoliyatidan kelib chiqadigan, qiymat yaratish jarayonida olingan yoki olinishi lozim bo'lgan iqtisodiy resurslar yig'indisidir.

Mazkur ta'rif korxonaning zamonaviy iqtisodiy sharoitlarda barqaror rivojlanish maqsadlariga erishishida daromadni nafaqat moliyaviy muvaffaqiyat ko'rsatkichi sifatida, balki ekologik va ijtimoiy javobgarlik nuqtayi nazaridan ham muhim indikator sifatida talqin qiladi.

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MODEL FOR ASSESSING THE LEVEL OF DIGITALIZATION IN AN EDUCATIONAL INSTITUTION

Abstract. *This article is devoted to the creation of a model for analyzing, evaluating and monitoring the digitalization process in the educational environment. With the transition of higher education institutions to the credit system, the need for systems for identifying, calculating and accurately assessing academic performance indicators increases, this model is an attempt in this direction. The results of the experiment, the model proposed in the article, has the ability to determine their effectiveness, compare their productivity.*

Key words: *Digital economy in the education system, data warehouses, electronic document management systems, mathematical modeling, innovative management methods, algorithmic approaches, software, optimization, efficiency, digital methods and means.*

Introduction

Currently, the issue of the existence of an effective and universal methodology for assessing the level of digitalization of enterprises, industries, economic sectors, etc. remains controversial in the scientific community. Existing methods developed to assess the scale of digitalization of countries or regions [1,2] due to the use of various criteria and indicators in international and national statistics demonstrate discrepancies in assessments of the level of digitalization [3,4,5]. In addition, many researchers analyzing the trends in the digitalization of higher education focus on the digital literacy of the population [6], the impact of information and communication technologies on the level of digitalization of education in general [7], and legal barriers hindering transformation [8]. A number of studies also note the insufficient level of funding for the digitalization of higher education [9,10,11].

Problems and solutions

Our goal should be to create a model for determining and assessing the level of electronic presentation of educational materials that organize and support the educational process in an educational institution. In a rapidly changing world, digitalization plays an important role in the creation, creation and use of modern information technologies. Currently, educational institutions of the Republic of Uzbekistan do not sufficiently use electronic document exchange systems, the structures and content of information in which, considered as a source of educational material, are identical and often duplicated.

Let us assume that the data warehouse in an educational institution initially consists of information stored in deans' offices, departments, information technology centers, libraries and individual structures. In this case, the question

arises of how much information is stored, what part can be accessed automatically, what part in the form of a simple file, what part in the form of a paper document.

Let the number of study areas in the institution be z , and N subjects need to be studied in them (the condition $N \geq z$ is always true) and educational materials for each course need to be prepared, as shown in Table 1.

Table 1

Educational materials for a specific i -subject and their parameters

№	Name of the educational material	Identifier	Material form		
			paper, in pages	electron, in bytes	verbal, in minutes
1	Subject program	O_1^i	$C\_O_1^i$	$B\_O_1^i$	$R\_O_1^i$
2	Working curriculum	O_2^i	$C\_O_2^i$	$B\_O_2^i$	$R\_O_2^i$
3	Methodological manual on pedagogical technology	O_3^i	$C\_O_3^i$	$B\_O_3^i$	$R\_O_3^i$
4	Problem, set of tasks	O_4^i	$C\_O_4^i$	$B\_O_4^i$	$R\_O_4^i$
5	Tests	O_5^i	$C\_O_5^i$	$B\_O_5^i$	$R\_O_5^i$
6	General control questions	O_6^i	$C\_O_6^i$	$B\_O_6^i$	$R\_O_6^i$
7	Glossaries	O_7^i	$C\_O_7^i$	$B\_O_7^i$	$R\_O_7^i$
8	Abstract topics	O_8^i	$C\_O_8^i$	$B\_O_8^i$	$R\_O_8^i$
9	Text of main lectures	O_9^i	$C\_O_9^i$	$B\_O_9^i$	$R\_O_9^i$
10	Methodological instructions for final and current control	O_{10}^i	$C\_O_{10}^i$	$B\_O_{10}^i$	$R\_O_{10}^i$
11	Methodological instructions for midterm control	O_{11}^i	$C\_O_{11}^i$	$B\_O_{11}^i$	$R\_O_{11}^i$
12	Recommendations for independent work	O_{12}^i	$C\_O_{12}^i$	$B\_O_{12}^i$	$R\_O_{12}^i$
13	Methodological instructions for course work	O_{13}^i	$C\_O_{13}^i$	$B\_O_{13}^i$	$R\_O_{13}^i$
14	Presentations	O_{14}^i	$C\_O_{14}^i$	$B\_O_{14}^i$	$R\_O_{14}^i$
15	Handouts (for laboratory work)	O_{15}^i	$C\_O_{15}^i$	$B\_O_{15}^i$	$R\_O_{15}^i$
16	Problem book on practical work	O_{16}^i	$C\_O_{16}^i$	$B\_O_{16}^i$	$R\_O_{16}^i$
17	Study manual	O_{17}^i	$C\_O_{17}^i$	$B\_O_{17}^i$	$R\_O_{17}^i$
18	Video lecture	O_{18}^i	$C\_O_{18}^i$	$B\_O_{18}^i$	$R\_O_{18}^i$
19	Textbook with stamp	O_{19}^i	$C\_O_{19}^i$	$B\_O_{19}^i$	$R\_O_{19}^i$
20	References	O_{20}^i	$C\_O_{20}^i$	$B\_O_{20}^i$	$R\_O_{20}^i$

Let the number of objects (N) in the institution be calculated as follows.

$$N = \sum_{i=1}^z W_i \quad (1)$$

where W_i is the number of subjects (items) of the i -th educational direction listed in the working curriculum. Then, it is possible to create formulas (2) - (4), which allow calculating the volume of educational materials prepared in the institution on a page (C_O_Y), bytes (B_O_Y) and minutes (R_O_Y).

$$C\_O\_Y = \sum_{i=1}^n \sum_{l=1}^y C\_O^i_l \quad (2)$$

$$B\_O\_Y = \sum_{i=1}^n \sum_{l=1}^y B\_O^i l \quad (3)$$

$$R\_O\_Y = \sum_{i=1}^n \sum_{l=1}^y R\_O^i l \quad (4)$$

in these formulas $y = 20$, and the number n of subjects is equal to N . Each student in the process of studying writes papers, creates presentations, solves problems and tests, conducts thematic research during independent work, all this as an addition to the current, intermediate, final control. The accounting data for these and other tasks are given in Table 2.

Table 2

List of materials prepared by k -student for i -subject (approximate)

№	Name of the educational material	Identifier	Material form		
			paper, in pages	electron, in bytes	verbal, in minutes
1	Coursework	T_{i1}^k	$C\_T_{i1}^k$	$B\_T_{i1}^k$	$R\_T_{i1}^k$
2	Abstract	T_{i2}^k	$C\_T_{i2}^k$	$B\_T_{i2}^k$	$R\_T_{i2}^k$
3	Presentations	T_{i3}^k	$C\_T_{i3}^k$	$B\_T_{i3}^k$	$R\_T_{i3}^k$
4	Exercises for retaking	T_{i4}^k	$C\_T_{i4}^k$	$B\_T_{i4}^k$	$R\_T_{i4}^k$
5	Case studies	T_{i5}^k	$C\_T_{i5}^k$	$B\_T_{i5}^k$	$R\_T_{i5}^k$
6	Development of programs	T_{i6}^k	$C\_T_{i6}^k$	$B\_T_{i6}^k$	$R\_T_{i6}^k$
7	Written works	T_{i7}^k	$C\_T_{i7}^k$	$B\_T_{i7}^k$	$R\_T_{i7}^k$
8	Writing articles	T_{i8}^k	$C\_T_{i8}^k$	$B\_T_{i8}^k$	$R\_T_{i8}^k$
9	Reports on practice	T_{i9}^k	$C\_T_{i9}^k$	$B\_T_{i9}^k$	$R\_T_{i9}^k$
10	Writing a master's or bachelor's thesis	T_{i10}^k	$C\_T_{i10}^k$	$B\_T_{i10}^k$	$R\_T_{i10}^k$
11	Taking notes from lectures	T_{i11}^k	$C\_T_{i11}^k$	$B\_T_{i11}^k$	$R\_T_{i11}^k$
12	Project work	T_{i12}^k	$C\_T_{i12}^k$	$B\_T_{i12}^k$	$R\_T_{i12}^k$
13	Assignments for current control	T_{i13}^k	$C\_T_{i13}^k$	$B\_T_{i13}^k$	$R\_T_{i13}^k$
14	Assignments for intermediate control	T_{i14}^k	$C\_T_{i14}^k$	$B\_T_{i14}^k$	$R\_T_{i14}^k$
15	Final control work	T_{i15}^k	$C\_T_{i15}^k$	$B\_T_{i15}^k$	$R\_T_{i15}^k$

Table 2 allows us to calculate the volume of educational materials prepared and submitted by all students in pages (C_T_Y), bytes (B_T_Y) and minutes (R_T_Y), and these parameters are calculated using formulas (5) - (10).

$$CT_k = \sum_{i=1}^n \sum_{l=1}^y C\_T^k il \quad (5)$$

$$BT_k = \sum_{i=1}^n \sum_{l=1}^y B\_T^k il \quad (6)$$

$$RT_k = \sum_{i=1}^n \sum_{l=1}^y R\_T^k il \quad (7)$$

$$C\_T\_Y = \sum_{j=1}^x CT_j \quad (8)$$

$$B\_T\_Y = \sum_{j=1}^x BT_j \quad (9)$$

$$R\_T\_Y = \sum_{j=1}^x RT_j \quad (10)$$

where x is the number of students at the university.

The mathematical representation of the qualification requirements and curricula of higher education, as well as the working curricula prepared by the educational institution, approved by the Ministry of Higher Education, for the field of knowledge, field of study and direction of education is given by formula (11).

$$\{S\} = (S_1, S_2, S_3) \quad (11)$$

Here S_1 is a set of standard requirements for z -areas of study, S_2 is a set of all curricula downloaded from the ministry, and finally S_3 is a set of working curricula adopted by the university for existing areas of study and educational direction. They are calculated according to the following formulas.

$$\{S_1\} = (S_1^1, S_1^2, \dots, S_1^m) \quad (12)$$

$$\{S_2\} = (S_2^1, S_2^2, \dots, S_2^m) \quad (13)$$

$$\{S_3\} = (S_3^1, S_3^2, \dots, S_3^m) \quad (14)$$

where $m = N$.

Based on the above expressions and Table 3, formulas (15), (16) make it possible to calculate the volume of standard documents (requirements, educational and work curricula) used in the institution in pages (C_S) and bytes (B_S).

$$C\_S = \left\{ \sum_{i=1}^n \sum_{l=1}^d C\_S^{il} \mid \text{if } S\_S^i \geq 1 \wedge S\_S^i \leq 2 \right\}, \quad (15)$$

$$B\_S = \left\{ \sum_{i=1}^n \sum_{l=1}^d B\_S^{il} \mid \text{if } S\_S^i \geq 1 \wedge S\_S^i \leq 2 \right\}, \quad (16)$$

These mathematical expressions assume that both versions of these documents exist: paper and file, it is enough to see that $d = 2$.

Table 3

Mandatory documents required for a specific i -direction of study

№	Name of the field of study	Identifier	Document form	Volume, in pages	Volume, in bytes
1	Curriculum approved by the Ministry	S_1^j	$S\_S^j_1$	$C\_S^j_1$	$B\_S^j_1$
2	Working curriculum adopted at the institution	S_2^j	$S\_S^j_2$	$C\_S^j_2$	$B\_S^j_2$
3	Qualification requirements for obtaining a bachelor's or master's degree	S_3^j	$S\_S^j_3$	$C\_S^j_3$	$B\_S^j_3$

The essence of the task was to find an answer to what extent an educational institution uses electronic document management systems when creating a data warehouse, and to create a model for determining and evaluating the parameters of the stages of a broad transition to a digital economy.

$$U\_C\_text = C\_O\_Y + C\_T\_Y + C\_S \quad (17)$$

$$U\_B\_fail = B\_O\_Y + B\_T\_Y + B\_S \quad (18)$$

$$U\_R\_nytk = R\_O\_Y + R\_T\_Y \quad (19)$$

where U_C_text , U_B_fail , U_R_nytk are the parameters that characterize the main indicators that can be collected in the educational institution during the learning process, respectively, in paper, electronic form and oral expression. To determine the level of electronic document management and digital systematization in an educational institution, the following criterion-model (20) can be proposed.

$$\max\{ \{ U\_C\_fail = B\_O\_Y + B\_T\_Y + \{ \sum_{i=1}^n \sum_{l=1}^d C\_S^i l, \text{ if } S\_S^i \geq 2 \} \geq \\ \{ U\_C\_text = C\_O\_Y + C\_T\_Y + \{ \sum_{i=1}^n \sum_{l=1}^d C\_S^i l, \text{ if } S\_S^i = 1 \} \} \} \quad (20)$$

Experimentation and analysis of results.

Tashkent State University of Economics was chosen as the object of the experiment on the implementation of the functional capabilities of the model proposed in the article. The volume of documents submitted by 28 students of two groups of the Faculty of Information Technologies of Economics on 7 subjects during the winter session was analyzed. The source of information is a questionnaire filled in by the students themselves. The volume of material prepared by students during the session was 1973 pages. Of these, 8394 pages are on paper, 7109 pages are in the form of file material, while the presence of both options at the same time is 3243 pages. 986 pages of oral information were received. To calculate the volume of educational materials prepared for the i - subject, we make table 4.

Table 4

The teaching materials on the i -subject presented by the experimental groups during the winter session

№	Name of the area of study	Identifier	Document form	Volume, in pages	Volume, in bytes
1	Subject program	O_1^i	3	12	140
2	Working curriculum	O_2^i	3	12	209
3	Methodological manual on pedagogical technology.	O_3^i	2	15	237
4	Problem, set of tasks	O_4^i	3	24	285
5	Tests	O_5^i	2	43	70
6	General control questions	O_6^i	3	11	153
7	Glossaries	O_7^i	3	8	52
8	Abstract topics	O_8^i	3	4	86
9	Text of main lectures	O_9^i	3	110	1139
10	Methodological instructions for final and current control	O_{10}^i			
11	Methodological instructions for midterm control	O_{11}^i	3	11	189
12	Recommendations for independent work	O_{12}^i	3	18	272
13	Methodological instructions for course work	O_{13}^i	3	48	427
14	Presentations	O_{14}^i	2	322	2752
15	Electronic textbook	O_{15}^i	2	214	25903

16	Video lecture	O_{16}^i	2		
17	Study manual with stamp	O_{17}^i	1	353	3242
18	Used literature	O_{18}^i	2	878	39286
	TOTAL		2	2083	74442

According to this table, more than 74 MB of data with 2083 pages were prepared for one subject. Taking into account that 103 subjects were taught in the faculty during the winter session, we form table 5 for one faculty.

Table 5

Volumes of educational materials prepared and used by students during the lesson

№	Material form	Prepared by students, in pages		Prepared by teachers, in pages	
		For two groups	By faculty	For one subject	By faculty
1	In paper	8394	92334	353	36359
2	In files	7109	78199	1472	151616
3	Existence of both forms	3243	35673	258	26574
4	Verbally submitted	986	10846		
	TOTAL	19732	217450	2083	214549

According to the results of this table, the parameter S_T_Y or materials prepared by students of the faculty amounted to 217450, and the inclinations of teachers — $S\_O\_Y = 214549$.

At the end of the experiment, we summarize the following indicators

$$U\_sum = C\_O\_Y + C\_S + C\_T\_Y = 214549 + 260 + 217450 = 432259$$

where U_sum is the volume of information in the educational process for a given faculty.

That is, in total, 4322599 pages of information were used in the educational process at the level of one faculty.

If we make calculations using formulas (17) - (19), the total volume of paper, file and materials in both representations at the faculty will be $U\_C\_text = 128629$, $U\_C\_fail = 229903$, $U\_C\_dypl = 62507$.

Let us calculate the comparison criterion using formula (20).

Let us put the above values into the formula $\max \{U\_C\_fail \square U\_C\_text\}$, the criterion requirement will be met, the U_C_fail index will be 1.78 higher than the U_C_text index, from which it is clear that 64% of the data is in file form, and 36% in paper form.

Conclusions. With the transition of higher education institutions to the credit system, the need for systems for identifying, calculating and accurately assessing academic performance indicators increases, this model is an attempt in this direction. The results of the experiment, whether at one faculty or at all departments, regardless of whether these data were collected tonight or earlier, the model proposed in the article has the ability to determine their effectiveness, compare their

productivity. In the future, the results of expanding the model in terms of determining the advantages, efficiency coefficients of using modern information and communication tools in lessons will be announced. This model can be applied in other educational institutions regardless of the form of education. Of course, other documents: library collection or other information resources, such as teachers' articles, online distance learning products, working with big data for education, etc., indicate the need to continue this research in the future.

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PROFESSIONAL-PEDAGOGICAL COMPETENCE DEVELOPMENT OF FUTURE PRIMARY CLASS TEACHERS

Abstract: *This article contains scientific and analytical information about professional-pedagogical competence and its content, methodological foundations, and its place in the educational system today.*

Key words: *pedagogue, competence, professional competence, pedagogical competence, professional-pedagogical competence, education, analysis, higher education, public education, development, international, result.*

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BO'LAJAK BOSHLANG'ICH SINIF O'QITUVCHILARINING KASBIY-PEDAGOGIK KOMPETENTSIYASINI RIVOJLANTIRISH

Xulosa: *ushbu maqolada kasbiy-pedagogik kompetentsiya va uning mazmuni, uslubiy asoslari va bugungi kunda ta'lim tizimidagi o'rni to'g'risida ilmiy-tahliliy ma'lumotlar mavjud.*

Kalit so'zlar: *pedagog, kompetentsiya, kasbiy kompetentsiya, pedagogik kompetentsiya, kasbiy-pedagogik kompetentsiya, ta'lim, tahlil, oliy ta'lim, xalq ta'limi, rivojlanish, xalqaro, natija.*

Forming the knowledge and skills of primary school students, educating them in the spirit of loyalty to national and universal values, increasing the prestige of the teaching profession and the quality of pedagogues, improving textbooks and teaching methods based on the requirements of the times, school education in order to establish modern models of institutions that meet international standards, the adoption of the national program for the development of school education not only requires the implementation of requirements related to socialization, career orientation and realization of their talents, as well as changes related to the training of pedagogic personnel, the formation of professional and pedagogical qualities and competencies in them. Including:

full implementation of the National Curriculum developed on the basis of advanced international experiences into school education and implementation of modern textbooks created by local and foreign authors;

increasing the prestige of the teaching profession in the society, creating favorable social conditions for pedagogues and adequately encouraging their work;

to increase the responsibility of teachers in providing education and training to young people, their demand for continuous professional development;

formation of a national personnel reserve for general secondary educational institutions, development of criteria for an advanced school director and exemplary teacher, and based on them, evaluation of the activities of leaders and pedagogues;

systematic organization of spiritual and educational work in general secondary educational institutions, establishment of continuous monitoring, evaluation and forecasting mechanisms in this direction, family, especially father, in child education - increasing the position of the mother;

the establishment of the main directions such as meaningful organization of students' free time, improvement of the system of directing them to professions, in turn, is related to the development of professional and pedagogical competence of future elementary school teachers creates the need to research specific processes and their characteristics.

Determining the priorities of the systematic reform of higher education in the Republic of Uzbekistan, raising the process of training highly qualified personnel with modern knowledge and high moral and ethical qualities to a new level in terms of quality, modernization of higher education "Concept for the development of the higher education system until 2030" was approved and the following issues were focused on:

- based on international experiences, introduction of advanced standards of higher education, including gradual transition from education focused on acquiring theoretical knowledge to an educational system focused on formation of practical skills in educational programs;

- to raise the content of higher education to a new level in terms of quality, to establish a system of training highly qualified personnel that will contribute to the sustainable development of the social sphere and economic sectors and find their place in the labor market;

- publishing articles in prestigious international scientific journals with a high impact factor by professors and teachers, researchers, doctoral students, undergraduate and graduate students of higher education institutions, increasing the number of citations to articles, as well as promoting republican scientific journals to international scientific and technical ensure gradual entry into the database;

- the implementation of five initiatives, which include complex measures aimed at creating additional conditions for the education and training of students and youth, is envisaged, and this is also specific to the content of the professional training of future primary school teachers it is also important that the introduction of requirements, the need for self-determination and regular professional improvement of these aspects in the future professional activity. This need is

coordinated with the development of professional and pedagogical competence of future primary school teachers.

Determining the priorities for the systematic reform of general secondary and extracurricular education in the Republic of Uzbekistan, raising the moral, moral and intellectual development of the young generation to a new level in terms of quality, education in order to introduce innovative forms and methods of education into the process, as well as the order of the President of the Republic of Uzbekistan dated September 5, 2018 "Additional order on improving the public education management system In accordance with the Decree No. PF-5538 "on measures", the "Concept for the development of the public education system until 2030" was developed, and in this concept, attention was paid to the following:

- By 2030, the Republic of Uzbekistan will enter the ranks of the first 30 advanced countries of the world according to the PISA (The Program for International Student Assessment) rating of the international student assessment program;

- updating the content of the continuing education system in terms of quality, as well as training, retraining and upgrading professional personnel;

- improvement of the teaching methodology, step-by-step implementation of the principles of individualization in the educational process;

- introduction of modern information and communication technologies and innovative projects in the field of public education;

- strengthening the material and technical base of public education institutions and increasing the effectiveness of providing funds from the budget;

- introduction of modern methods and directions of extracurricular education in educating young people and ensuring their employment;

- expanding the competitive environment in the state education system due to the development of public-private partnership;

- implementation of five initiatives, which include complex measures aimed at creating additional conditions for youth education;

- in order to increase the attractiveness of working in the public education system, to gradually increase the level of remuneration, material incentives and social protection for the employees of general secondary education institutions. This concept aims to educate young people in a spiritual and moral way, guarantee their continuous quality education, create additional opportunities for educational activities, employment of the growing young generation and their ability to show themselves as highly skilled pedagogues in the future. represents the requirements. Also, based on an innovative approach, it was considered important to develop a professionogram of the future professional activity of the future primary school teacher, as it determines the normative basis of self-expression as a successful person.

By developing the pedagogical competence of modern teachers in the process of professional activity, it can affect the life of a person and his social development to a certain extent. The main idea of the development of the educational system in modern society is the intellectual and moral-spiritual development of a person on

the basis of purposeful independent activity in various fields. Before developing the professional competence of a modern teacher, it is necessary to know the true nature of this concept, and then the ways to improve it.

To sum up, the system of professional skills formation based on modern requirements in the education of pedagogues is also reflected in state programs and is extremely relevant for today. Also, the high quality of methodological support created for the professional training of pedagogues allows for complex organization and regular control of this process.

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GEOGRAPHICAL CHARACTERISTICS OF THE POPULATION DISTRIBUTION IN NAMANGAN REGION BY ALTITUDE REGIONS

Abstract: *This article examines the characteristics of population distribution and density in Namangan region across elevation zones. The population distribution in relation to the terrain was determined using Geographic Information System software by analyzing the altitude of settlements above sea level. Settlements were classified into small groups based on their elevation, and on this basis, the districts of the region were grouped.*

Keywords: *Namangan region, population, population density, population location, altitude regions, settlements, natural factors, socio-economic factors.*

Introduction: As we know, the location of the population depends on a number of natural and economic and social factors, among which the main role is played by natural conditions. The study of the location of the population by altitudinal regions is of great importance for the disciplines of geography, geodemography, climatology and socio-economics. This is because this issue helps to understand the way of life of the population, the use of natural resources, their impact on natural landscapes, their participation in migration processes and their adaptation to climate change.

The world's largest population lives at altitudes of up to 500 meters above sea level, i.e., in the plains. But they occupy only 28% of the land area. The exception is Mexico, Peru, Ethiopia, Afghanistan, and other countries located in similar mountainous regions, where the majority of the population lives in mountainous areas at an altitude of 1000 meters above sea level. For example, in Tibet, people live at altitudes of 5000 meters and above.

Methods: Taking into account the above, the aim of this article was to study the distribution of the population of Namangan region, whose territory consists of plains, foothills and mountainous regions, by altitudinal regions. To achieve this goal, the following tasks were set:

1) To divide the districts of Namangan region into groups according to population density;

2) To study the distribution of the population of Namangan region by altitudinal regions;

3) To divide the territory of Namangan region into subgroups according to altitudinal regions and determine the number of people living in them.

Results: Namangan region is located in the east of the Republic, in the northwestern part of the Fergana Valley, on the slopes of the Tianshan Mountain Range networks-the Qurama and Chatqol mountains. It borders Jalalabad region of Kyrgyz Republic to the North and Northeast, Andijan to the Southeast, Fergana to the south, Tashkent region and Sughd region of Tajikistan to the North and northwest.

Positive changes in the dynamics of the population, of course, are reflected in its location. One of the main indicators of population location is population density. The famous scientist Kovalev S.A. emphasizes that “the most general, detailed idea of the location of rural settlements is given by the average density of population points.” Population density in the territory of Namangan region has been increasing year by year, mainly due to natural increase. For example, the population density was 303.6 people in 2010, 319.8 people in 2011, 325.3 people in 2012, 330.3 people in 2012, and by 2024 it will be 412.1 people, respectively. As a result of favorable natural conditions and reforms in the socio-economic sphere, the population, as we noted above, is increasing due to natural increase, and accordingly, the population density is also increasing. Since the districts and cities of Namangan region differ from each other in terms of area and natural conditions, there are also differences in population density.

Among the districts, Namangan district stands out with the highest population density with 948.4 people, Turakurgan with 899.0 people, and Naryn district with 848.7 people, while Pop district ranks last with 81 people per km² (Table 1).

Table-1

Population density grouping of districts of Namangan region (2024)

Population density in group distribution	Number of districts	Districts belonging to groups	Average population density (people per km ²)	Population, in the account of a thousand people	In percentage accounting for the total population
In the region	11 pieces		412,1	3066,1	100
80-100 people	1 pieces	Pop	81,0	235,7	7,7%
100-300 people	1 pieces	Mingbulak	184,8	136,9	4,5%
300-500 people	3 pieces	Chust	304,6	285,6	9,4 %
		Kasansay	414,4	227,9	7,5%
		Yangikurgan	451,6	237,1	7,8%
500-700 people	2 pieces	Chartak	569,5	214,9	7,1%
		Uchkurgan	618,5	185,4	6,1 %
700-900 people	4 pieces	Uychi	763,4	232,3	7,8%
		Naryn	848,7	175,8	5,8%
		Turakurgan	899,0	245,2	8,0%

		Namangan d.	948,4	192,7	6,3%

Note: The table was compiled by the authors based on data from the Namangan Regional Department of Statistics.

The table shows that the most densely populated districts are Uychi, Naryn, Turakurgan and Namangan. The main factors contributing to this location, along with natural conditions, are the proximity of Namangan city, the center, and the fact that these 4 districts are among the smallest districts in the Namangan region in terms of area. The above-mentioned factors also serve as the main factors in the districts belonging to the remaining groups. The density indicator differs by more than 11 times between Pop district, which has the lowest population density, and Namangan district, which has the highest population density.

In fact, the above-mentioned average population density corresponds to the “gross” indicator of density. Professor A.S.Solliyev noted that the “gross” indicator applies to all areas of the administrative district (regardless of whether the population is inhabited or not, including desert or mountainous areas). Therefore, determining population density at the level of rural settlements gives good results. In this case, the analysis becomes deeper and more accurate if the density is calculated, especially in relation to land used for agriculture [4]. This idea was also emphasized by the Georgian scientist V.Sh.Djaoshvili. Professor O.R. Rahmatullayev developed the “land capacity” standard of population for large oases of Uzbekistan.

Population studies scientist Z.N. Tojiyeva used the concept of the demographic capacity of the territory in her research. The demographic capacity of the territory is a variable quantity. Since a large area of land, on the contrary, a small area can support several times more people, it is based on the analysis of the most important natural components for daily life. For example, these include providing the population with housing, the availability of land suitable for the construction of industrial enterprises, water resources, recreational resources, the organization of food reserves, etc. [3].

The distribution of the population by hypsometric heights is also unique. For example, if we look at the distribution of the population by hypsometric heights around the world, about 60 percent of the population lives at an altitude of up to 200 meters above sea level, 11 percent at 500-1000 m, 4 percent at 1000-1500 m, 2 percent at 1500-2000 m. and only 1 percent at 2000 m and above [5].

Since the territory of Namangan region is uneven, settlements are located at different altitudes. It is known that as altitude increases, temperature and air pressure decrease, while precipitation, plant species and numbers increase. These natural factors have a different impact on the economy of the regions, specialization, population size and density, size of settlements, appearance and health of people, so their study is even more important.

The territories of the republic are divided into altitudinal zones and regions by scientists according to different directions and areas of population distribution. In particular, Q.Z. Zokirov, T. Jumayev, A. Soliyev, M. Nazarov, Z.N. Tojiyeva, L.Z. Ibragimov and others conducted research in this area. In particular,

academician Q.Z. Zokirov, as a result of many years of studying the vegetation of the Zarafshan Valley, proposed dividing the valley into 4 regions - desert, hill, mountain, pasture, while A. Sagatov, having studied the natural conditions of the republic, divided it into three large regions: "plain and foothill oases", "deserts", "high foothill and mountainous regions".

Mountain scientist T. Djumayev notes that 10 percent of the total population of Uzbekistan lives in the mountainous regions, that is, above 600 meters above sea level. According to the author, the highest rural settlements are located between 2500 and 2700 meters [2]. Since the highest populated parts of Namangan region are around 1200 meters, there is no rural settlement that corresponds to T. Djumayev's research.

L.Z. Ibragimov divided the districts of southwestern Uzbekistan into the following zones based on their altitude above sea level: Steppe (up to 400 meters); Foothills (400–1000 meters); Mountainous regions (above 1000 meters) [1].

Based on the studies conducted by the above scientists, the distribution of the population in the districts of Namangan region by altitudinal regions was studied. The relief of Namangan region is uneven, decreasing from the east and southeast to the north and northwest and southwest. Depending on the relief, settlements are located at different altitudes. Most of the region's territory falls on the foothills (up to 400-1000 meters). To make the study more effective, the height above sea level of each settlement in the districts of the region was studied using the Google Earth Web cartographic program, and the settlements were divided into smaller groups according to their altitude (Table 2).

Table-2

Division of Namangan region districts into subgroups based on altitudinal regions (2024)

№	Districts by altitude region	Small groups	Districts	District area (thousand km ²)	Population (1000 people)
1	Desert steppe (Up to 400 meters)	–	Mingbulak	0,74	136,9
2	Foothills (400-1000 meters)	Up to 400-600 meters	Namangan d.		192,7
			Uychi		232,3
			Naryn		175,8
			Pop		235,7
			Uchkurgan	290	185,4
			Turakurgan	0,33	192,7
		Up to 600-800 meters	Chartak	0,36	214,9
			Chust	0,92	285,6
		Up to 800-1000 meters	Yangikurgan	0,54	237,1
			Kasansay	0,51	227,9
3	Mountainous areas (1000 meters and above)	–	–	–	–

The table was compiled by the authors based on data from the website <https://earth.google.com/web> and the Namangan Regional Department of Statistics.

The terrain of the districts where settlements are located is not always flat, the highest and lowest points can differ from each other by 10–20, sometimes up to 20–40 meters, or even more. This is especially noticeable in mountainous areas. Therefore, the average height of the settlement was taken as the basis for determining the height of settlements. The districts of the region differ from each other due to the location of settlements at different heights.

According to the information presented in the table, due to the fact that the Mingbulak district of the region is mainly composed of plains up to 400 meters high, most of the settlements are located at altitudes up to 400 meters.

On the basis of studies, it turned out that the population of Namangan region is located mainly in areas with a height of 400–1000 meters, while the population with mountainous areas that live above 1000 meters is practically non-existent.

As the population in settlements increases and develops, they increasingly expand the territory in which they live, seeking to use more resources, which in many cases can lead to negative consequences. The fact that settlements in the districts of Namangan region are located at different altitudes is important in the location of the population. Because the areas around streams and springs serve to develop small-scale irrigated agriculture, which is important for partially meeting the daily needs of the population for vegetables and melon crops, while the hills on the slopes of the mountains are important for dry farming. The highlands of the mountains are used as pastures for livestock. The population has been taking advantage of such opportunities for a long time. Therefore, viticulture and horticulture are well developed on the slopes and hills of the districts where there is water. The location of settlements in accordance with the height leads to the development of diverse types of farming.

Conclusions: Studying the distribution of the population by altitude is important for the management of socio-economic development, sustainable management of natural resources, and adaptation to climate change. After all, areas located in altitude zones are often close to river sources. The management of water resources in these places determines the supply of agriculture and drinking water. Changes in air temperature and pressure depending on altitude create different living conditions. This leads to the adaptation of the specific lifestyle, work activities, and health of the population living in relatively high areas to climatic conditions. While lowland regions are favorable for agriculture, pasture and animal husbandry prevail in relatively high regions. Agricultural methods in highland regions are based on the traditional knowledge and experience of the local population.

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IMPROVING THE CULTURE OF COOPERATION BASED ON AN INTEGRATIVE APPROACH

Abstract: *In this article discussed about scientific and theoretical resources for improving the culture of cooperation based on an individually competent approach in the process of developing the professional activities of specialists studying in higher educational institutions are described.*

Key words: *Individual, competence, cooperation, culture, model, indifferent, dialogue, fundamentality, synergy*

The participation of countries around the world in the continuously developing education system is becoming more active every day. In particular, one of the main tasks facing higher educational institutions is the issue of training competitive specialists who have perfectly mastered their specialty and are able to express their personal social position and their attitude to the knowledge being studied, and who are able to put forward new thoughts, ideas, proposals and projects. This is one of the problems. According to researchers, using the cooperative learning model involves simulating real-life situations aimed at joint problem solving.

The student actively participates in such an educational process and becomes the subject of the relationship. At the same time, the rule of equality of all participants in the educational process will be preserved. The internationalization of education in developed countries of the world continues in very similar forms and directions, therefore, the adoption of foreign cooperation experience by domestic universities is an important factor in the training of world-class competitive personnel. In addition, the process of globalization creates a need for professional personnel capable of working effectively in new conditions. The solution to this problem today is associated with the development of a culture of cooperation in the student community.

In a broad sense, we understand the development of a culture of cooperation based on a competency-based approach through the development of professional activities of students, the introduction of various international aspects into the research, educational and management activities of educational institutions at various levels. Data from a psychological analysis of the ways people interact is based on these three features proposed by M.I. Rozhkov and Yu.V. Bayborodova,

related to the classification of types of pedagogical interaction: one of the interacting parties is the attitude towards each other's interests, the presence of a conscious common goal. joint activity presupposes a subjective position in relation to each other in interaction. Other combinations of these characteristics make up the essence of the following types of interaction: indifference, indifference, opposition, pressure, guardianship, dialogue and cooperation.

Scientist-teacher Z. Azimova "Interpersonal relationships are built on the basis of mutual cooperation, partnership, joint actions, mutual influence of participants in the pedagogical process. Recognizing another person as a subject of interaction, as an independent person, helps to expand the boundaries of thinking and begins to perceive the problem of existence. A person's subjective position can be expressed through a system of relationships with the world, people and himself" [3. 34-c].

In our opinion, today the problem of cooperation in a collective and personal context should be understood on the basis of a conceptually new approach, since focus on the principles of cooperation is becoming an important feature of the interaction of parties in the process of relationships at various levels. level of modern man. In this regard, we consider cooperation as a cultural concept, as a cultural value constant that determines the nature of people's behavior at different levels of relationships.

According to scientific pedagogical and psychological sources, competence and competency are very complex, multi-part concepts common to many disciplines. Therefore, its interpretations are different both in volume and content, and in meaning and logical content. The essence of the term is also determined on the basis of such concepts as "effectiveness", "adaptability", "achievement", "success", "understandability", "effectiveness", "readability", "property", "quality". quantity".

Accordingly, we adopt educational competencies as defined in the approved standard:

- knowledge – remembering and re-explaining learned information;
- skill – the ability to apply acquired knowledge in familiar situations;
- competence – the ability to apply acquired knowledge and developed skills in unfamiliar situations and create new knowledge;
- competence – the ability to use existing knowledge, skills and abilities in everyday activities.

In addition to knowledge, skills, qualifications and competencies, human capital also consists of the ability of people to form a certain society with each other and acquires a common fundamental meaning in its spiritual aspects.

If in the process of cooperation conditions are created for the realization of this creative ability, then the result of interaction will be a product that is a synthesis of extraordinary creative ideas, distinguished by the qualities of novelty and originality. In turn, the creation of qualitatively new values increases the significance of joint activities, and therefore allows us to talk about the existence of a genuine culture of relationships, that is, a culture of cooperation.

Thus, in the process of theoretical analysis, we have established components (characteristics) of teamwork (joint activities), indicating a culture of cooperation, for example: trust, teamwork, discord in cooperation (structured exchange of ideas), constructive confrontation, quality relationships that create new and social significant value.

The study of the theory of the issue determines the quality of mutually supporting relationships between subjects of trust and community of cooperation, and the enrichment of interaction with elements of disorder and constructive contradictions in cooperation leads to the emergence of quality. will bring. a new and socially significant value that helps to understand the cultural continuity of the interaction of its participants.

We believe that the result of joint work (or joint activity), characterized by the presence of these components, will become the basis for the formation of a culture of cooperation among students of a higher educational institution. At the same time, the culture of cooperation among university students is a synthesis of personal qualities that determine their ability to enter into effective relationships with other people, as an integral part of a person's general culture. Among them, the manifestation of trust in interpersonal relationships, the ability to form a community with subjects (or joint activities), the ability to create new (unusual) ideas, freely express and implement them predominates.

According to our understanding, the formation of a culture of student cooperation is possible through the introduction of cluster cooperation into the educational practice of the university.

The culture of cooperation as the most important personal characteristic should be universal for a modern person, regardless of nationality and profession.

At the same time, the formation of a culture of cooperation between students and future specialists in the higher education system seems to us to be especially relevant, since the modern professional community is a unique cultural resource. In the modern socio-cultural situation, young specialists are called upon to provide a new cultural synthesis of current value directions of society, in which a culture of cooperation should play a decisive role.

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SURXONDARYO VILOYATI TABIIY RESURS SALOHİYATIDAN FOYDALANISH ORQALI IQTISODIY GEOGRAFIK O'RININI YANADA YAXSHILASHDAGI MUAMMOLAR

ANNOTATSIYA: Surxandaryo viloyati o'zining geografik o'rni va tabiiy resurslari tufayli ijtimoiy-iqtisodiy rivojlanishda muhim rol o'ynaydi. Viloyat neft, gaz, toshko'mir, polimetall ruda va kimyoviy tuzlar bilan boy bo'lib, bu resurslar uning iqtisodiy o'sishiga katta ta'sir ko'rsatadi. Tadqiqotda ushbu tabiiy resurslardan foydalanish, yangi neft, gaz va toshko'mir konlarini rivojlantirish orqali viloyatning iqtisodiy-geografik ahamiyatini yaxshilashdagi rolini ko'rib chiqiladi. Bundan tashqari, kimyo sanoati va qurilish materiallari sanoatini rivojlantirish imkoniyatlari mavjud bo'lib, bu viloyatning ijtimoiy va iqtisodiy barqarorligini ta'minlashda muhim ahamiyatga ega. Ushbu tadqiqot, Surxandaryo viloyatida resurslarni yanada samarali foydalanish orqali barqaror rivojlanishni ta'minlash zarurligini ta'kidlaydi.

KALIT SO'ZLAR: Surxandaryo viloyati, Tabiiy resurslar, Neft va gaz, Toshko'mir, Polimetall ruda, Iqtisodiy-geografik ta'sir, Kimyoviy o'g'itlar, Sanoat rivojlanishi, Ijtimoiy-iqtisodiy rivojlanish.

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PROBLEMS OF IMPROVING THE ECONOMIC AND GEOGRAPHICAL POSITION OF SURKHANDARYA REGION THROUGH THE USE OF NATURAL RESOURCE POTENTIAL

ABSTRACT: The Surkhandarya region plays a crucial role in the socio-economic development due to its geographical location and natural resources. The

region is rich in oil, gas, coal, polymetallic ores, and chemical salts, which significantly influence its economic growth. The research explores how the utilization of these natural resources, including the development of new oil, gas, and coal fields, contributes to enhancing the region's economic-geographical positioning. Furthermore, there are substantial opportunities for the development of chemical industries and construction materials industries, which will play a significant role in ensuring the region's social and economic stability. This study highlights the importance of improving the use of these resources to promote sustainable growth in Surkhandarya.

KEY WORDS: *Surkhandarya region, Natural resources, Oil and gas, Coal, Polymetallic ores, Economic-geographical influence, Chemical fertilizers, Industrial development, Social-economic development*

Har qanday mintaqada yuz beradigan ijtimoiy, iqtisodiy, siyosiy o'zgarishlar IGO' ga o'z ta'sirini o'tkazadi. Agar bu o'zgarishlar ijobiy jihatlariga ega bo'lsa, u albatta mintaqaga geografik o'rnini qulaylashtiradi va omil sifatida ijtimoiy - iqtisodiy rivojlanishda o'ziga xos ahamiyat kasb etadi. V.V.Pokishevskiy ta'kidlaganidek: «...IGO' davlat yoki mintaqaga rivojlanishi uchun qulay sharoit yaratishi yoki uning rivojlanishiga to'sqinlik qilishi mumkin...». Bu holat mintaqalar ijtimoiy-iqtisodiy rivojlanishi uchun IGO'ni yaxshilash zaruriyatini keltirib chiqaradi. Mintaqalar geografik o'rniga ta'sir etadigan omillar haqida tadqiqotning 1.1-qismida batafsil ma'lumot berilgan edi. Chizmada ko'rsatilgan har bir guruh omili mintaqaga IGO' yaxshilanishi uchun bir - biriga bog'liq holda ta'sir etishini ko'rish mumkin. Bunday holat ishimizning tadqiqot obyekti bo'lgan Surxondaryo viloyatida ham kuzatiladi. Viloyat geografik o'rnini tahlil etish asosida tabiiy resurslar qishloq tumanlari shakllanishi va ijtimoiy - iqtisodiy rivojlanishida muhim ahamiyatga egaligi aniqlandi.

Turli davrda ushbu omilni tadqiq etgan olimlarning ilmiy xulosalari ham yuqoridagi fikrni tasdiqlaydi. Jumladan, fanga ushbu tushunchani ilk bor kiritgan olim N.N.Baranskiy mineral resurslar yaqinida joylashgan aholi manzilgohlari iqtisodiy geografik o'rnini resurs o'zlashtirila boshlangach keskin qulaylashib borishini ta'kidlagan.

Surxondaryo viloyatida yoqilg'i - energetika resurslari, polimetallar, tabiiy tuzlar va qurilish materiallari xom ashyolari mavjud. Viloyat neft va gaz konlari 1950 yillardan boshlab ishga tushirilgan. Amudaryo, Xotinrabot, Xovoag', Kakaydi va Tolli konlaridan neft, Lalmikordan esa neft va gaz qazib olinadi. Bundan tashqari, hozirgi kunda Qorsaqli, Oqtov, Qo'shtor, Jayraxona kabi neft konlarini ishga tushirilish mo'ljallanmoqda. «O'zbekneft va gaz» milliy xolding kompaniyasining geologik tekshiruvlari natijasiga ko'ra bu mintaqada 774 mln. shartli yoqilg'i borligi aniqlangan.

Respublikamizdagi asosiy toshko'mir konlari hisoblangan Sharg'un (Sariosiyo tumanida) va To'da (Boysun tumanida) ko'mir konlarida mustaqilligimizning ilk yillarida 200 ming tonnagacha toshko'mir qazib chiqarilgan edi. Keyingi yillarga kelib bu ko'rsatkich keskin pasayib ketdi. 2020 yilda

hukumatimiz tomonidan 2026 yilgacha ko‘mir sanoatini rivojlantirish dasturi qabul qilingan va unga binoan respublikamizda toshko‘mir qazib chiqarishni 110 ming tonnaga yetkazish rejalashtirilgan.

Hisor tog‘ etaklarida kembriygacha bo‘lgan geologik davrning gneys va slanets yotqiziqlari ustida joylashgan Sharg‘un ko‘miri yuqori kalloriyali, ammo qatlamlari yupqa bo‘lib, o‘rtacha qalinligi 2,5 m, ayrim joylarda 12 m.gacha yetadi. Ko‘mir qatlamlari baland va qiya yonbag‘irlarda joylashganligi sababli ularni o‘zlashtirish ancha murakkab. Boysun koni ko‘miri yuqori sifatli bo‘lib, yura davri yotqiziqlari ustida joylashgan. Ishlab chiqarish sharoitlari Sharg‘un koniga nisbatan birmuncha qulay. Hisor tog‘larining janubi - sharqiy yonbag‘irlarida (Sarosiyo tumani) 1990 yillarning oxirlarida tarkibida qo‘rg‘oshin, ruh va boshqa qimmatbaho elementlarga boy bo‘lgan Xonjiza polimetall koni topilgan. Bu polimetall koni o‘z zahirasiga ko‘ra dunyodagi eng yirik konlardan biri sifatida e‘tirof etilmoqda. Bu yerda geologik tekshiruvlar natijasida 1,5 mln. tonna ruh, 700 ming tonna qalay, 180 ming tonna mis va 2,3 ming tonna kumush borligi aniqlangan. Hozirda, jahon bozoridagi ushbu metallar bahosidan kelib chiqqan holda mazkur kon zahirolari 4 mlrd. AQSH dollari miqdorida baholanmoqda. 2006 - yil avgust oyidan boshlab «Xonjiza» polimetall konini ishga tushirish Olmaliq tog‘ kon metallurgiya kombinati ixtiyoriga berildi.

Kondan foydalanish bilan bog‘liq barcha ishlar ushbu kombinat tomonidan chet el sarmoyasisiz bajarilishi ko‘rsatib o‘tildi. 2008-2012 yillar oralig‘ida ushbu konni ishga tushirish, 3 - 4 yildan keyin esa kombinat uchun ruh, qo‘rg‘oshin va mis konsentratlari birlamchi ishlab chiqarish tarmog‘ini tashkil etish ishlarini boshlash rejalashtirilmoqda. Bu kon va ma‘danni birlamchi qayta ishlovchi korxonaning ishga tushirilishi Uzun va Sarosiyo tumanlarida aholi bandligining oshishiga, ularning IGO‘ni yaxshilashga yordam beradi.

Viloyatning yana bir asosiy mineral resurslaridan biri bu kimyoviy tuzlardir. Surxondaryoda fosforit, kaliy va osh tuzlarining katta zahirasi mavjud. Ushbu qazilma resurslar asosida kimyo sanoatini rivojlantirish uchun imkoniyatlar katta bo‘lsada, faqatgina Ko‘hitang tog‘ yonbag‘irlarida joylashgan

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QUYI AMUDARYO IQTISODIY RAYONINING O'ZBEKISTON RESPUBLIKASI IQTISODIYOTIDAGI TUTGAN O'RNI

Annotatsiya: *Mustaqil O'zbekiston Respublikasi, uning 12 ta viloyat, Qoraqalpog'iston respublikasi, poytaxt Toshkent shahri boshchiligida har biri va birgalikda o'ziga xos iqtisodiy makon jahon hamjamiyatida esa yagona geosiyosiy tizimni tashkil etadi. Respublikamiz iqtisodiyoti mustaqillik yillarida bir muncha rivojlandi. Jumladan yoqilg'i energetika va oziq -ovqat xavfsizligiga katta e'tibor berildi. Ko'pchilik sanoat tarmoqlari ham rivojlanib bordi. Ayniqsa yengil sanoat tarmoqlari bir muncha kengaydi. Yengil sanoat korxonalari jixozlarini modernizatsiyalanishi, zamonaviy texnika vositalari bilan ta'minlanishi, xalqaro munosabatlarning yaxshilanishi, chet el kompaniyalari bilan qo'shma korxonalar faoliyatlari yaxshilanishi bilan anchayin rivojlanganligini ko'rishimiz mumkin. O'zbekiston Respublikasi huddudida sanoat tarmoqlari tarkibi turlicha, hududiy xususiyatlari bilan bog'liq holda rivojlangan. Bunda bir qator omillarni sanab o'tishimiz mumkin. Masalan : ishlab chiqarish kuchlarining hududiy tarkibi, resurslar bilan ta'minlanishi, energetika tizimi va boshqalar. Ushbu maqolada shunday hududiy xususiyatlari bilan ajralib turuvchi Quyi Amudaryo Iqtisodiy rayoni yengil sanoati tarmoqlarining hududiy xususiyatlari qisqacha tanishib chiqishimiz mumkin.*

Kalit so'zlar : *Iqtisodiy rayonlar, YIM, hudud, savdo aylanmasi, ekologik hudud, yengil sanoat, oziq-ovqat sanoati, paxta tozalash korxonalari, fabrikalar, zavodlar, qo'shma korxonalar, ipakchilik, ip yigirish korxonalari.*

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THE PLACE OF THE LOWER AMU DARYA ECONOMIC REGION IN THE ECONOMY OF THE REPUBLIC OF UZBEKISTAN

Abstract: *The independent Republic of Uzbekistan, its 12 regions, the Republic of Karakalpakstan, each under the leadership of the capital city of Tashkent, together with its own unique economic space, form a single geopolitical system in the world community. The economy of our republic developed somewhat during the years of independence. In particular, great attention was paid to fuel energy and food safety. Many industries also developed. Light industries in particular expanded somewhat. We can see that light industrial enterprises have been greatly developed with the modernization of equipment, provision of modern*

equipment, improvement of international relations, improvement of activities of joint ventures with foreign companies. In the territory of the Republic of Uzbekistan, the composition of industrial sectors has developed in different ways, depending on the territorial characteristics. We can list a number of factors in this. For example: regional composition of production forces, supply of resources, energy system, etc. In this article, we can briefly get acquainted with the territorial characteristics of the light industry sectors of the Lower Amudarya Economic Region, which are distinguished by such territorial characteristics.

Keywords: *Economic regions, GDP, area, trade turnover, ecological area, light industry, food industry, cotton ginning enterprises, factories, plants, joint ventures, silk industry, spinning enterprises.*

Kirish

Mustaqil O'zbekiston miliy iqtisodiyotini mustahkamlashda uning geosiyosiy tizimining uzviy qismi bo'lgan har bir mintaqaning o'ziga xos munosib o'rni bor. Shu jixatdan Quyi Amudaryo iqtisodiy rayoni ham respublika miqyosidagi hududiy mehnat taqsimotida sanoat va qishloq xo'jaligining ba'zi tarmoqlariga ixtisoslashuvi asosida ajralib turadi. Shunday jixatlari hisobga olingan holda Quyi Amudaryo iqtisodiy rayoni - Qoraqalpog'iston Respublikasi va Xorazm viloyatlari hududlaridan tarkib topgan (Soliyev . 1998). Quyi Amudaryo iqtisodiy rayoni Respublikamizda hududi bo'yicha eng katta bo'lib , yuqorida aytib o'tganimizdek Qoraqalpog'iston respublikasi va Xorazm viloyatlarini o'z ichiga oladi. Maydoni 172 , 6 ming km.kv bu mamlakatimiz umumiy maydonining 38, 5 % i demakdir. U Respublika hududining eng chekka shimol, shimoli – g'arbida , markaziy shaharlardan ancha uzoqda , global tus olgan ekologik jixatdan muammoli Orol dengizi ta'sir etgan ekologik hududda joylashgan . Aynan ana shunday o'ziga xos geografik (iqtisodiy, geosiyosiy va ekologik geografik) o'rin uning uning ijtimoiy iqtisodiy rivijlanish xususiyatlarini belgilab beradi. Rayon hosil qiluvchi omil uning Amudaryo quyi qismida joylashganligidir. Bu rayon ikki, ma'lum ma'noda bir- biriga o'xshamagan ma'muriy birlikdan tashkil topgan.

Asosiy qism : Mamlakatimiz hududiy mehnat taqsimotida Quyi Amudaryo rayoni agrar – industrial mintaq sifatida ajralib turadi . Uning xissasiga O'zbekistonning 6,3 % YIM , 9,9 % (2022-yil, yanvar holatiga ko'ra)sanoat va qishloq xo'jaligi maxsuloti to'g'ri keladi. Rayonning tashqi iqtisodiy faoliyati sust : u mamalakat tashqi savdo aylanmasining bor yo'g'i 2,2 % ini tshkil etadi. Qoraqalpog'iston Respublikasi yalpi hududiy maxsuloti 2023 yil- yanvar – sentabr holatiga ko'ra 103,4 % ni tashkil etgan bo'lsa 2024- yil yanvar sentabr holatiga ko'ra 106,5 % ni tashkil etgan . Rayon iqtisodiyotini alohida Qoraqalpog'iston respublikasi va Xorazm viloyati kesimida ko'rib chiqadigan bo'lsak, Qoraqalpog'iston respublikasi paxta yetishtirish, paxta tozalash , oziq – ovqat sanoatida bir qator dehqonchilik mahsulotlarini yetishtirish, qayta ishlash imkoniyatiga ega hudud hisoblanadi. Xorazm viloyati esa bir qator yengil sanoat tarmoqlarining rivojlanganligi, hududiy mehnat taqsimotida ishlab chiqarish

kuchlarining to'g'ri taqsimlanganligi bilan ajralib turadi. Iqtisodiy rayondagi yengil sanoat korxonalar va zavodlar, ularda tayyorlanadigan mahsulotlar turlariga to'xtaladigan bo'lsak:

1. Tarmoqning asosiy yo'nalishlari

Quyi Amudaryo iqtisodiy rayonida yengil sanoat quyidagi tarmoqlarni o'z ichiga oladi:

- **To'qimachilik sanoati:** Paxta xomashyosini qayta ishlash va undan tayyor mahsulotlar ishlab chiqarish.

- **Tikuvchilik va trikotaj mahsulotlari:** Aholining ehtiyojlarini qondirishga yo'naltirilgan kiyim-kechak ishlab chiqarish.

- **Charm-poyabzal sanoati:** Mahalliy xomashyo asosida charm va poyabzal mahsulotlari ishlab chiqarish.

- **Gilamchilik:** Xalq amaliy san'ati elementlari asosida gilamlar ishlab chiqarish.

2. Rivojlanish omillari

- **Mahalliy xomashyo bazasi:** Rayon paxta yetishtirish bo'yicha mamlakatda yetakchi hududlardan biri bo'lib, bu to'qimachilik sanoati rivojlanishini ta'minlaydi.

- **Mehnat resurslari:** Hududda mehnatga layoqatli aholi ko'pligi ishlab chiqarish jarayonlarini qulaylashtiradi.

- **Transport infratuzilmasi:** Amudaryo orqali yuk tashish va yo'l tarmoqlarining rivojlanganligi mahsulotlarni ichki va tashqi bozorlarga yetkazib berishni osonlashtiradi.

- **Iqtisodiy zonalar:** Ayniqsa, Xorazm viloyatidagi iqtisodiy zonalar yengil sanoat korxonalarining faoliyatini qo'llab-quvvatlamogda.

3. Korxonalar va ularning o'rni

- **Urganch to'qimachilik kombinati:** Rayonning eng yirik to'qimachilik sanoati korxonasi bo'lib, paxtadan tayyor mahsulotlar ishlab chiqaradi.

- **Nukusdagi trikotaj fabrikasi:** Asosiy mahsulotlari trikotaj kiyimlar va sport kiyimlari.

- **Xiva gilamchilik ustaxonalari:** Mahalliy xomashyo asosida gilam va boshqa hunarmandchilik mahsulotlari ishlab chiqaradi.

4. Mavjud muammolar

- Xomashyo yetkazib berishdagi uzilishlar.

- Zamonaviy texnologiyalar yetishmovchiligi.

- Mahalliy va xalqaro bozorda raqobatbardoshlikni oshirish zaruriyati.

Yengil sanoatning ahamiyati

Quyi Amudaryo iqtisodiy rayoni uchun yengil sanoat:

- **Bandlik darajasini oshirish:** Hududdagi aholini ish bilan ta'minlashda muhim rol o'ynaydi.

- **Eksport imkoniyatlari:** Mahalliy mahsulotlarni xalqaro bozorlarga chiqarish orqali valyuta tushumini ko'paytiradi.

- **Hududiy rivojlanish:** Hududning iqtisodiy mustaqilligini ta'minlashga xizmat qiladi.

Xulosa va takliflar.

Xulosa

Quyi Amudaryo iqtisodiy rayoni O'zbekistonda yengil sanoatning rivojlanishi uchun muhim hududlardan biridir. Bu yerda paxta, ipak va boshqa qishloq xo'jaligi mahsulotlari ishlab chiqarish bilan birga, yengil sanoat tarmoqlari ham faol rivojlanmoqda. Ushbu iqtisodiy rayonning yengil sanoati turlari orasida to'qimachilik, tikuvchilik, poyabzal ishlab chiqarish va boshqa qo'shimcha sanoat tarmoqlari mavjud. Rayonning yengil sanoati o'zining xom ashyo bazasi, ishchi kuchi va geografik joylashuvi bilan ajralib turadi. Shu bilan birga, quyi Amudaryo iqtisodiy rayoni mamlakatning boshqa hududlariga nisbatan ko'proq ijtimoiy-iqtisodiy muammolarga duch kelishi mumkin. Bular ichida infratuzilma yetishmovchiligi, zamonaviy texnologiyalarni joriy etishda kechikishlar va raqobatbardosh mahsulotlar ishlab chiqarishda mavjud bo'lgan qiyinchiliklar mavjud.

Takliflar

1. Infratuzilmalarni yaxshilash: Yengil sanoatni rivojlantirish uchun transport va logistika infratuzilmalarini modernizatsiya qilish zarur. Bu o'z navbatida mahsulotlarni tez vaqt ichida yetkazib berishni ta'minlaydi.

2. Zamonaviy texnologiyalarni joriy etish: Sanoatda zamonaviy texnologiyalarni joriy etish orqali ishlab chiqarishni optimallashtirish va sifatni oshirish mumkin. Innovatsion yechimlar va avtomatlashtirilgan uskunalar orqali xarajatlarni kamaytirish lozim.

3. Malakali ishchilar tayyorlash: Yengil sanoatda malakali kadrlar tayyorlash uchun ta'lim muassasalari bilan hamkorlik qilish zarur. Ishchilarni yangi texnologiyalar bo'yicha o'qitish orqali ularning malakasini oshirish mumkin.

4. Raqobatbardosh mahsulotlarni ishlab chiqarish: Mahalliy xom ashyo asosida raqobatbardosh mahsulotlarni ishlab chiqarishga e'tibor qaratish lozim. Bu nafaqat ichki bozorda, balki xalqaro bozorda ham muvaffaqiyatli bo'lish imkonini beradi.

5. Investitsiyalar jalb etish: Tashqi investitsiyalarni jalb qilish uchun qulay shart-sharoitlar yaratish zarur. Investorlar uchun foydali dasturlar va imtiyozlarni taklif qilish orqali yangi loyihalarni amalga oshirish mumkin.

6. Tadbirkorlik faoliyatining rag'batlantirilishi: Kichik va o'rta biznesni rivojlantirish maqsadida tadbirkorlik faoliyatini rag'batlantiruvchi dasturlar yaratishga e'tibor qaratilishi kerak. Bu takliflar Quyi Amudaryo iqtisodiy rayonining yengil sanoatini yanada rivojlantirishga yordam beradi hamda hududning ijtimoiy-iqtisodiy barqarorligini ta'minlaydi.

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ZARAFSHON IQTISODIY RAYONIDAGI ERKIN IQTISODIY ZONALAR

Annotatsiya. Ushbu maqolada Zarafshon iqtisodiy rayonidagi “Navoiy”, “Urgut”, “Gijdivon” va “Buxoro-Agro” erkin iqtisodiy zonalarini (keyingi o'rinlarda EIZ) to'g'risida fikr yuritiladi. EIZlarning iqtisodiy rayon iqtisodiyotidagi o'rnini ochib berishda iqtisodiy-geografik tahlil, statik ma'lumotlar ustida ishlash, kartografik kabi tadqiqot usullaridan foydalanildi va kerakli tavsiya hamda takliflar berib o'tildi.

Kalit so'zlar: agro-erkin iqtisodiy zona, gidroponik issiqxonalar, eksport, erkin iqtisodiy zona, iqtisodiy rayon, import, investitsiya, xorijiy investor.

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FREE ECONOMIC ZONES IN ZARAFSHAN ECONOMIC DISTRICT

Abstract: This article examines the free economic zones (hereinafter referred to as FEZ) "Navoi", "Urgut", "Gijdivon" and "Bukhara-Agro" in the Zarafshan economic region. To identify the place of the FEZ in the economy of the economic region, such research methods as economic and geographical analysis, work on static data, cartographic were used, and the necessary recommendations and proposals were given.

Keywords: *agrarian free economic zone, hydroponic greenhouses, export, free economic zone, economic region, import, investment, foreign investor.*

KIRISH. O'zbekistonning markaziy qismida joylashgan Zarafshon iqtisodiy rayoni - Zarafshon daryosining o'rta va quyi qismidagi Buxoro, Navoiy va Samarqand viloyatlari o'z ichiga oladi. Mazkur iqtisodiy rayonning umumiy yer maydoni 168,1 ming km.kv, aholisi 7,4 mln. kishidan ortiq. Ushbu iqtisodiy rayon davlatimizda o'zining iqtisodiy mavqeiga ega, va u mamlakatimiz yalpi ichki mahsulotining 18,2% ini, sanoatning 19,1% ini va qishloq xo'jaligining 27% ini beradi [4].

Aynan ushbu iqtisodiy rayonda EIZlarni tashkil etishdan asosiy maqsad, uning tarkibiga kiruvchi viloyatlarni iqtisodiy rivojlanishini hamda, rayonda istiqomat qiladigan aholining bandligini ta'minlash, ishlab chiqarishda innovatsion texnologiyalarni qo'llash uchun chet el va mahalliy sarmoyalarni jalb qilishdir.

Xo'sh EIZ nima? **Erkin iqtisodiy zona** –bu biznes va savdo qonunlari mamlakatning qolgan qismidan farq qiladigan hudud. EIZlar mamlakatning milliy chegarasida joylashgan bo'lib, ularning maqsadlari savdo balansini oshirish, aholini ish bilan ta'minlash, mahalliy va xorijiy investitsiyalarni jalb qilish, yangi ish o'rinlarini yaratishdan iborat bo'lgan samarali boshqaruvni o'z ichiga oladi. Mazkur iqtisodiy hududlarida korxonlarni tashkil etishga rag'batlantirish uchun moliyaviy siyosat joriy etiladi.

EIZlarning shakllanishida quyidagi omillar alohida o'rin tutadi:

- investor uchun hududning iqtisodiygeografik holati juda qulay bo'lishi shart;
- kamida mintaqaviy ahamiyat kasb etuvchi magistral yo'llarning kesishgan joylari bo'lishi lozim;
- dengiz va daryo portlariga yaqin bo'lishi kerak;
- aeroportlar xalqaro maqomga ega bo'lishlari lozim.

Shu bilan birga bir qator bojxona va soliq imtiyozlari ham EIZlarining jozibadorligini oshiruvchi iqtisodiy omillar sanaladi, shuningdek arzon va malakali ishchi kuchi ham muhim ijtimoiy-iqtisodiy omillardan sanaladi.

Zarafshon iqtisodiy rayonida "Navoiy", "Urgut", "Gijdivon" va "Buxoro-Agro" EIZlari tashkil qilingan. Ularning dastlabkisi Samarqand shahrida tashkil qilingan bo'lib, turli huquqiy va iqtisodiy sabablarga ko'ra o'z faoliyatini yurita olmay tugatilgan.

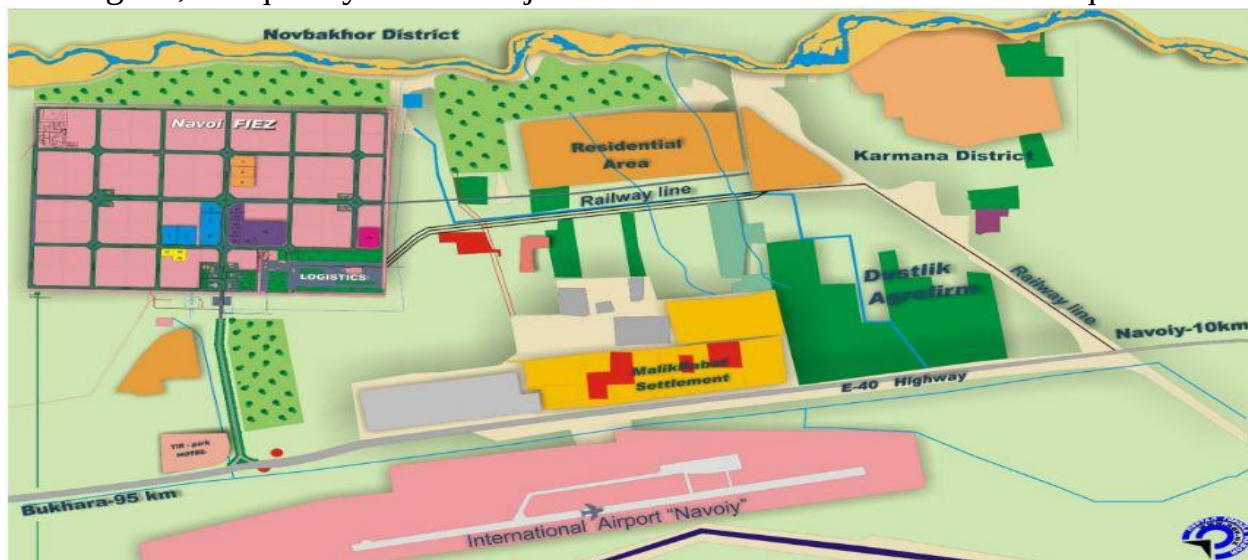
Keyinchalik hozirda faoliyat yuritayotgan, dastlabki "Navoiy" erkin industrial iqtisodiy zonasi Navoiy viloyatining Karmana tumanida intermodal xab sifatida, ma'lum davrdan keyin Samarqand viloyatining Urgut tumani va Buxoro viloyatning G'ijduvon tumanida, mos ravishda "Urgut" va "G'ujduvon" EIZlari, shuningdek Buxoro viloyatining bir yo'la quyida nomi ko'rsatilgan Buxoro, Jondor, Kogon, Peshku va Romitan tumanlar hududida jami 3000 ga maydonga ega bo'lgan, qishloq xo'jaligiga ixtisoslashgan "Buxoro-agro" EIZsi tashkil qilindi.

Zarafshon iqtisodiy rayonida tashkil qilingan erkin iqtisodiy zonalar.

T/r	EIZ nomi	Tashkil qilingan vaqti	Ajratilgan maydon	Joylashgan mintaqasi
1	“Navoiy” EIZsi	2 dekabr 2008 yil	645 ga	Navoiy viloyati
2	“Urgut” EIZsi	12 yanvar 2017 yil	1902,5 ga	Samarqand viloyati
3	“G’ijduvon” EIZsi	12 yanvar 2017 yil	883 ga	Buxoro viloyati
4	“Buxoro-agro” EIZsi	2018 yil	3000 ga	Buxoro viloyati

Jadval internet ma’lumotlari asosida mualliflar tomonidan tuzildi

Yuqorida ta’kidlaganimizdek, Zarafshon iqtisodiy rayonidagi balkim mamlakatimizda birinchi tashkil etilgan, to’ng’ich EIZ “Navoiy” erkin industrial iqtisodiy zonasidir. “Navoiy” EIZsi- 2008yilda Navoiy viloyatining Karmana tumanida tashkil topgan. Bugungi kunda bu eng rivojlabo’ngan bo’lib, uning maydoni 645 gektarni tashkil etadi, yuksak muhandislik infratuzilmasi va qulay logistika ega. EIZ rezidentlarga misli ko’rilmagan bojxona va soliq imtiyozlari, shuningdek, har qanday tartibni iloji boricha soddalashtirish imkonini taqdim etadi.



1-rasm. “Navoiy” EIZsi sxemasi. []

Navoiy EIZ geografik joylashuvi jihatidan boy xom-ashyo va resurs bazasida joylashganligi bilan birga, arzon mehnat resurslarining mavjudligi kabi bir qator qulayliklar uning yanada jozibadorligini ta’minlaydi.

EIZ hududida faoliyat yuritishning quyidagi qulayliklari mavjud:

- respublikamizda iqtisodiy va siyosiy barqarorlikning mavjudligi;
- o’zida 100 turdagi mineral homashyolarni mujassam etgan foydali zaxiralarning ko’pligi;
- energetika (gaz, elektroenergiya, texnik va ichimlik suvi, kanalizatsiya) va mehnat resurslaridan foydalana olish;

- mo'tadil iqlim sharoitining mavjudligi.



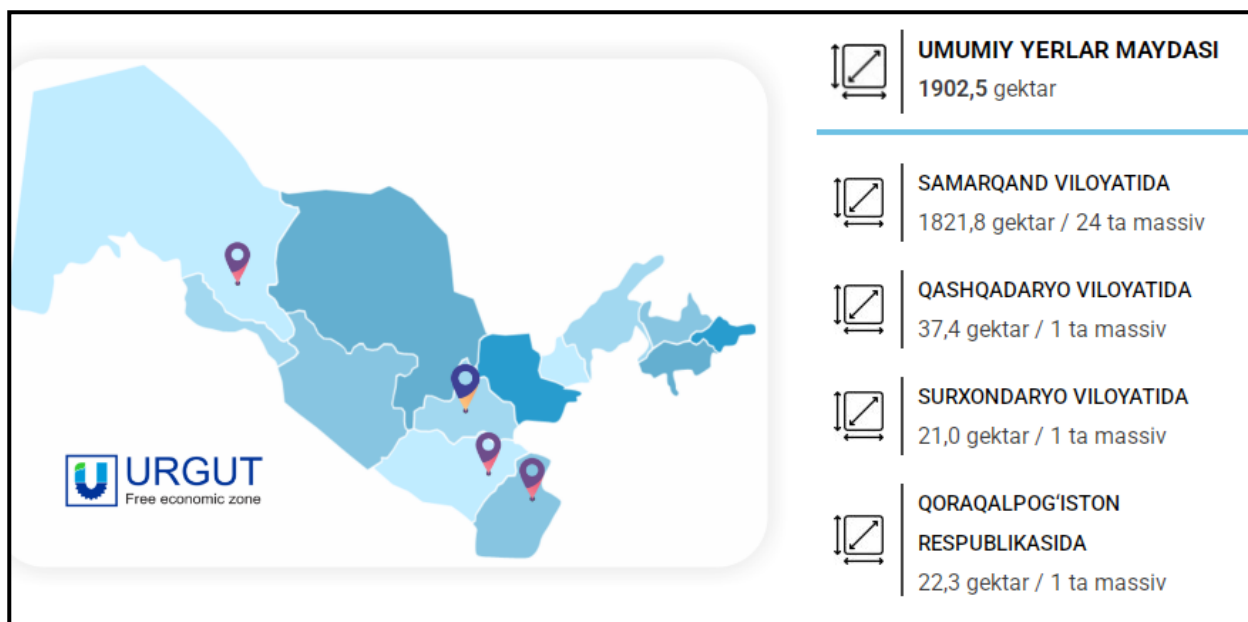
2-rasm. “Navoiy” EIZsi intermodal xab sifatidagi karta sxemasi.[1]

2017 yil 12 yanvarida mamlakatimizning Buxoro, Farg’ona, Samarqand va Xorazm viloyatlarida “G’ijduvon”, “Qo’qon”, “Urgut” va “Xazorasp” EIZlari tashkil qilindi.

Samarqand viloyatida tashkil qilingan va juda tez sur’atlarda rivojlanib borayotgan “Urgut” EIZsini “Chegarasiz iqtisodiy zona” deb ham nomlaydilar, negaki u boshqa EIZlardan farqli ravishda respublikamizning boshqa ma’muriy birlioklarida ham o’z filiallariga ega bo’lmoqda.

2021 yilning 4 noyabrdagi Urgut erkin iqtisodiy zonasi faoliyatini kengaytirish chora-tadbirlari to’g’risidagi qaror bilan Samarqand viloyatining barcha tuman (shahar)larida va Surxondaryo viloyatining Denov tumanida Urgut EIZ filiallari tashkil qilingan[6].

Samarqand viloyatidagi Urgut erkin iqtisodiy zonasi Qoraqalpog’istonning Beruniy tumanidagi 22,3 gektar yer maydoni hamda Qashqadaryoning Kitob tumanidagi 37,4 gektar yer maydonlari hisobiga kengaytirilmoqda. Ya’ni Beruniy va Kitob tumanlarida Urgut EIZning filiallari tashkil qilinmoqda.



3-rasm. “Urgut” EIZsining viloyatlardagi massivlari karta sxemasi.[5]

Tashqi bozorda talab katta bo'lgan, yuqori qiymatli raqobatdosh mahsulotlar ishlab chiqarishni ta'minlaydigan mineral xamoshyo va qishloq xo'jaligi resurslarini chuqur qayta ishlash bo'yicha zamonaviy ishlab chiqarishni tashkil etishga xorijiy va mahalliy investitsiyalarni jalb etish uchun qulay sharoit yaratish, shuningdek Buxoro viloyatining ishlab chiqarish hamda resurs salohiyatidan kompleks va samarali foydalanish, shu asosda yangi ish o'rinlarini yaratish, hamda aholining daromadini oshirish maqsadida viloyatning G'ijdivon tumanida “Gijdivon” EIZsi tashkil etildi. Ushbu EIZning asosiy faoliyat yo'nalishlari tashqi bozorda talab katta bo'lgan va importning o'rnini bosuvchi, yuqori qo'shilgan qiymatli mahsulotlar ishlab chiqarish bo'yicha zamonaviy ishlab chiqarishni tashkil etish uchun xorijiy va mahalliy investorlarning to'g'ridan-to'g'ri investitsiyalarni jalb etishdan iboratdir.

Shuningdek davlatimiz rahbari tomonidan 2023-yil 11-yanvardagi PQ-3 qaroriga asosan “G'ijdivon” EIZning yer maydonini kengaytirish yo'lga qo'yildi va hudud ancha kengaydi.

EIZ maydoni 883,00 ga shundan 213,5 gektar G'ijdivon tumanida, 200 gektar Kogon tumanida, 100 gektar Qorovulbozor tumanida va 100 gektar Peshku tumanida, 200 gektar Romitan tumanida, 69,5 gektar esa Buxoro tumanida joylashgan zarur muhandislik kommunikatsiyalari mavjud[7].

“G'ijdivon” EIZda maxsus bojxona zonasi rejimi mavjud, unga jalb qilingan investorlar soni – 36, loyihalar - 46 ta, ularning umumiy qiymati - 203,3 million dollar, tashkil qilingan ish o'rinlari - 5313 kishi. 2021 yilda ishlab chiqarish hajmi - 496,3 mlrd. so'm, shu jumladan eksport 26,8 mln.dollar. Eksport bozori: Xitoy, Rossiya, Qozog'iston, Turkiya, Afg'oniston, Koreya, Germaniya, Hindiston, Belarusiya, Ukraina kabi mamlakatlar bor.

Davlatimiz rahbari Shavkat Mirziyoyev tomonidan 2018 yil 10 iyuldagi qaroriga muvofiq Buxoro viloyatida “Buxoro-Agro” EIZsi tashkil etildi. “Buxoro-

Agro” EIZsi viloyatning Buxoro, Jondor, Kogon, Peshku va Romitan tumanlarida qishloq xo’jaligi salohiyatini rivojlantirishga qaratilgan. Ularda gidroponik issiqxonalar barpo etish orqali eksportbop qishloq xo’jaligi mahsulotlarini yetishtirish, yangi ish o’rinlarini yaratish hamda aholi daromadlarini oshirish mo’ljallangan. Gidroponik tizimli issiqxona – bu asosiy shaffof qoplama materiali sifatida shisha qilingan issiqxonadir. Ushbu “Buxoro-Agro” EIZsida gidroponika issiqxonalarida gidroponik usulida suvdan va boshqa eritmalardan foydalanib o’simliklar yetishtiriladi. Unga ko’ra, Buxoro tumanida 500 gektar, Jondor tumanida 100 gektar, Kogon tumanida 900 gektar, Peshku tumanida 400 gektar, Romitan tumanida 1100 gektar, jami 3000 gektar yer ajratiladi[8].

Shundan 598 gektar yerda 98 ta loyihani amalga oshirish ko’zda tutilgan, xususan, Turkiya investitsiyasi ishtirokida “Buxoro Varnet” korxonasi tomonidan 115 gektar maydonga oynavand issiqxona qurish rejalashtirilgan. Bu turdagi oynavand issiqxonalar tabiiy yorug’likni ko’proq qabul qiladi, chunki shisha yoki boshqa materiallar yo’rug’likni yaxshi o’tkazadi, bu esa o’simliklarning yaxshi o’sib rivojlanishiga va ularning samaradorligini oshirishda katta ahamiyat kasb etadi.

XULOSA. Ushbu iqtisodiy rayonning iqtisodiy rivojlanishida tashkil etilgan erkin iqtisodiy zonalarining ahamiyati kattadir. Yuqorida ko’zda tutilgan “Navoiy” erkin iqtisodiy zonasi, “Buxoro-Agro” erkin iqtisodiy zonasi hamda “G’ijdivon” erkin iqtisodiy zonasi mamlakatimiz bozorlarini o’z mahsulotlari bilan ta’minlamogda balki, xorijiy mamlakatlarga raqobatbardosh mahsulotlar ishlab chiqarilib o’zining ishlab chiqarish salohiyati ko’rsatmogda. Albatta hozirgi kunda bunday erkin iqtisodiy zonalar tashkil etilib yutuqlarga erishilayotganligi davlatimiz tomonidan bularga katta imkoniyatlar yaratilgani desak mubolag’a bo’lmaydi. Ayniqsa “Gijdivon” EIZ si o’zining qishloq xo’jaligi faoliyati bo’yicha o’zining shu sohada samadorligini oshirib hamda yangi texnologiyali issiqxonalar tashkil qilib davlatimizni oziq-ovqat muommolarining ham oldini olmogda. Iqtisodiy rayonda boshqa tashkil etilgan EIZ lar ham o’ziga hos mavqeiga egadir.

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XITOYNING HUDUDIIY DAVOLARI

Annotatsiya: *Ushbu maqolada Xitoy Xalq Respublikasi qo'shnilari va ular bilan bog'liq hududiy davolari haqida fikr yuritilgan bo'lib, o'z navbatida ularning kelib chiqish sabablari hamda bartaraf qilish yechimlari haqida o'ziga xos mulohazalar berilgan. Mazkur mavzuni o'rganishda matematik-statistik, siyosiy-geografik tahlil, kartografik va qiyosiy baholash usullari, hamda tarixiylik va hududiylik tamoyillaridan foydalanildi.*

Kalit so'zlar: *Bahsli hududlar, Aksay hududi, Arunachal-Pradesh shtati, Tavang tumani, bahsli orollar, Katta Ussuriy oroli, Tayvan oroli, Spratli arxipelagi, Senkaku orollari.*

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CHINA'S TERRITORIAL CLAIMS

Abstract: *This article discusses the territorial disputes of the People's Republic of China with its neighbors, and in turn, gives specific comments on their causes and solutions. The study of this topic uses mathematical-statistical, political-geographical analysis, cartographic and comparative assessment methods, as well as the principles of historicism and territoriality.*

Keywords: *Disputed territories, Aksai region, Arunachal Pradesh state, Tawang district, disputed islands, Greater Ussuri Island, Taiwan Island, Spratly archipelago, Senkaku Islands.*

KIRISH. Xitoy Xalq Respublikasi dunyoda maydon kattaligi jihatidan, Rossiya va Kanadadan keyingi 3-orinda turuvchi, 9 596 960 km.kv maydonga ega davlat. Ayni paytda chegaradosh mamlakatlar soniga ko‘ra, jahonda 2-o‘rindagi mamlakat hisoblanadi. Jumladan quruqlikda 13 davlat bilan chegaradosh 4 dengizlar orqali chegaralariga ega (Vetnam hamda Shimoliy Koreya bilan ham quruqlikda ham dengizda chegaralari mavjud). Xitoy o‘zining hududiy ajralmas bir qismi deb hisoblaydigan, lekin jahonning ayrim davlatlari uning mustaqiligini tan olgan, hamda amalda o‘zini to‘la mustaqil sanaydigan Tayvan bilan ham dengiz orqali chegaradoshdir. Shuningdek hududiy davo qilinayotgan, bahsli orollar, Parasel, Spratli orollari kabi yana boshqa orollarni nazorat qilish orqali, qo‘shimcha ravishda Filippin Respublikasi, Buruney Sultonligi va Malayziya Qirolligi bilan chegaralarga ega bo‘ladi.

Xitoy hukumati - qo‘shni davlatlarga nisabat ochiqlik va inklyuzivlik siyosatini yuritadi. Jumladan, **SHHT** orqali Rossiya va O‘rta Osiyo mamlakatlari bilan, **ASEAN**-markazlikni qo‘llab-quvvatlash orqali Xitoy-Yaponiya-Janubiy Koreya hamkorligini mustahkamlaydi. Shuningdek, **Lansanszyan – Mekong** havzasidagi hamkorlik evaziga Vetnam va Laos kabi qo‘shni mamlakatlar bilan turli jabhalardagi hamkorlikni jadal rivojlantirmoqda.

ADABIYOTLAR TAHLILI: Mazkur mavzuni yoritishda ko‘pgina ilmiy ishlar va internet syatlari ma‘lumotlaridan foydalanildi. Keltirilgan ushbu ma‘lumotlar katta qismi o‘rganilgan ma‘lumotlarni tahlil qilsih asosida yoritildi. Ayniqsa, Xitoyning Hindiston, Rossiya federatsiyasi, Tojikiston, shuningdek janubiy sarhadlaridagi bahsli orollar haqidagi internet saytlaridagi ma‘lumotlar batafsil o‘rganildi va yetarli darajada ochib berishga harakat qilindi.

Ushbu maqolada mualliflarning shu yo‘nalishda nashr qilingan ishlariga murojat qilindi.

“Bahsli hududlar” doimiy ravishda paydo bo‘ladi, chunki dunyo manzarasi o‘zgarib bormoqda va davlat chegaralari shunga mos ravishda o‘zagarib boraveradi [1]. Bu holat Xitoyga ham tegishli, negaki u doimiy ravishda qo‘shnilari bilan huduiy davolarga kiradi.

ASOSIY QISM.

Hech kimning bo‘lmagan hududlar kamdan-kam uchraydi, hududning “hech kimniki maqomi” tug‘ilishi bilanoq, qo‘shni davlatlar qoida tariqasida unga o‘z da‘volarini bilan chiqadilar[2].

Xitoy qo‘shnilari bilan ularning mavqeyiga monand ravishda iqtisodiy va siyosiy munosabatlarni shakllantiradi, hamda yana bir narsaga alohida e‘tibor qaratadi-ki, mazkur qo‘shni davlatlarni ittifoqchilari bilan bo‘ladigan keyingi vaziyatlarni ham diqqat markazidan qochirmaydi. Yana, u Xalqaro Hamjamiyatning salbiy nazariga tushmaslikka ham harakat qiladi (Uyg‘ur millatiga qaratilgan zo‘rovonliklarni o‘z ichki ishi deb hisoblaydi).

Ammo, Xitoy yuritayotgan bu siyosatni ko‘pgina davlatlar “**Zar to‘n yopgan ajdarho**” timsolida qaraydilar, jumladan uning asosiy sheriklari, Rossiya va O‘rta Osiyo mamlakatlari ham.

Lekin Xitoy hukumati “Osiyoda vujudga kelgan besh tamoyil ijtimoiy tuzum va mafkuradagi tafovutlarni yengish imkonini beradi, xalqaro munosabatlarning asosiy normalari va xalqaro huquqning asosiy tamoyillariga mos keladi hamda davlatlararo munosabatlarni to‘g‘ri tartibga solishga Sharq donishmandligining hissi bo‘lib xizmat qiladi” deb hisoblaydi [5].

Ba’zi Xitoy nashrlarida quyidagicha maqolalarni ham ko‘rishimiz mumkin-ki, ularda bayon qilinayotgan fikrlar chuqur o‘ylanishga majbur qiladi.

“1864 yilda Rossiya imperiyasi bu paytga kelib o‘z ta’siri va qudratini yo‘qotgan imperator Sinni imperiyaning shimoli-g‘arbiy hududlaridan voz kechishga majbur qildi. Umuman olganda, Xitoy o‘shanda 510 ming kilometr kvadrat maydonidan ayrildi. Va butun Qirg‘iziston ushbu yo‘qotilgan hudud tarkibida edi. Aslida Qirg‘iziston xuddi Mo‘g‘iliston kabi qadimdan Xitoy yerlari hisoblangan”[6].

Xitoy nafaqat, Mo‘g‘iliston, Qirg‘izistonga, balkim Rossiyaga ham hududiy davolarini yashirmaydi.

Hatto, 2011-yilda Tojikistonning 1158 kv. km hududi Xitoy ixtiyoriga o‘tkazilganini yoritgan maqola ko‘plab tojikistonliklarni g‘azablantirgan edi. Tojikiston bu yerlarni o‘z qarzlarning bir qismidan qutulish uchun Xitoy ixtiyoriga topshirgannini ta’kidlab keladi.

Bunga misol, Xitoyning “Standart xaritalar kartografik xizmati” davlat sayti 2023 yilga mo‘ljallangan yangi, rasman tasdiqlangan geografik xaritalar to‘plamini chiqardi. Unda Rossiya hududlarining bir qismi Xitoy tarkibiga kiradi [6].

Bu [Rossiya](#) va [Xitoy](#) o‘rtasida 2008 yilda tuzilgan shartnoma asosida bo‘lingan Amur daryosida joylashgan **Katta Ussuriy oroli** to‘laligicha Xitoyning eng sharqiy nuqtasi sifatida mazkur xarita kiritilganligidir. Rossiya bu vaziyatda Xitoyga deyarli e’tirozlari oshkora namayon qilmadi. Nega-ki, Rus-Ukrain urushida Xitoy Rossiyaning asosiy iqtisodiy sherigi bo‘lib qolmoqda.

Aftidan mazkur xarita orqali Xitoy yaqin yillarga mo‘jallagan chegara lohiyalariga qo‘shni yohud ushbu masalalarga befarq bo‘lmagan mamlakatlarini hatti-harakatlarini aniqlash, hamda ularga mos variantlarni ishlab chiqarish maqsad qilgan bo‘lsa ajabmas.



1-rasm. Xitoyning hududiy da'volari karta-sxemasi [5].

“Namunaviy xarita [Xitoy](#) va dunyoning boshqa mamlakatlari chegaralarini loyihalash bo'yicha milliy standartlarga muvofiq tuzilgan”, — deyiladi izohda [6].

Bu xarita ba'zi qo'shni davlatlarning kuchli e'tiroziga sabab bo'lgan. Xitoy Janubiy Tibet deb ataydigan Hindistonning Arunachal-Pradesh shtati va 1962 yilgi urush paytida [Xitoy](#) tomonidan bosib olingan Ladaxdagi Oqsay Chin chegara hududi ham yangi geografik xaritada [Xitoy](#) hududi tarkibiga kirdi.

Hindiston [Xitoy](#)ga bir necha bor “Arunachal-Pradesh Hindistonning ajralmas qismi bo'lgan va shunday bo'lib qoladi”, deb bir necha bor ta'kidlagan. Hindiston Tashqi ishlar vazirligi matbuot kotibi Arindam Bagchi Pekinga xaritaning chiqarilishiga keskin norozilik bildirdi [6].

Xaritada, shuningdek, [Xitoy](#)ning Tayvan oroliga da'vosi va [Xitoy](#)ning Janubiy [Xitoy](#) dengizining katta qismiga da'vosini ifodalovchi “to'qqiz chiziqli chegara” ko'rsatilgan.

MUNOZARA. Tayvan oroli – Xitoy orolini o'z mamlakatini bir qismi deb biladi va ko'p yillardan beri bu borada yakdil pozitsiyada turubdi, ammo orolda mustaqil Tayvan davlati mavjud, hamda dunyoning 20dan ortiq mamlakatlari uni tan oladilar. Bu davlatni tan olgan AQSH Xitoy hukumati qachonlardir, orolni harbiy yo'l bilan egallashga urinishlar qiladi degan taxmin qiladi va mazkur orolga doimiy ravishda harbiy yordam berib keladi.

Xitoyning Sharqiy va Janubiy Osiyo mintaqalarida hududiy davolari ham mavjud. Xitoyning Hindiston bilan bahsli hududi bu **Arunachal Pradesh**dir. Hindistondagi mustamlaka davrining yana bir bahsli merosi. 1951 yilda Tibetni bosib olgan Xitoy Himolay tog'laridagi demarkatsiya chizig'i bo'yicha Angliya-Tibet kelishuvlarining nomuvofiqligi tufayli Hindistonning Arunachal-Pradesh shtatining bir qismiga da'vo qiladi, xususan, **Tavang** tumanini o'z hududi deb hisoblaydi. Dunyodagi eng ko'p aholi yashaydigan ikki davlat o'rtasidagi bunday tortishuv oldindan aytib bo'lmaydiganligi tufayli xavflidir: 1962 yilda Hindiston va Xitoy o'rtasidagi durang bilan yakunlangan chegara urushi bu asosdagi yagona qurolli to'qnashuv bo'lmasligi mumkin.

Tinch okeanidagi **Spratli arxipelagi** Xitoy, Tayvan, Vyetnam, Malayziya va Filippin o'rtasidagi bahs mavzusidir. Arxipelagning bir qismiga 1984 yildan beri Bruney da'vogarlik qilmoqda. Ushbu orollar uchun kurash bir necha bor qurolli to'qnashuvlarga olib keldi. Xususan, 1974 yilda Xitoy va Janubiy Vetnam harbiy-dengiz kuchlari o'rtasida dengiz jangi bo'lib o'tdi.

Janubiy Xitoy dengizidagi **Parasel orollari** Xitoy va Vyetnam o'rtasidagi bahs mavzusi. Xitoy orollarni 1974-yilda egallab olgan va hozirda Xitoy tomonidan qurilgan havo kuchlari bazasi joylashgan.

Sharqiy Xitoy dengizidagi **Senkaku orollari** hozirda Yaponiya, Xitoy va Tayvan o'rtasida bahsli, ammo Yaponiya harbiy-dengiz kuchlari tomonidan nazorat qilinadi. Ularning yonida neft zaxiralari topilgan. Bu esa ushbu hududlarga bo'lgan da'volarni yanada kuchayishiga olib keladi.



2-rasm. Spratli arxipelagi va Parasel orollari bahsli hududlar sifatida[4].

Kashmir - Hindiston yarim orolining shimoli-g'arbiy qismidagi bahsli mintaqa. Hindiston va Pokiston o'rtasidagi hududiy nizoning asosiy sababchisi Kashmir ko'plab mintaqalardan iborat, ammo Jammu va Kashmir, bu shtatdagi eng gavjum ikkita mintaqasidir, bahsli hududning boshqa mintaqalar Ladax, Gilgit, Baltistan va Skardu ham bor.

Jammu - Kashmirning atrofidagi ziddiyat 1947 yilda Britaniya Hindistoni bo'linganidan keyin paydo bo'lgan. Bo'linish diniy tamoyillar asosida bo'lib o'tdi: aholisi asosan hindular bo'lgan viloyatlar Hindistonga, asosan musulmonlar yashaydigan viloyatlar Pokistonga bo'lindi. Biroq, aksariyat musulmonlardan iborat knyazlik Jammu va Kashmir shtati Hindiston suvereniteti ostiga o'tdi. Natijada bu holat Pokistonga ma'qul bo'lmadi va ikki davlat o'rtasida 1947-1966 yillar oralig'ida uchta urush kelib chiqdi, hamda Kashmir hududi uch davlatga quyidagicha bo'lindi: Hindistonga- 60%, Pokistonga 30%, Xitoyga 10%. Shuningdek, mazkur hududda istiqomat qiluvchilarning bir qismi "Mustaqil yagona Kashmir" davlatini tashkil qilsih uchun harakat qilmoqdalar.



3-rasm. Kashmirdagi bahsli hududlar [3].

Aftidan, Kashmirning mustaqil bo'lishi, gohud to'raligicha Hindiston yoki Pokiston tomonigan egallanishi uzoq yillarga cho'zilishi mumkin, lekin Xitoy qo'liga o'tib ketgan hududlarning qaytarib olish dargumonligicha qolib ketaveradi.

XULOSA. Xitoy quruqlikdagi yohid suvli sarhadlaridagi o'z qoshnilari bilan yuqori ta'kidlaganimizdek bir qator hududiy davolarga ega va ayni paytda unga nisbatan ham bunday davolar ham yo'q emas. Shuningdek mamlakat barcha qo'shnilari bilan hududiy kelishmovchilikka bormaydi, lekin vaqt o'tishi bilan bunday davolarning shakllanishi ham ko'zga tashlanishi mumkin. Umuman hozirgi kunda mavjud bahsli hududiy muammolarni hal qilishda Xitoy hukumati doimiy

ravishda qisqa yoki uzoq yillarga mo'jallangan reja asosida harakat qiladi. Toki bu urinishlar Xitoy uchun hoh ijobiy - hoh salbiy ko'rinishdagi yechimiga ega bo'lsada, va u ayni paytda asosiy to'siqlarga yetib borguncha davom qilaveradi. Xitoy uchun asosiy to'siqlar esa - Yaponiya, AQSH, Hindiston va Rossiya Federatsiyasidir. Xitoy uchun katta to'siq bo'la olmaydigan davlatlar esa hududiy majorolardan qochish uchun ushbu katta to'siqlar ortiga bekinib olgan, masalan, Tayvan - AQSH, Janubiy Koreya - AQSH va Yaponiya, shuningdek, Mo'g'iliston, Vetnam, Qozog'iston, Tojikiston – Rossiya Federatsiyasi orqali Xitoyning hududiy bosimidan qochadi.

Mavjud hududiy davolarni hal qilishda Xitoy quyidagi yo'nalishda harakat qilsa maqsadga muvofiq deb hisoblaymiz:

- Birinchidan, Xitoy hududiy birligini qayta tiklash maqsadida Tayvanni tinch yo'l bilan, iqtisodiy mustaqillik va siyosiy muxtoriyat evaziga qo'shib olish (AQSH ta'sir doirasini iqtisodiy qo'llab quvvatlash orqali yo'q qilish hamda Gonkong kabi ikki iqtisodiyotli rejim tashkil qilish bilan);
- Ikkinchidan, Hindiston bilan ikmon qadar, urushlarsiz chegara masalalarni bartaraf qilish (chunki, Hindiston Xitoy bilan bevosita chegaradosh har taraflama qudratli, jumladan yadro arsenali mavjud, ko'p sonli armiyaga ega va iqtisodiyoti jadal rivojlanayotgan mamlakat);
- Rossiya Federatsiyasi, shuningdek, uning asosiy ittifoqchilari sanalgan, Shimoliy Koreya, Qozog'iston, Qirg'iziston, Tojikiston va Vetnam kabi davlatlar bilan hududiy nizolarni shakllantirmaslik (bunday vaziyat yuzaga kelsa Xitoy Rossiyadan uzoqlashish evaziga, jahon siyosiy ayvonida yakkalanib qoladi).

Xitoy hukumati ayni paytda iqtisodiy yordam, zarur mamlakatlarga katta miqdorda qarz berish orqali ularni iqtisodiy qaramlik qilish siyosatini yuritmoqda, bu ham o'z navbatida, unga qo'shni va qo'shni bo'lmagan davlatlarning "Xitoy qarmog'i" iborasi bilan undan qochishga yohud u bilan masofa saqlab iqtisodiy munosabatlar olib borishga sabab bo'lmoqda.

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THE PHRASEOLOGICAL AND SEMANTIC FEATURES OF THE CONCEPT OF “HAPPINESS” IN UZBEK AND ENGLISH LANGUAGES

Annotation: *This article explores the phraseological and semantic features of the concept of happiness in Uzbek and English. The study analyzes how happiness is conceptualized in these languages, the cultural values and beliefs reflected in these expressions, and the semantic differences between phraseological units. The research contributes to a better understanding of linguistic and cultural diversity.*

Key Words: *Happiness, phraseology, semantics, Uzbek language, English language, cultural values, phraseological units.*

Introduction: Happiness is one of the most fundamental human emotions, universally experienced yet expressed uniquely across different cultures and languages. It is not merely a psychological state but a deeply ingrained cultural concept that reflects the values, traditions, and worldview of a society. Uzbek and English, as representatives of two distinct linguistic and cultural traditions, offer a rich field for exploring how the concept of happiness is expressed. English, a global language, is shaped by a blend of individualistic tendencies and a history of cultural evolution influenced by many traditions. In contrast, Uzbek, rooted in the Turkic language family, reflects a collectivist and nature-oriented worldview steeped in centuries of Central Asian traditions. These differences are evident in the idiomatic expressions and semantic nuances associated with happiness in each language. Idiomatic expressions and phraseological units are particularly significant because they encapsulate cultural wisdom and emotional experiences in a concise form. For instance, English phrases like "over the moon" or "on cloud nine" depict happiness with metaphors of elevation, while Uzbek phrases such as "Ko'ngli tog'day bo'lish" (feeling as strong as a mountain) and "Yuragi quvonchdan yayraydi" (heart blooming with joy) emphasize nature and internal emotional states. Such differences reveal not only linguistic preferences but also how each culture conceptualizes the experience of happiness. This study aims to delve into the phraseological and semantic features of happiness in Uzbek and English to uncover their similarities, differences, and cultural connotations. By examining commonly used idioms and expressions, the research seeks to answer the following questions:

1. How is happiness conceptualized in Uzbek and English phraseology?
2. What cultural values and beliefs are reflected in these expressions?
3. How do the semantic features of happiness-related idioms differ between these two languages?

The findings of this study will contribute to a deeper understanding of linguistic and cultural diversity in emotional expression. It will also provide practical insights for language learners, translators, and intercultural communication specialists, enhancing their ability to navigate the nuanced meanings behind idiomatic expressions.

Methods

Data Collection: The study was conducted using the following resources:

1. Uzbek and English idiomatic dictionaries and linguistic corpora.
2. Authentic texts, including literature, media, and spoken discourse.
3. Interviews with native speakers of both languages to understand the cultural implications of expressions.

Results: Common phraseological expressions which can be used in English are shown as an example :1. "Over the moon" – Extreme happiness or delight.2. "Walking on air" – A feeling of euphoria.3. "On cloud nine" – A state of bliss or happiness.4. "Bursting with joy" – Overflowing with happiness.

In Uzbek also has different type of phraseological expressions which can identify happiness :1. "Ko'ngli tog'day bo'lish" – Feeling as if one's heart is as strong as a mountain, symbolizing immense happiness.2. "Yuragi quvonchdan yayraydi" – The heart is blooming with joy, indicating pure happiness.3. "Oltin boshli bo'lish" – Feeling invaluable or extremely fortunate.4. "Besh qo'lida gullar ochilgan" – All five fingers blooming with flowers, symbolizing great fortune and joy.

Analysis: In this section, a detailed analysis of the phraseological and semantic features of the concept of "happiness" in Uzbek and English is presented. The analysis is divided into two parts: phraseological expressions and their semantic features. Each part explores how happiness is linguistically encoded and culturally shaped in these two languages.

Phraseological Expressions of Happiness in English: English idioms related to happiness often use metaphors of elevation, lightness, and external manifestations of joy. Common expressions include: 1. **"Over the moon"** – This phrase reflects an intense state of happiness, often tied to personal achievements or good news. Example: "I was over the moon when I received the job offer." Semantic implication: Happiness is perceived as an elevated state, surpassing normal emotions. 2. **"On cloud nine"** – Symbolizes a state of extreme joy, often accompanied by a sense of detachment from worldly concerns. Example: "After winning the award, she felt like she was on cloud nine." 3. **"Walking on air"** – Indicates euphoria, often associated with romantic or emotional fulfillment. Example: "He was walking on air after their first date."

Uzbek phraseological units also can express special meanings related to happiness are deeply rooted in cultural and natural imagery. Common expressions include:1. **"Ko'ngli tog'day bo'lish"** (Feeling as strong as a mountain) – Indicates immense happiness, often tied to familial or collective joy. Example: "Farzandim muvaffaqiyatga erishdi, ko'nglim tog'day bo'ldi." ("My heart felt as strong as a mountain when my child succeeded.") 2. **"Yuragi quvonchdan yayraydi"** (Heart blooming with joy) – Symbolizes pure and radiant happiness, often related to

emotional connections. Example: "Do'stlarim bilan uchrashdim, yuragim quvonchdan yayradi." ("Meeting my friends made my heart bloom with joy.") 3. **"Oltin boshli bo'lish"** (Having a golden head) – Represents being extremely fortunate or joyful. Example: "Oila bilan vaqt o'tkazish oltin boshli bo'lishdek gap." ("Spending time with family feels like having a golden head.")

Semantic Features: Metaphorical Imagery

English: The use of elevation-related metaphors (e.g., "on cloud nine," "over the moon") reflects a tendency to associate happiness with upward movement, weightlessness, and a sense of escape from the ordinary. This aligns with an individualistic worldview, where happiness is often tied to personal success and achievement.

Uzbek: Nature-based imagery (e.g., mountains, flowers, hearts) reflects the collectivist and emotional nature of Uzbek culture. Happiness is often tied to familial or community-related events and is seen as an internal, organic feeling.

Cultural Connotations: 1. English: The external manifestation of joy is emphasized. Phrases like "bursting with joy" suggest a visible or dramatic expression of happiness. This aligns with the Western emphasis on expressing emotions openly. 2. Uzbek: The internal emotional state is highlighted. Phrases like "Ko'ngli tog'day bo'lish" emphasize the inner strength and fulfillment that come with happiness, reflecting a more introspective approach. **Universality vs. Specificity** While some idioms (e.g., "bursting with joy" and "Yuragi quvonchdan yayraydi") show universal elements of emotional intensity, others are culturally specific. For instance, "Oltin boshli bo'lish" has no direct equivalent in English, highlighting a uniquely Uzbek way of conceptualizing joy through the imagery of precious metals.

Comparative Analysis

Similarities : Both languages use metaphors to depict happiness, showing that this emotional state is universally recognized and creatively expressed. Happiness is associated with positivity, lightness, and abundance in both cultures.

Differences: English idioms often anchor happiness in individual achievements or external events, while Uzbek expressions emphasize relationships, family, and nature.

Discussion: The discussion section explores the findings of the analysis in greater depth, linking the phraseological and semantic features of "happiness" to broader cultural, linguistic, and social contexts. This section also reflects on the implications of these findings for intercultural communication, language learning, and linguistic research. The study highlights how the concept of "happiness" is shaped by cultural values and beliefs in Uzbek and English-speaking societies. These differences are reflected in the imagery, metaphors, and contexts in which happiness is expressed. English expressions of happiness often emphasize individuality, personal success, and external manifestations of joy. For instance, phrases like "on cloud nine" and "over the moon" convey a sense of extraordinary personal achievement or happiness. These metaphors of elevation suggest that happiness is seen as an exceptional state, something above and beyond ordinary

experiences. This aligns with the individualistic nature of English-speaking cultures, where personal accomplishment and self-expression are highly valued. Uzbek expressions of happiness, on the other hand, are deeply rooted in collectivist values and emotional depth. Idioms like "Ko'ngli tog'day bo'lish" (feeling as strong as a mountain) and "Yuragi quvonchdan yayraydi" (heart blooming with joy) emphasize internal emotional fulfillment rather than outward displays. These expressions often reflect happiness derived from family, community, or nature, highlighting the interconnectedness of people and their environment in Uzbek culture.

Linguistic: The study also reveals how linguistic choices reflect cultural perceptions of happiness:

1. **Metaphorical Frameworks.** English: The frequent use of elevation metaphors (e.g., "walking on air," "on cloud nine") reflects a dynamic and aspirational view of happiness. These metaphors suggest that happiness is a heightened state, achieved by surpassing ordinary life. Uzbek: The reliance on natural and emotional metaphors (e.g., mountains, blooming flowers) conveys a more grounded and harmonious view of happiness. These metaphors reflect the deep connection between human emotions and the natural world in Uzbek culture.
2. **Semantic Nuances:** In English, idioms like "bursting with joy" often imply a visible, dramatic expression of happiness, reinforcing the cultural emphasis on openly displaying emotions. In Uzbek, expressions like "Ko'ngli tog'day bo'lish" or "Besh qo'lida gullar ochilgan" focus on inner emotional strength and fortune, reflecting a more introspective and emotionally nuanced understanding of happiness.

Conclusion: The study of the phraseological and semantic features of the concept of "happiness" in Uzbek and English reveals the intricate relationship between language and culture. While happiness is a universal emotion, its linguistic representation varies significantly between these two languages, reflecting their distinct cultural values, traditions, and worldviews. In English, happiness is often portrayed through metaphors of elevation, lightness, and external manifestations, such as "on cloud nine" and "over the moon." These expressions align with the individualistic and dynamic nature of English-speaking cultures, where personal achievement and external displays of joy are highly emphasized. The metaphors used in English reflect an aspirational and outward-focused perspective on happiness.

In contrast, Uzbek expressions of happiness, such as "Ko'ngli tog'day bo'lish" (feeling as strong as a mountain) and "Yuragi quvonchdan yayraydi" (heart blooming with joy), draw heavily from nature and emotional depth. These idioms reflect a collectivist culture where happiness is closely tied to family, community, and harmony with the environment. The metaphors used in Uzbek highlight an inward-focused and emotionally grounded understanding of happiness. The similarities between the two languages, such as the use of metaphors to depict happiness and the association of joy with positivity and abundance, highlight shared human tendencies to conceptualize emotions through vivid imagery. However, the

differences, particularly in the cultural anchors and semantic nuances, underline the unique ways in which language shapes and reflects cultural identity.

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SEMANTIC, STRUCTURAL AND LINGUACULTURAL FEATURES OF PROPER NOUNS IN UZBEK AND IN ENGLISH LANGUAGES

Abstract: *This article explores the structural-semantic and linguacultural features of proper nouns, emphasizing their role as linguistic and cultural identifiers. Through a comparative analysis of languages such as English and Uzbek, the study examines the structural uniqueness of proper nouns, their semantic significance, and their reflection of cultural traditions and values. The research highlights how proper nouns preserve historical and cultural heritage, acting as markers of identity in a globalizing world. The findings underline the interplay between language, culture, and society, offering insights into naming conventions and their broader implications. This study provides a foundation for further exploration of the evolution of proper nouns in modern communication.*

Keywords : *nouns, Structural-semantic features, linguacultural studies, cultural identity , naming conventions*

Introduction

Proper nouns, as unique linguistic units, are integral to communication, cultural identity, and societal interaction. They serve as labels for specific entities, such as people, places, organizations, and events, distinguishing them from other nouns. However, their significance extends far beyond mere identification. Proper nouns encapsulate a wealth of cultural, historical, and social information, reflecting the values, traditions, and linguistic characteristics of the communities that use them. The structural and semantic features of proper nouns vary across languages, shaped by the grammatical rules and phonological systems of each linguistic tradition. For example, English proper nouns are marked by capitalization and minimal morphological changes, while in Uzbek, they often include suffixes or modifiers denoting respect or relational hierarchy. These differences reveal how languages adapt proper nouns to their structural frameworks.

Moreover, proper nouns carry profound linguacultural implications. They are embedded with meanings that convey cultural identity, historical memory, and social norms. For instance, the name Samarkand is not just a geographical reference but a symbol of the Silk Road's rich heritage. Similarly, personal names often reflect religious beliefs, historical influences, or familial expectations, such as the prevalence of Islamic names in Uzbek culture or biblical names in English traditions. This article aims to explore the structural-semantic features and linguacultural characteristics of proper nouns, focusing on their role in preserving cultural identity and fostering intercultural understanding. By analyzing examples

from English, Uzbek, and other languages, this study provides insights into how proper nouns function as both linguistic elements and cultural artifacts. It also highlights the relevance of proper nouns in an increasingly globalized world, where traditional naming conventions are influenced by modern communication and cross-cultural exchanges. The following sections will delve into the structural composition of proper nouns, their semantic roles, and their cultural significance, concluding with a discussion on the broader implications of these findings for linguistic and cultural studies.

Data Collection and Analysis

The data collection and analysis for this study were conducted in three phases: textual analysis, surveys, and comparative linguacultural evaluation. The methodology aimed to provide a comprehensive understanding of the structural-semantic and linguacultural features of proper nouns across languages.

Textual Analysis:

Objective: To examine the structural and semantic characteristics of proper nouns as they appear in written texts.

Data Sources:

Literary Texts: Novels, poems, and folklore from English and Uzbek literature (e.g., works by William Shakespeare, Alisher Navoiy).

Geographical Names: Maps and historical documents containing place names (e.g., London, Bukhara).

Personal Names: Historical records, naming dictionaries, and census data.

Structural Analysis: Identification of proper nouns in texts and classification based on morphological patterns (e.g., suffixes, prefixes). Syntax-focused analysis to determine their roles in sentences (e.g., subject, object).

Semantic Analysis: Grouping proper nouns into categories such as personal names, place names, and institutional names. Evaluating the meanings and connotations of proper nouns in their cultural and historical context.

Findings: English proper nouns are typically short and uninflected (e.g., Elizabeth, New York). Uzbek proper nouns often include relational markers or honorifics (e.g., Oydin opa, Tohir aka). Geographical names frequently carry historical and symbolic meanings, reflecting significant cultural events.

2. Surveys

Objective: To gather perceptions of proper nouns from native speakers and linguists.

Participants: 20 native speakers each from Uzbek-speaking and 5 speakers from English communities (foreign teachers of Karshi city schools). 10 linguists specializing in onomastic and cultural linguistics. Many teachers know English in advanced level and they can communicate without any difficulties.

Survey Questions:

1. What cultural or personal significance do you associate with your name?
2. How do you perceive foreign proper nouns in comparison to native ones?
3. What naming traditions are common in your culture?

The following steps we are going to analyze linguistic point of view and identify with justifications.

Findings: English speakers often associate personal names with individuality and historical lineage. Uzbek speakers emphasize family heritage and spiritual meanings in naming traditions. Participants noted that foreign proper nouns often evoke curiosity or are adapted phonetically to fit the native language.

Summary of Analysis: The collected data reveal that proper nouns serve as both linguistic units and carriers of cultural identity. Structural differences highlight the grammatical flexibility of proper nouns in adapting to language-specific rules. Semantic and cultural analysis underscores the deep-rooted historical and social values embedded in names, reflecting unique worldviews and traditions. These findings provide a solid foundation for understanding the complex interplay between language, culture, and identity through the lens of proper nouns.

Discussion

The analysis of proper nouns through their structural-semantic and linguacultural features highlights their multidimensional nature. Proper nouns are not merely identifiers but also cultural artifacts deeply tied to history, society, and language evolution.

1. **Structural-Semantic Features:** The structural analysis revealed significant variations in the way proper nouns are constructed and used across languages. In English, proper nouns rely on capitalization to distinguish themselves and often remain morphologically unaltered. This simplicity makes them adaptable in multilingual contexts, which aligns with English's role as a global lingua franca. In Uzbek, suffixes and relational markers add layers of meaning and context, reflecting the importance of respect and familial relationships in Uzbek culture. For example, the use of *-aka* (older brother) or *-opa* (older sister) demonstrates the integration of social hierarchy into linguistic practices. Semantically, proper nouns extend beyond their literal referential function. They encapsulate history (Alexander the Great), culture (Navruz), and even aspirational meanings in personal names (Shirin meaning sweet). This dual role as identifiers and carriers of meaning makes them unique linguistic elements.

Results

1. **Structural Features,** proper nouns are structurally unique across languages:
English: Typically uninflected; capitalization distinguishes them from common nouns (e.g., London, Elizabeth). Uzbek: Often include suffixes denoting respect or familial relationships (e.g., Tohir aka, Shirin opa).

2. **Semantic Characteristics:** Proper nouns carry inherent meanings beyond their denotative function: Geographical Names: Reflect historical and cultural contexts (e.g., Samarkand is associated with ancient Silk Road history). Personal Names: Encode cultural identity, religion, and aspirations (e.g., Muhammad signifies Islamic heritage in many cultures).

3. **Linguacultural Implications:** Proper nouns are deeply embedded in cultural practices:

Traditions: Naming ceremonies reflect societal values (e.g., Navruz holidays often inspire seasonal-related names).

Cultural Identity: Names often preserve linguistic heritage and resist globalization trends (e.g., Uzbek names maintaining Turkic roots).

Conclusion

Proper nouns are pivotal elements in language and culture, serving as identifiers while preserving and reflecting societal values, historical memories, and cultural identities. The structural-semantic analysis revealed their adaptability to linguistic systems, while the linguacultural study highlighted their role in embedding cultural and historical significance. The comparative study of English and Uzbek naming conventions provides valuable insights into how different societies perceive identity, history, and social relationships through proper nouns. English names often represent a more individualistic perspective, while Uzbek names reflect a collectivist and familial approach. In an era of globalization, proper nouns face both opportunities and challenges. On one hand, they facilitate cross-cultural communication and adaptation. On the other hand, the rise of hybrid and Westernized names may erode traditional naming conventions. This study contributes to a deeper understanding of the interplay between language and culture through the lens of proper nouns. Future research could explore the impact of digital communication, migration, and intergenerational changes on the evolution of proper nouns, ensuring that these linguistic elements continue to serve as bridges between tradition and modernity.

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FEATURES OF THE DEVELOPMENT OF THE SECURITIES MARKET IN UZBEKISTAN

Abstract: *The securities market in Uzbekistan has undergone significant transformations as the country transitions to a market-oriented economy. This paper explores the unique features of the development of the securities market in Uzbekistan, including regulatory reforms, institutional frameworks, and the role of privatization in market growth. Key aspects analyzed include the creation of a legal and regulatory infrastructure to support securities trading, the establishment of stock exchanges, and the development of investment instruments tailored to local economic conditions.*

Key words: *Securities market, Capital market development, Financial market reforms, Stock market in Uzbekistan, Securities trading, Investment climate.*

The development of the securities market in Uzbekistan is important for the stability and long-term development of the country's economy. The development of this market plays an important role not only in attracting domestic investments, but also in directing international capital flows, ensuring the effective use of financial resources by enterprises and business entities.

Enterprises can raise additional funds to finance their activities by issuing shares and bonds. This is especially important for launching new projects in the industrial and service sectors and expanding existing ones.

Raising financial resources is the process of obtaining additional funds (capital) by economic entities, that is, enterprises, organizations or the state, to finance their activities or projects. This process can be carried out through the securities market and plays an important role in the development of the economy.

The issue of securities is presented below.

Shares: Companies issue their shares and sell them to investors. This allows them to raise additional capital by selling their shares.

Bonds: Public or private companies can issue bonds and borrow money. These loans are usually repaid with interest over a certain period of time.

Loans and bank debt: In addition to the stock market, companies can also raise funds by borrowing from banks. However, loans are often expensive and limited compared to the stock market.

Raising investments: Financial resources are raised by investing directly in private or public projects. The participation of local and foreign investors is important.

Raising funds through stock markets: Large companies can raise investment funds by registering their shares on international or local stock markets.

Advantages of raising financial resources:

Capital expansion: Companies can raise the necessary funds to expand their production capacity or finance new projects.

Risk Sharing: By issuing shares, companies distribute financial risks among investors, which reduces the company's financial burden.

Introduction of new technologies and innovations: Financial resources make it possible to purchase or introduce new technologies into production.

Job Creation: New jobs are created by financing new projects, which supports economic growth.

Distinctive aspects of raising resources in the securities market:

Freedom and transparency: The investment process is easier and more transparent for investors.

Long-term funds: Stocks and bonds serve as a long-term source of investment.

Access to international capital: Large companies can attract the attention of foreign investors through international markets and access global capital.

Raising financial resources is a means for companies and the state to stimulate economic growth. The securities market ensures the effective implementation of this process, as it provides a wide range of opportunities to attract funds from various sources. The development of the securities market in Uzbekistan is of great importance for increasing the efficiency of this process.

New opportunities for investors. The securities market provides individuals and legal entities with the opportunity to invest their funds and receive income from them. This serves to increase the financial literacy of the population and increase their income.

Acceleration of privatization processes. The securities market is an important tool in the privatization process of state-owned enterprises. By issuing shares on the open market, the state can ensure the effective use of economic resources.

Sustainable economic development. Directing long-term investments through the securities market stabilizes economic growth. This allows for the introduction of innovative technologies and the creation of new jobs.

International integration and attraction of investors. The development of the securities market creates favorable conditions for foreign investment. The transparency and modernity of this market in Uzbekistan increases the interest of foreign investors.

Free movement of capital. The securities market ensures the free movement of capital from one sector to another. This helps maintain a balance between different sectors of the economy.

Current problems:

1. Insufficient development of the securities market.
2. Low financial literacy among investors.
3. Insufficient transparency of the market infrastructure.

Conclusion

The development of the securities market in Uzbekistan creates great opportunities for diversifying the economy, increasing the share of the private sector, and deepening international financial integration. The role of the state, as well as the active participation of the private sector and investors, plays an important role in this process.

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O'ZBEKISTONDA QATTIQ MAISHIY CHIQINDILARNI QAYTA ISHLASHNING HUQUQIY ASOSLARI

Annotatsiya Ushba maqolada chiqindilar, ularning turlari, qattiq chiqindilarning ekologiyaga salbiy ta'sirlari va oqibatlari yuzasidan olimlar tomonidan olib borilayotgan ilmiy izlanishlar va uning hozirgi kundagi ahamiyati haqida yoritilgan.

Kalit so'zlar: chiqindi, qattiq chiqindi, qattiq maishiy chiqindi, ekologik siyosat, ekologik barqarorlik, chiqindilarni boshqarish

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LEGAL FRAMEWORK FOR SOLID WASTE RECYCLING IN UZBEKISTAN

Abstract: This article describes the scientific research conducted by scientists on waste, their types, the negative effects and consequences of solid waste on ecology, and its importance today.

Key words: waste, solid waste, solid household waste, environmental policy, environmental sustainability, waste management

Kirish Bugungi kunda tabiat va atrof-muhitni himoya qilish, resurslardan samarali foydalanish va barqaror ekologik rivojlanishni ta'minlash maqsadida davlatimiz tomonidan ekologik siyosat olib borilmoqda. So'ngi yillarda qattiq maishiy chiqindilar va ularning ekologiyaga ta'sirini kamaytirish uchun qator qaror va farmonlar qabul qilinmoqda. Xususan, “Qattiq maishiy chiqindi poligonlarini loyihalashtirish va ulardan foydalanish bo'yicha yo'riqnomaga o'zgartirishlar kiritish to'g'risida”gi O'zbekiston Respublikasi ekologiya, atrof-muhitni muhofaza qilish va iqlim o'zgarishi vazirining 18.08.2023 yildagi reg. № MYu 3197-3 sonli buyrug'i, “Osiyo taraqqiyot banki ishtirokidagi “Qattiq maishiy chiqindilarni barqaror boshqarish” loyihasini amalga oshirish chora-tadbirlari to'g'risida”gi O'zbekiston Respublikasi Vazirlar Mahkamasining 25.11.2020 yildagi №748 sonli qarori, “Qattiq maishiy chiqindi poligonlarini loyihalashtirish va ulardan foydalanish bo'yicha yo'riqnomani tasdiqlash haqida O'zbekiston Respublikasi Ekologiya va atrof-muhitni muhofaza qilish davlat qo'mitasining 19.11.2019 yildagi reg. № MYu 3197 sonli buyrug'i, “2019-2028-yillar davrida O'zbekiston Respublikasida qattiq maishiy chiqindilar bilan bog'liq ishlarni amalga oshirish strategiyasini tasdiqlash

to'g'risida"gi O'zbekiston Respublikasi Prezidentining 17.04.2019 yildagi №PQ-4291sonli qarori, "Qattiq maishiy chiqindilarni to'plash va olib chiqish uchun to'lovlarni to'lash tizimini tubdan takomillashtirish chora-tadbirlari to'g'risida"gi O'zbekiston Respublikasi Prezidentining 22.11.2018 yildagi №PF-5580 Farmoni shular jumlasidan. Ushbu olib borilayotgan siyosatning asosiy maqsadi tabiatni muhofaza qilish, tabiiy resurslarni saqlash, har xil ifloslantiruvchi moddalarni kamaytirish va toza energiya manbalarini qo'llab-quvvatlash, barqaror rivojlanishni ta'minlashdan iborat.

Metodlar Tadqiqot jarayonida qiyosiy taqqoslash, sotsiologik so'rovnoma, SWOT tahlili, monografik kuzatish, iqtisodiy tahlil qilish, mantiqiy va abstrakt fikrlash usullaridan foydalanilgan.

Natijalar Qattiq maishiy chiqindilar-kundalik faoliyatlarimiz natijasida yuzaga keladigan, umumiy ifloslantiruvchi moddalar to'plamidir. Ular asosan ovqat qoldiqlari, qog'oz, plastik, shisha, metall, va boshqa materiallardan tashkil topadi. Qattiq maishiy chiqindilarni qayta ishlash, resurslarning isrofini kamaytirish va atrof-muhitni muhofaza qilish maqsadida amalga oshiriladi. Qayta ishlash jarayoni quyidagi bosqichlarni o'z ichiga oladi:

1. Ayrimlashtirish - chiqindilarni turli guruhlariga ajratish, masalan, organik, plastik, qog'oz va metal. Bu jarayon chiqindilarni qayta ishlash imkoniyatini yaxshilaydi.

2. Qayta ishlash jarayoni - qayta ishlash zavodlarida chiqindilarni qabul qilib, ularni yangi mahsulotlar yoki materiallarga aylantirish.

3. Qayta ishlangan mahsulotlar - qayta ishlash jarayonidan o'tgan materiallar yangi mahsulotlar ishlab chiqarishda foydalanish, masalan, plastik idishlar, qog'oz va karton mahsulotlari.

Muhokamalar Qattiq maishiy chiqindilarni chiqishi bugungi kunda ekologik muammolar yuzaga kelishiga sabab bo'lmoqda. Jumladan, tabiiy resurslarni isrof qilish, atrof-muhitga zarar keltirish, chiqindilarni noto'g'ri tashlash va boshqarish suv, havo va yerning ifloslanishiga olib keladi, chiqindilar to'plangan joylarda bakteriyalarni va zararli moddalarni tarqatishi inson organizmiga salbiy ta'sir etishi mumkin. Qattiq maishiy chiqindilarni kamaytirish har bir fuqoroning va butun jamoatchilikning muhim vazifasi hisoblanadi. Ushbu vazifani amalga oshirish uchun quyidagi strategiyalarni qo'llash mumkin:

✓ Xarid qilishda ehtiyotkorlik: Keraksiz mahsulotlarni xarid qilmaslik, ortiqcha qadoqlarni tanlamaslik va uzoq muddatli foydalanish uchun sifatli mahsulotlarni tanlash.

✓ Qayta ishlash: Chiqindilarni qayta ishlash imkoniyatlarini o'rganish va ajratish. Masalan, qog'oz, plastik va metal chiqindilarni alohida yig'ish.

✓ Kompost tayyorlash: Oziq-ovqat qoldiqlarini organik chiqindilar sifatida kompostga aylantirish orqali ulardan foydalanish.

✓ Mavjud narsalarni yangilash: Uskunalar yoki kiyimlarni yangilashdan ko'ra, ularni qayta tiklash yoki ta'mirlash imkoniyatlarini ko'rish.

✓ Kamroq qadoqlangan mahsulotlarni tanlash: Ko'p qadoqlangan mahsulotlar o'rniga minimal qadoqlangan yoki qadoqsiz mahsulotlarni tanlang.

✓ Boshqalar bilan bo'lishish: Ehtiyojsiz buyumlar yoki o'yinchoqlarni boshqalarga berish yoki almashish jarayonini amalga oshirish.

✓ Foydalanilmaydigan narsalarni omborlash: Keraksiz buyumlarni fursatlarda joylar qidirib, omborlash yoki taqdim qilish orqali foydalanuvchilar o'rtasida baham ko'rish.

Xulosa

Qattiq maishiy chiqindilarni boshqarish atrof-muhitni muhofaza qilish va resurslardan samarali foydalanishda ahamiyatli. Qattiq maishiy chiqindilarni boshqarishda ayrimlashtirish (chiqindilarni organik, qog'oz, plastik, shisha va metall bo'yicha ajratib tashlash), qayta ishlash (qayta ishlash va ekologik ishlab chiqarish jarayonlarini qo'llab-quvvatlash), ommaviy targ'ibot (odamlarni chiqindilarni kamaytirish, qayta ishlash va to'g'ri tashlash bo'yicha targ'ibot qilish) kabi chora-tadbirlarni o'z ichiga oladi. Ushbu tadbirlarni amalga oshirish qonunchilik va normativ hujjatlarni takomillashtirish, ekologik ta'lim va targ'ibotni olib borish, barqaror texnologiyalarni rivojlantirish va uni amaliyotga joriy etish yo'nalishlarida olib borilishi tavsiya etiladi.

Qattiq maishiy chiqindilarni boshqarishning asosiy xususiyatlari quyidagilarni o'z ichiga oladi:

1. Qayta ishlash va boshqa foydalanish jarayonida qattiq chiqindilarni qayta ishlash imkoniyatlari o'rganiladi. Bunda bo'sh qutilar, plastik, qog'oz va metalni ajratish va ularni qayta ishlanadigan joylarga topshiriladi.

2. Yig'ish va tashish jarayonida mahalliy hokimiyat va chiqindilarni boshqarish mutasaddi korxonalar bilan hamkorlikda chiqindilarni yig'ish va tashish jarayonlarida yo'l transporti tomonidan chiqindilarni samarali va xavfsiz tashish imkoniyatlari o'rganiladi.

3. Qayta ishlash jarayonida chiqindilarni qayta ishlash uchun kerakli uskunalar va texnologiyalar o'rnatiladi va qayta ishlash jarayonini optimallashtirish va ishlab chiqarish jarayonlaridan chiqindilarni kamaytirish choralari ko'riladi.

4. Ommaviy targ'ibotda mahalliy hamjamiyatlar uchun chiqindilarni boshqarish bo'yicha ta'lim dasturlarini tashkil qilinadi, odamlarni chiqindilarni ajratish, qayta ishlash va kam chiqindi chiqarishni insonlar turmush tarziga kiritilishi haqida xabardor qilish.

5. Qayta foydalanish va ijodkorlik qobiliyatida yana foydalanilmayotgan buyumlarni qayta ishlatish yoki ijodkorlik bilan o'zgarishga jalb qilish. Bunda eski narsalarni qanday qilib yangilash yoki xizmatga qaytarish tadbirlarini amalga oshirishni izlab topish. Atrof-muhitni saqlash va resurslardan samarali foydalanish orqali ijtimoiy hamkorlikni rivojlantirishimiz va shu orqali ekologik barqarorlikka erishish mumkin.

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QUYOSH FOTOELEKTR O'ZGARTGICHLARINING AXAMIYATI

Annotatsiya. Ushbu maqolada quyosh energiyasidan quyosh fotoelektr o'zgartgichlar yordamidan foydalanib elektr energiya olish, qolaversa elektronika elementlarining hususiyatlari keltirib o'tilgan. Quyosh energiyani fotoelektr o'zgartirgichlar sohasidagi nazariy tadqiqot va amaliy ishlanmalar fotoelektr o'zgartirgichlarda nurlanish energiyani o'zgartirishda yuqori FIK bilan amalga oshirish mumkinligini tasdiqlanadi va bu maqsadga erishish uchun asosiy yo'nalishlar belgilanadi. Fotoelektr o'zgartirgichlar (FEO') uchun o'ziga xos taxminan 300-350 K muvozanat va quyosh $T \approx 6000$ K temperaturalarda ularning nazariy FIKning chegarasi 90% bo'ladi. Bu esa, energiyaning qaytmas yo'qotishlarni kamaytirishga yo'naltirilgan o'zgartirgichlarning tuzilma va ko'rsatkichlarni maqbullashtirish oqibatida amalda haqiqiy FIKni 50% gacha va undan ortiqcha ko'tarish mumkinligini kursatadi (laboratoriyalarda hozir FIK 40% gacha erishgan)

Kalit so'z. Fotoelektr o'zgartirgichlar, elektronvolt, erkin elektron, n-p-o'tishlar, yoritilganlik.

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THE IMPORTANCE OF SOLAR PHOTOELECTRIC INVERTERS

Abstract. In this article, the features of obtaining electricity from solar energy using solar photoelectric converters, as well as the features of electronic elements are presented. Theoretical research and practical developments in the field of solar energy photoelectric converters confirm the possibility of high FIK in the conversion of radiation energy in photoelectric converters, and the main directions for achieving this goal are determined. Typical for photoelectric converters (FEO') is about 300-350 K equilibrium and at solar temperatures $T \approx 6000$ K, their limit of theoretical FIC is 90%. This shows that optimizing the structure and performance of converters aimed at reducing irreversible energy losses can actually increase the actual FIK to 50% and more (in laboratories, the FIK has reached up to 40%).

Keyword. Photoelectric converters, electronvolt, free electron, n-p-junctions, illumination.

FEO'larning bir jinsli bo'lmagan yarim o'tkazgichli tuzilmalarga quyosh nurlanish ta'sir etganda, hosil bo'ladigan energiyani o'zgartirishi fotoelektr effektiga asoslangan [6,7].

λ uzunlikdagi to'lqinlar nurlanishda fotonlar energiyasi (eV) quyidagi

$$h\nu = h \frac{c}{\lambda} = \frac{1,24}{\lambda};$$

munosabatdan aniqlanadi:

bu yerda $h = 6,626 \times 10^{-34}$ J×s – Plank doimiysi; $c = 2,997925 \times 10^8$ m/s – yorug'lik tezligi; λ – to'lqin uzunligi, mkm.

Elektronvolt – potentsiallar farqi 1 V bo'lgan ikkita nuqtalar orasida elektronni ko'chirish uchun zarur bo'lgan energiyadir [8,9].

$$1 \text{ eV} = 1,6 \times 10^{-19} \text{ J}.$$

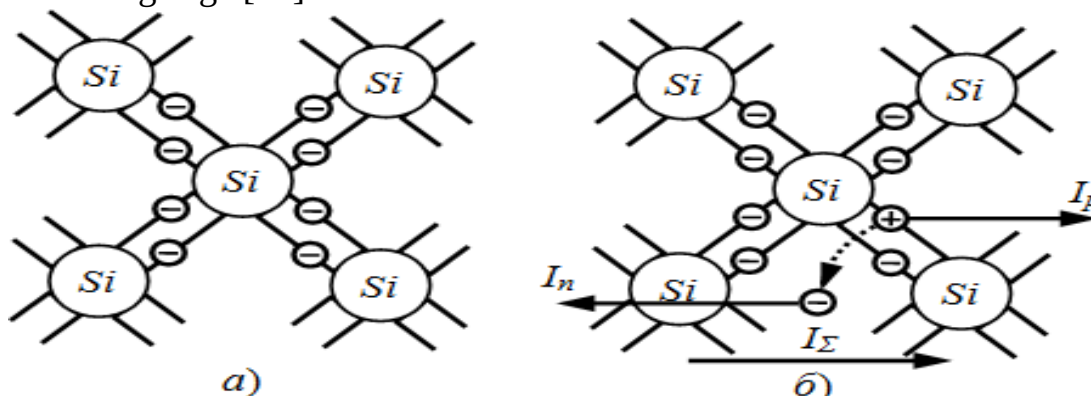
λ_g chegara to'lqin uzunligidan boshlab quyosh fotoelementning materialda fotonlar yutiladi:

$$\lambda_g = 1,24 / \Delta YE;$$

bu yerda ΔYE – taqiqlangan soha, sathlarning yo'qligi bilan tavsiflanadi, uni bo'yicha turli xil materiallar uchun har xil bo'ladi,

Quyosh nurlanish energiyani elektr energiyaga o'zgartirish uchun yarimo'tkazgichli qurilmalar quyosh fotoelementlar (QFE) deb nomlanadi.

Yarim o'tkazgichli materiallardan germaniy Ge va kremniy Si eng muhim hisoblanadi. Kremniy D. I. Mendeleyev Davriy tizimida IV guruhdagi elementlarga kiradi, uning valentligi 4 ga teng. Kremniy atomlar tashqi elektron qobiqda 4 ta elektronlarga ega [11].



1-rasm: Toza kremniyning kristallik panjara

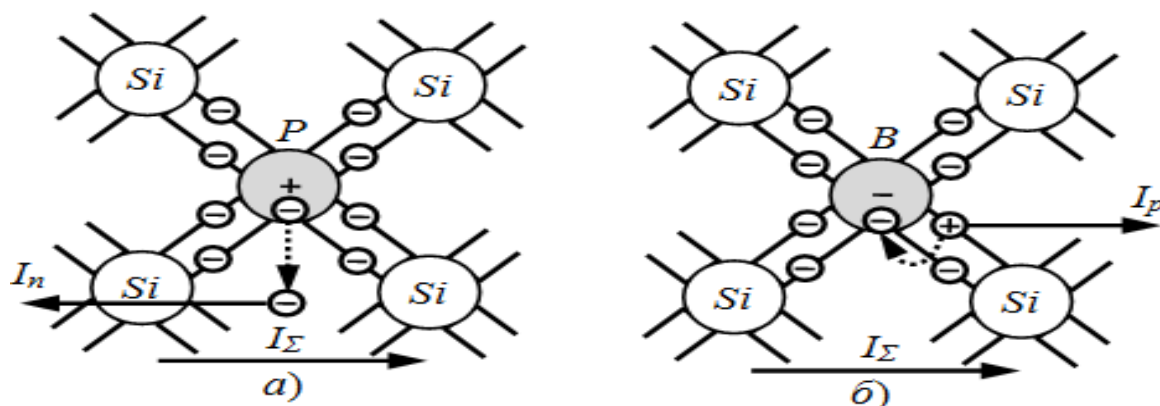
Energiya (issiqlik yoki yorug'lik) keltirilganda panjarada atomlararo bog'lanishlar elektronlarni yo'qotadi, bunda musbat zaryadlar hosil bo'ladi.

Panjaradagi elektron bo‘lmagan joyga “teshik” deb ataladi. “Teshik” – bu elektronni yo‘qotgan atom, bu esa elektronlarning teshikdan teshikka o‘tish bilan teshiklarning “harakati” vujudga keladi (“teshiklar” o‘zi esa harakatlanmaydi) [12].

Agarda yarim o‘tkazgichga tashqi elektr maydoni ta’sir etmasa, teshik va erkin elektronlar tartibsiz harakatlanadi. Agarda yarimo‘tkazgichni elektr maydonga joylashtirsa, teshik va elektronlarning harakati tartibli yo‘nalgan bo‘ladi. Teshiklarning bir atomdan boshqa atomga o‘tish harakatining yo‘nalishi yarimo‘tkazgich orqali tokning o‘tish yo‘nalishiga mos keladi. Teshiklar harakati bilan hosil bo‘lgan o‘tkazuvchalligiga teshikli yoki *r*-turidagi o‘tkazuvchanlik (lotin. *positive*-musbat) deb ataladi. Elektronlar harakati bilan hosil bo‘lgan o‘tkazuvchalligiga esa elektron yoki *p*-turidagi o‘tkazuvchanlik (lotin. *negativ*-manfiy) deb ataladi. Shunday qilib, yarimo‘tkazgichning o‘tkazuvchanligi elektronlarning o‘tkazuvchanlik sohasidagi hamda elektronlarning valentlik sohasidagi harakati bilan belgilanadi. Lekin valentlik sohasida elektronlar emas balki teshiklar harakatlanadi deb qabul qilingan. Valentlik bog‘lanishlar bo‘zilishi oqibatda hosil bo‘ladigan yarimo‘tkazgichning o‘tkazuvchanligiga xususiy o‘tkazuvchanlik deb ataladi [13].

To‘rt atomli Si kremniyni besh valentli R fosfor bilan legirlanganda aralashmaning atom joyning o‘rniga ortiqcha elektron vujudga keladi (2 a - rasm).

2-rasm. Legirlangan kremniyning kristallik panjarasi:



a – fosfor bilan; b – bor bilan

Erkin elektronlarni vujudga keltiruvchi aralashmalarga donorli (lotin. *donore*-hadya qilmoq) deb ataladi. Bu holda kremniy elektron o‘tkazuvchanli yarimo‘tkazgich yoki *p*-turidagi yarimo‘tkazgich deb nomlanadi. *p*-turidagi yarimo‘tkazgichda o‘tkazuvchanlik faqat elektronlar bilan hosil qilinadi [14].

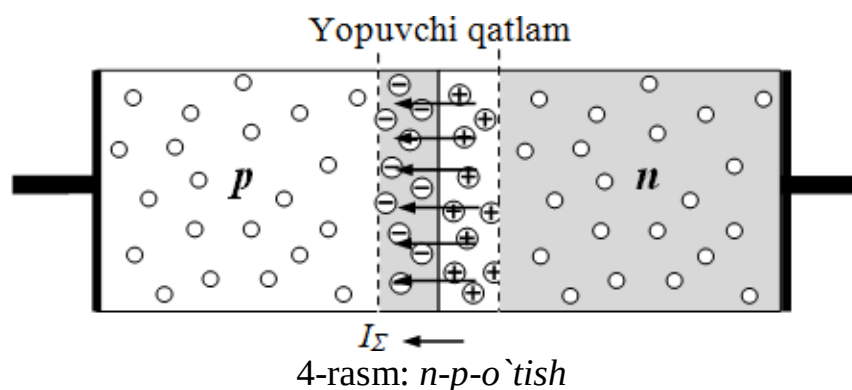
To‘rt atomli Si kremniyni uch valentli V bor bilan legirlanganda aralashmaning atom joyning o‘rniga ortiqcha teshik vujudga keladi (2 b- rasm). Erkin elektronlarni kamaytiruvchi aralashmalarga akseptorli (lotin. *acceptor*-qabul qilmoq) deb ataladi. Bu holda kremniy teshik o‘tkazuvchanli yarimo‘tkazgich yoki *r*-turidagi yarimo‘tkazgich deb nomlanadi. *r*-turidagi yarimo‘tkazgichda o‘tkazuvchanlik faqat teshiklar bilan hosil qilinadi [15].

$k = 1,38 \times 10^{-23}$ Dj/K – Bolsman doimiysi;

T – yarimo‘tkazgichning temperaturasi, K.

Bitta monokristallda *p*- va *n*-turidagi yarimo‘tkazgichlarni birlashtirilganda *n*-

turidagi yarimoʻtkazgichdan r -turidagi yarimoʻtkazgichga elektronlarning diffuzion oqimi vujudga keladi, va teskari, r -turidagi yarimoʻtkazgichdan n -turidagi yarimoʻtkazgichga teshiklar oqimi hosil boʻladi. Bunday jarayonning oqibatida n - r oʻtishga tutushgan r -turidagi yarimoʻtkazgichning qismi manfiy zaryadlanadi, n - r oʻtishga tutushgan n -turidagi yarimoʻtkazgichning qismi, teskari, musbat zaryadga ega boʻladi (4-rasm).

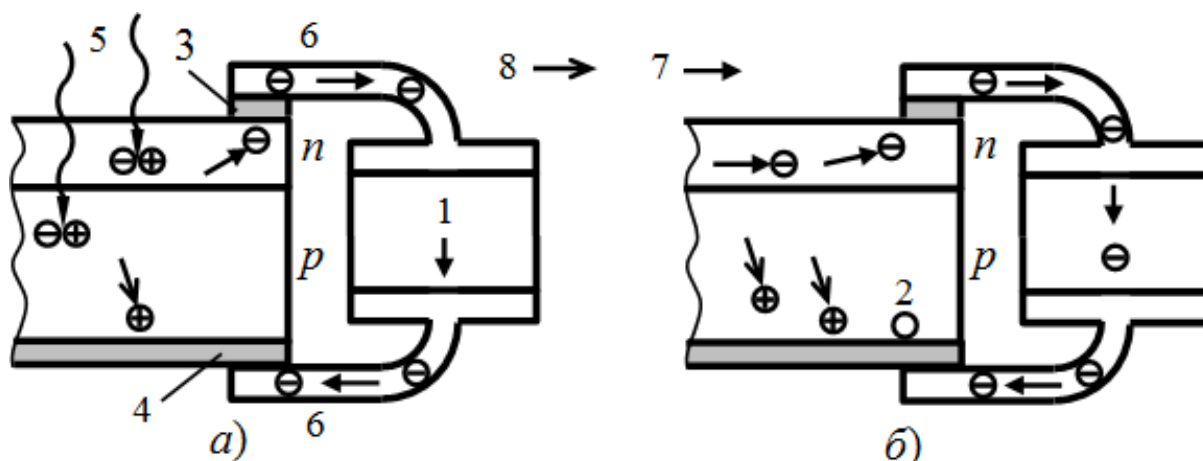


Shunday qilib, n - r oʻtishning yaqin joyda, elektron va teshiklarning diffuziya jarayonga qarshi taʼsir etadigan, koʻp zaradlangan qatlam hosil boʻladi [16].

Diffuziya n -sohasidan p -sohasiga elektronlar oqimini yaratishga intiladi, zaryadlangan qatlamning maydoni esa, teskari, n -sohasiga elektronlarni qaytarishga harakat qiladi. Shunga oʻxshash ravishda, n - p oʻtishdagi maydoni p -dan n -sohasiga teshiklarning diffuziyaga qarshi taʼsir etadi. Maʼlum vaqtdan keyin muvozanat hosil boʻladi. Zaryadlar toʻplanish natijada, oʻtishning ikkala tomonidan, hosil boʻlgan qarama-qarshi ishorali elektr maydon, erkin elektron va teshiklar konsentratsiyaning farqi oqibatda vujudga kelgan, diffuziyani muvozanatlashtiradi. Natijada Fermi sathi doimiy potentsiali ostida boʻladi. Taqiqlangan sohasi ΔYE butun materialida mavjud va oʻtkazuvchanlik sohasining hamda valentli sohasining energiyalar orasida potentsiallar sakrashi hosil boʻladi [17,18].

Oʻtish joyida hosil boʻlgan kontaktli potentsiallar farqi asosiy zaryadlar tashuvchilarning oʻtishga qarshilik koʻrsatadi, yaʼni r -qatlam tomonidan elektronlar oʻtishga, ammo asosiy boʻlmagan tashuvchilarni qarama-qarshi yoʻnalishda qarshisiz oʻtkazadi.

n - p -oʻtishlarning bu xususiyati, FEOʻni quyosh yorugʻlik bilan nurlantirilganda, fotoelektr yurituvchi kuchni (fotoEYUK) hosil qilish imkoniyatini yaratadi. FEOʻning ikkala qatlamlarda yorugʻlik bilan hosil boʻlgan elektron-teshik juftlar n - p -oʻtishda boʻlinadi: asosiy boʻlmagan tashuvchilar (elektronlar) erkinlik bilan oʻtish orqali oʻtadi, asosiy tashuvchilar (teshiklar) esa tutib qoladi. Shunday qilib, quyosh nurlanish taʼsirida n - p -oʻtishda ikkala



yoʻnalishda nomuvozanatli asosiy boʻlmagan zaryad tashuvchilar (FEOʻ ishlash uchun zarur boʻlgan fotoelektron va fototeshiklar) ning tok oʻtadi (5-rasm).

5-rasm. QFEda elektr tokning generatsiyasi:

1-yuklama; 2-rekombinatsiyalangan «teshik» 3-yuqori kontakt; 4-qoʻyi kontakt; 5-fotonlar; 6- oʻtkazgich; 7-elektronning harakati; 8-teshikning koʻchishi

a) Fotonlar (5) elektron-teshik juftlarni hosil qiladi. Oldingi foton bilan hosil boʻlgan elektron va teshik QFE kontaktlar (3 va 4) ga harakatlanadi. Elektronlar tashqi (6-1-6) zanjir orqali koʻchadi, elektr tokni hosil qiladi.

b) Foton (5) bilan hosil boʻlgan teshik n - p -oʻtish orqali oʻtadi va musbat kontakt (4) ga harakatlanadi. Foton bilan hosil boʻlgan elektron ham n - p -oʻtishdan oʻtib, mafiy kontakt (3) ga harakatlanadi. Elektron n -yarimoʻtkazgichdan oʻtkazgich (6) ga oʻtadi. Elektron r -yarimoʻtkazgichga oʻtib, teshik (2) bilan rekombinatsiyalanadi.

QFE orqali I_{Σ} tokning zichligi, n - p -oʻtishda hosil boʻlgan elektron-teshik juftlar hisobidan hamda p - va n -sohalarga muvofiq boʻlgan,

elektronlar I_n tok va teshiklar I_r toklarning yigʻindisidan iborat:

$$I_{\Sigma} = I_n + I_p - eg ; \quad (5)$$

bu yerda g – n - p -oʻtishda yuza birligi hisobidan vaqt birligida hosil boʻlgan elektron-teshik juftlarning miqdori.

Yuqoridagi maʼlumotlardan kelib chiqib, yorugʻlik intensivligi turli xil boʻlsa foto EYUK ham har xil hosil boʻladi. Yoritilganlikning keng diapazonda foto EYUK kattaligi yorugʻlik intensivligining logarifmga proporsional boʻlib oʻsadi.

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ENERGETIKANING AVTOMATLASHTIRILGAN TIZIMLARI

Annotatsiya. Zamonaviy avtomatika qurilmalari odam ishtirokisiz nazorat va himoya qilishni, avtomatik boshqarishni hamda rostdlashni amalgam oshiradi. Avtomatik qurilmalar quyidagi asosiy elementlardan tashkil topgan: datchiklar, kuchaytirgichlar, relelar.

Kalit so'zlar. Magnitli ishga tushirgich, Eruvchan saqlagichlar, Avtomatik uzgichlar, Datchiklar.

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AUTOMATED ENERGY SYSTEMS

Abstract. Modern automation devices implement monitoring and protection, automatic control and adjustment without human intervention. Automatic devices consist of the following main elements: sensors, amplifiers, relays.

Key words. Magnetic starter, Fuses, Circuit breakers, Sensors.

Avtomatika-fan va texnikani texnologik jarayonlarni inson ishtirokisiz boshqarish asosoari va nazariyasini o'z ichiga olgan sohasidir. Avtomatlashtirish natijasida aqliy va jismoniy mehnat orasidagi farq bartaraf qilindi, mehnat unumdorligi ortgan holda mahsulot tan narhi kamayadi.. Avtomatlashtirilgan elektr yuritma deb boshqarish apparatlari bilan avtomatik ravishda ishga tushiriladigan, to'htatiladigan yoki ma'lum tezlikni o'zgartirmay saqlab turadigan yuritmaga aytiladi. Texnologik talablarga ko'ra tezligi majburiy ravishda o'zgartiriladigan yuritma rostlanadigan elektr yuritma deb ataladi. Avtomatlashtirilgan va rostlanadigan elektr yuritmalarda va yuqoridagi asosiy qismlar (elektrodivigatellar, uzatmalar, boshqarish vositalari) dan tashqari datchiklar ham bo'lishi mumkin.

Elektr yuritmani avtomatik boshqarish va himoyalash vositalari. Kontaktorlar va magnitli ishga tushirgichlar elektromagnit apparatlari hisoblanib, ular elektrodivigatellarni avtomatik boshqarish uchun ishlatiladi. Ular elektrodivigatellarni kuchlanish yo'qolganda, 50...60% gacha pasayganda avtomatik ravishda tarmoqdan uzib qo'yadi.

Magnitli ishga tushirgichlar – maxsus konstruksiyali kontaktorlar hisoblanadi. Magnitli ishga tushirgichlar noverersiv va reversiv bo'ladi. Reversiv

magnitli ishga tushirgichlar yordamida elektrodvigatellar ishga tushirilibgina qolmay balki eskari tomonga ham aylantiriladi.

Eruvchan saqlagichlar elektr qurilmalari va elektrodvigatellarni qisqa tutashuv tokidan hamda ortiqcha yuklanishdan saqlaydi. Saqlagichlarni uzuvchi qismi bo`lib uni eruvchan qo`ymasa (mis, qo`rg`oshin) hisoblanadi. Qisqa tutashuv yoki ortiqcha yuklama sodir bo`lganda eruvchan quyma erib ketadi, natijada tarmoq uziladi. Saqlagichlarni sxemalaridagi shartli belgisi:

Issiqlik relelari elektro qurilmalarni davomli ortiqcha yuklanishdan saqlaydi.

Issiqlik relesi umumiy ko`rinishda zanjirga ketma-ket ulangan qizitgich hamda bimetall plastinka (invar-latun) va kontaktlardan iborat. Ortiqcha yuklama sodir bo`lganda qizitgichdan ortiqcha tok o`tib undan chiqqan issiqlik bimetall plastinkani egilishiga sabab bo`ladi va u richaglar yordamida kontaktlarni uzib qo`yadi. Kontaktlar dastlabki holiga "qaytarish" tugmasini bosish orqali yoki bimetall plastinkani sovigandan so`ng o`z o`zidan qaytish mexanizmi yordamida avtomatik ravishda qaytadi. Hozirgi paytda elektro dvigatellar cho`lg`amlarni ortiqcha qizishdan himoyalash zamonaviy qurilmadir: UVTZ-1, UVTZ-4B kabi yarimo`ztkazgichli qurilmalar yordamida bajarilmoqda. Elektrodvigatelni magnitli ishga tushirgich orqali tarmoqqa ulanish sxemasi: PR-saqlagich; R-ulagich; RT1, RT2 issiqlik relelari; TYX, YURG to`htatish va yurg`azish tugmalari; K-g`altak va uni kontaktlari; VK-blok kontakti.

Avtomatik uzgichlar (AP50, AK63, A1000, AE2000) elektr qurilmalari qo`l bilan ulan ungani hamda ortiqcha yuklama va qisqa tutashuv sodir bo`lganda avtomatik ravishda uzib qo`yish uchun ishlatiladi. Avtomatik uzatgichdagi issiqlik ajratgichlari elektr qurilmalarini ortiqcha yuklamada ishlashdan saqlaydi, elektromagnit ajratgich esa qisqa tutashuv tokidan saqlaydi. Issiqlik ajratgichlari sozlanadi. Aralash ajratgichni sxemasi: 1-kontakt; 2-kalit; 3-cho`lg`am; 4-yakor; 5-bimetall plastinka; 6-qiziqtig; 7-prujina. Zanjirda qisqa tutashuv sodir bo`lganda yakor 4 cho`lg`amga tortilib richag ta`sirida kalitni ochib kontakti uzib qo`yadi. Ortiqcha yujlama sodir bo`lganda esa bimetall plastinka egilib richag orqali kontakti uzib qo`yadi.

Datchiklarni vazifasi fizik kattaliklarni o`lchanishi, masofaga uzatilishi, hamda boshqarilishi, nazorat qilinishi oson bo`lgan kattaliklarga aylantirish uchun xizmat qiladi. Avtomatik qurilmalarda bunday kattaliklar asosan elektr kattaliklar (tok, kuchlanish, EYUK, zaryad)ga aylantiriladi. Datchiklar ikki turga bo`linadi: parametrik va generatorli. Parametrik datchiklarda fizik miqdorlarni o`zgarishi elektr miqdorlarini o`zgarishi olib keladi. Generatorli datchiklarda esa fizik miqdorlarni o`zgarishi elektr zanjirda EYUK hosil bo`lishiga sabab bo`ladi. Masalan haroratni kuchaytirilishi termoEDS hosil bo`ladi. Parametrik datchiklarni ishlashini ko`rib chiqamiz. Generatorli datchiklarda termopara va o`zgarish tok mikromashinalari kiradi. Mashina tezligini o`zgarishi induksiyanadigan EYUK miqdorini o`zgarishiga olib keradi.

Avtomatlashtirilgan elektr yuritmani boshqarishda ko`rsatib o`tilganlardan tashqari kuchaytirgichlar, stabilizatorlar, relelar ham qo`llanishlari mumkin.

Kuchaytirgichlarni vazifasi datchikka kelayotgan kuchsiz signallarini kuchaytirib irochi qurilmaga uzatishdir. Kuchaytirgichlar lampali, yarimo`tkazgichli, magnitli, elektr mashinali turlarga bo`linadi. Kuchaytirgichlarni asosiy parametrlari uni kuchaytirish koeffisientidir.

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GEOGRAPHICAL FACTORS IN THE TERRITORIAL ORGANIZATION OF URBAN SETTLEMENTS IN THE SAMARKAND REGION

Abstract: *The article is devoted to the study of geographical factors and conditions of the territorial organization of urban settlements in the Samarkand region. The significance of geographical factors in the territorial organization of urban settlements as factors influencing the formation and development of the network and structure of cities was also assessed, and its scientific and theoretical issues were partially reflected. The article highlights the problems of placement and development of urban settlements.*

Keywords: *Urban population center, large city, urbanization, population distribution.*

Introduction. The issue of the correct Organization of urbanization processes is one of the important socio-economic processes of the current period. It is manifested in the strengthening of Population migration in the “rural-urban” direction in all countries, in the priority development of non-agricultural sectors. Urbanization is included in the growth of the population, along with the activation of international migration, important democratic processes that determine not only the change in the number and composition of the world's population, but also the change in the personality community and society as a whole. The process of urbanization accelerated with the change in the economic system and production relations in the world. The contentration, differentiation, territorial organization and technological progress of production are the main factors that motivate this process [6].

As urbanization continues in rapid pictures on Earth, the proportion of residents living in urban settlements, especially in large and very large megacities, is rapidly increasing. Cities in which a large part of economic activity and management is concentrated are becoming centers of social, economic, cultural and political relations both between several states and within a separate country. This, together with providing a favorable opportunity for their more rapid development, can lead to uncontrollable serious social risks, their degradation, associated with the rapid growth of cities for economic, demographic, climatic and other reasons. In the future, socio-economic and environmental problems will be increasingly associated with the sustainable development of large cities and their integration into small cities and rural settlements [4].

Geographical factors influence the territorial organization of urban settlements, the formation and development of urban networks and composition. With the influence of these factors on the development and location of cities, in

foreign countries conducted scientific researches A. Ye.Gutnov, D.Adams, K.Lynch, R.Leggett, P.Geddes, J.Gottman, K.Doksiadis, R.Domansky and has been studied by other scholars. The study of these scientists gives a natural geographical description of the formation of cities, a description of the geology and geomorphology of cities and their climate. During the years of independence A.M.Mavlonov and P.R. Kurbanov researched the development of cities, the influence of natural geographical factors. The share of the population living in urban settlements, especially in large and very large mega-cities, is rapidly increasing.

Research results. Cities, where a large part of economic activity and management is concentrated, have become centers of social, economic, cultural-domestic and political relations both within a separate country and between several states. This, together with providing a favorable opportunity for their more rapid development, can lead to uncontrollable serious risks associated with the rapid growth of cities for economic, demographic, climatic and other reasons, their degradation [7]. Due to the favorable natural and economic geographical position of Samarkand region, the region has been inhabited since ancient times. Also, agriculture is a craft, and trade has developed, and cities have appeared, and various branches of the national economy have developed. The cities of Samarkand region are a center of multidisciplinary industry. Samarkand is a major transportation hub in the south – west of the republic. At the same time, science, personnel training and tourism are well developed here. In addition to the city of Samarkand, the city of Kattakurgan is also a multifunctional city in the region. Machinery, cotton mill, oil and oil combine, meat combine, asphalt concrete plant and others are working here. The development of this city is considered directly related to the districts located in the western part of the province. Therefore, Kattakurgan serves as the capital for districts in this part of the province. The city is developing secondary – specialized educational institutions and transport function. Jomboy, Bulungur, Aktash are industrial-transport cities. These cities were relatively industrialized compared to other provincial cities. Within these cities, the city of Jomboy stands out.

Agro industrial urban settlements Charkhin, Miton, Loish, Ishtikhan, Nurobod have agricultural processing enterprises. It is considered to have a large role in the management and development of rural raions of cities and towns. Therefore, it can be said that the district centers also perform various tasks-economic, social, administrative and other functions. The city of Urgut is an industrial – reclamation center. The municipality is the administrative center of 14 rural raions of cities and towns. On average, the center of each raion has 25 thousand inhabitants.

As we said above, there are 99 urban settlements in Samarkand region, of which 11 are urban and the remaining 88 are urban. The location and distribution of cities and towns by province is different. According to Samarkand region 2023, the total population was 4118.2 thousand people, of which 1513.0 thousand people were urban residents, 2605.2 thousand people were rural, and the urbanization rate was 37%[2] with a high population living in the city by region, the districts of Urgut, Akdarya, Narpay, Payarik, Ishtikhan, Pastdargom. Districts with the lowest levels

of urbanization include Nurabad, Kushrabat, Samarkand. The district of Urgut, Samarkand region, has the highest total population, with 545.7 thousand people, so the city also has a large population, with 228.8 thousand people, urbanization rate is 42%. But compared to some raions, Urgut has a smaller number of urban settlements. In terms of population abundance, the second place is occupied by the Pastdargom district, where the total population is 375.0 thousand people, and the city population is 96.6 thousand people. With a small population, the districts of Kushrabat, Pakhtachi and Nurabad are distinguished [2] as we said above, problems will also increase as the city grows larger. In the oasis settlement type of Samarkand region, settlements and settlements are located in the Zarafshan river basin as well as on its banks, such a settlement structure is different from other provinces. For example in the Fergana region the settlement of the population is mainly concentrated near the Syrdarya river.

The provinces oasis settlement type includes lowland areas, not only in parts of the highlands and near rivers or streams. For example the districts of Kattakurgan, Ishtikhan, Narpay, Pakhtachi are located mainly in the lowland part of the region, while the districts of Samarkand, Taylak, Pastdargom, Jomboy and Bulungur occupy the regions of the highlands.

Such settlement of the districts led to the development of cotton farming in the districts of Akdarya, Payarik and Ishtikhan, the development of upland farms in the districts of Samarkand, Taylak, that is, the specialization and development of vegetable growing and potato growing, and horticulture and viticulture in the districts of bulgur. The mountainous type of settlement includes the districts of Urgut and Kushrabat. Due to the uneven terrain of the Kushrabat district and the lack of development of transport routes, as well as the lack of large areas of land for irrigation agriculture in this area, settlements and settlements are sparsely located. Despite the fact that the Urgut district is located in a mountainous area, the density of settlements and settlements here is highly characterized. The district has a population density of 82 people per 1 sq km, with a high density of rural settlements, with an average population of over 1,200 people per year. The high density of population and settlements in this area is primarily due to the abundance of soybeans and the characteristics of the farm. Due to the fact that the main part of the people living in the Urgut district is engaged in business affairs, it has led to the development of a large trade market of republican importance in the city of Urgut, as well as a large number of small enterprises.

The settlement of Kushrabat district is of the mountain type, so the settlement and settlement of region is sparsely located in the district, and the meat and wool direction of livestock is mainly developed in the district. At the same time, the area of irrigated land is only 890 hectares. The area of the Kushrabat district is considered to be low in economic terms, the population density is also very low.

In total, these two highland districts have a population of 376.4 thousand people. Urbanization rates are also low. After most major villages in Samarkand region received town and township status in 2008, the center of Kushrabot district also became a single Kushrabot fortress town when 4 rural settlements merged.

Currently, more than 9,000 inhabitants live here. At the same time, the village of Zarkent in this district also received the status of a municipality. In Urgut district, some villages also merged to form 7 municipalities, with a population of 5,000 to 30,000 [2] currently, the proportion of urban population in the highlands of Kushrabad and Urgut has increased and the urbanization rate is 48%. Despite the high level of urbanization, the Kushrabad district is quite slow to develop due to its distance from the regional center Samarkand city. Urgut district is relatively close to the city of Samarkand, the abundance of tributaries and streams of Zarafshan river is high in the level of development of this area for the purpose of subsistence, recreation and construction of small enterprises. Settlements and settlements are also sparsely populated in the desert regions of the province. This type of settlement includes Nurabad district, part of Pastdargom, Narpay and Pakhtachi districts. A part of the area is formed by the Karnob desert, a desert where sheep farming has developed.

In total this research object occupies 39.2% of the area of the region. It has a population of more than 291 thousand people. The urbanization rate of the region is low, with about 20,000 residents living in Nurbuloq, the center of Nurabad district, and Ingichka, which is considered a resource town. The average population density was 45.6 people per square mile. Rural settlements located in the area are sparsely populated, with 2 people every 100 km sq. At the same time, the villages are not large. The oasis and mountain villages of the region are considered large. Villages included in Narpay and Pakhtachi districts are relatively large. A suburban type with another distinctive feature of the settlement formed around the relatively large cities of the province, Samarkand and Kattakurgan. The suburban type of settlement originated within the oasis system, so it would be possible even if we do not consider it as a separate territorial type. Such a territorial type is built mainly in order to provide the urban population with all-round agricultural products. Such a type of settlement will constantly expand the territory, as a result of which cotton fields will cause them to move away from the city.

The Samarkand suburban settlement zone includes the Samarkand and Taylaq districts. It also includes parts of Jomboy, Pastdargom and Bulungur districts. In addition to the urban settlements of Gulabad, Taylak, Jomboy, Bulungur, Juma, chemists, this system includes several other large villages, which perform various functions, namely, agriculture, recreation, field yard and other tasks. Examples of such villages are Bogibaland, Bogimaydon, Bogizogon and other settlements. The villages continue to become smaller as they move away from the provincial centres and are mainly agricultural. The suburban zone of Kattakurgan is relatively small and includes both urban and rural settlements. This zone formed around the next city in the size of the province Kattakurgan. The relatively large Kattakurgan reservoir and the villages of Kadan, Moybulok are included. The area is home to the Karadarya and large farms, where vegetable farming, potato farming and dairy farming have developed. Settlement is a complex socio-economic category, the territorial organization of the population, its marriage, labor and vital activity are expressed in the harmonious development of society in

solving various problems.

At the same time, there are other problems of settlement, associated with the tasks of forming the settlement of settlements and settlements. The problems of improving their division in terms of functional composition and size, as well as the proper organization of the settlement system here, the process of urbanization, increasing the socio-economic activity of urban and rural settlements are among the pressing issues. It is known that the problems of settlement of residents and settlements are many and different. But the sharpness, probability and ways to solve these problems are not the same in different regions. At the same time, the features of socio-economic and political development of independent Uzbekistan, the transition to a market economy, material technology, financial and other capabilities of the republic do not remain without affecting the solution of various problems.

For the Samarkand region, problems of development of the functional composition of settlements, social and environmental problems are characteristic. Also, the development of urbanization and the formation of urban networks and rural settlement are considered as significant as the above problems. Nevertheless, the development of the industry of the Samarkand region is not at the level of demand. Because here, in terms of the size of the republic, some other regions, including Tashkent, are considered behind Fergana. In order to accelerate the development of the national economy of the Samarkand region, it is necessary first of all to improve its functional composition and strengthen the urban settlement grid, that is, it is advisable to properly organize industries and settlements. Since the city of Samarkand is an ancient and tourism center, industries cannot be developed here.

Therefore, for the socio-economic development of the region, it is necessary to place and develop industries in other cities of the region. And the city of Samarkand should develop as a center of tourism. In addition, the location of a huge number of historical monuments in Samarkand prevents the development and reconstruction of urban planning. Thus, it is not advisable to build large industrial enterprises in the city of Samarkand itself, therefore, such tasks should be developed as an industrialized center located around it, as well as other cities of the region. For example, such tasks can be performed by the city of Kattakurgan. But, at present, even the level of development of these cities does not fully meet today's demand.

Conclusion. And the geographical aspects of this process belong to all of them, and, above all, imply territorial differences, differences. Therefore, when looking at different sides of urbanization with a territorial point of view, directly its geographical features are visible. The high image of urbanization in developing countries is characterized in part by the high natural movement of urban residents in them. Economic geographical factors, that is, the composition and specialization of the national and regional economy, the territorial organization of the farm and the development of the economic regions system of cities, also lie on the basis of urbanization. Also, the territorial or geographical aspects of this process-the geoecological state of the place, the social geographical feature and the geopolitical situation-are also considered important as factors that represent the territorial

differences or geographical aspects of urbanization.

Given the growing number of small and medium-sized cities in the regions due to the demographic situation in our republic in recent years, it is important to take into account those that are going to develop urban infrastructure, increase their attractiveness.

First, an in-depth study of the experience of foreign countries with a high degree of emphasis on the development of small and medium-sized cities in the world, as well as the effective use of the urbanization process as a development engine; In the second, small and medium-sized cities, it must modernize public spaces in order to develop infrastructure and services and make them more attractive and efficient;

Thirdly, to increase its attractiveness through the reconstruction of public spaces and parks, street networks and related infrastructure and the restoration of cultural heritage objects;

Fourth, implementation according to a plan that takes into account the settlement and growth opportunities in small and medium-sized cities.

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FOREIGN EXPERIENCE IN TEACHING ENGLISH

Abstract: *At a time when English has become the language of global communication, its teaching also needs changes. Foreign experiences are an important source for learning innovative approaches and methodologies, especially in the process of teaching English. Experiences in teaching English in different countries offer effective methods aimed at developing students' language skills.*

Key words: *English language, foreign experiences, teaching methodology, modern technologies, culture, communication.*

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INGLIZ TILINI O'QITISH BO'YICHA XORIJIY TAJRIBA

Annotatsiya: *Ingliz tili global kommunikatsiya tiliga aylangan bir davrda, uning o'qitilishi ham o'zgarishlarga muhtojdir. Xorijiy tajribalar, ayniqsa, ingliz tilini o'qitish jarayonida innovatsion yondashuvlar va metodologiyalarni o'rganish uchun muhim manba hisoblanadi. Turli mamlakatlarda ingliz tilini o'qitish bo'yicha amalga oshirilayotgan tajribalar, o'quvchilarning til ko'nikmalarini rivojlantirishga qaratilgan samarali usullarni taklif etadi.*

Kalit so'zlar: *ingliz tili, xorijiy tajribalar, o'qitish metodikasi, zamonaviy texnologiyalar, madaniyat, muloqot.*

Foreign experiences show that the use of interactive methods and technologies in teaching English increases students' interest. For example, multimedia tools are widely used in teaching English in the United States and Great Britain. Students learn the language through video lessons, interactive games and online platforms. These methods allow students to use the language in a practical way and develop their communication skills. Another interesting experience is the language training programs implemented in Canada. Many teachers consider the cultural context of their students when teaching English in Canada. This allows students to integrate their cultures and traditions while learning English. Teachers increase students' interest by giving examples of Uzbek culture while teaching English texts. In Europe, especially in the Scandinavian countries, the process of teaching English is organized at a very high level. In these countries, students learn

English from the age of 3-4. Many games and interactive activities are used in the teaching process. Students learn language through interaction, which develops their self-expression skills.

In the process of teaching English in China, modern technologies and programs are used to develop students' language skills. There are many online platforms in China where students can learn English. On these platforms, students learn the language through interactive lessons, video materials, and games. Also, when teaching English in China, teachers pay special attention to the development of students' communication skills. The process of teaching English in South Korea also has its own characteristics. English teachers in this country are mostly foreign experts. Teachers conduct various interactive activities to give students the opportunity to practice English. Many games, competitions and role-plays are used in the process of teaching English in South Korea, which increases the interest of students.[1]

The process of teaching English in Australia is also enriched with modern approaches. Teachers conduct many group activities to provide opportunities for students to interact while learning English. In teaching English in Australia, students learn the language by expressing themselves, discussing and exchanging ideas. This method helps students to develop self-expression skills.[2]

Foreign experiences in English language teaching also pay great attention to the professional development of teachers. In many countries, special trainings and seminars are held for teachers. Through these trainings, teachers get acquainted with modern pedagogical methods and technologies. By updating their knowledge and skills, teachers will have the opportunity to teach students more effectively.

Foreign experiences offer effective ways to increase students' interest and develop their language skills in the English language teaching process. Teachers can make English teaching more effective by using modern technologies, taking into account the cultural context of students, and conducting interactive activities. Such approaches certainly make the process of language learning interesting and effective for students. Foreign experiences in teaching English are also aimed at taking into account the individual needs of students. Every student has a unique learning style and pace, so teachers need to tailor lessons to the individual needs of students. This creates an opportunity for students to gain self-awareness and strengthen their knowledge.[3]

Teachers are at the heart of the educational process and their role plays an important role in students' learning, skill development and personal growth. The work that teachers do in the process of teaching students includes many aspects. These works, in turn, are aimed at making the educational process of students more effective and interesting. The first task of a teacher is to impart knowledge to students. In this process, the teacher presents new materials to the students, explains them and answers the students' questions. The teacher needs to take into account the needs of students when planning lessons and choosing teaching materials. Teachers should take into account the different levels of knowledge of students and organize lessons in such a way that each student can learn according to his abilities. Teachers

also play an important role in developing students' skills. Teachers need to help students develop self-expression, problem-solving, and critical thinking skills. For this, teachers can organize activities such as group work, discussions and role plays. These methods help students develop their communication skills and allow them to freely express their thoughts. Teachers also play an important role in motivating students. Teachers need to conduct lessons in an interesting and interactive way to increase students' interest. Teachers should help students choose topics they are interested in and organize lessons in such a way that students have the opportunity to apply their knowledge in practice. Teachers can increase students' motivation by recognizing and encouraging their achievements. Teachers also play an important role in the personal growth of students. Teachers need to take into account the individual needs of students and support their personal development. Teachers can help students identify and develop their abilities. Teachers can contribute to the personal growth of students by helping them set and achieve their goals. Teachers also play an important role in developing students' social skills. Teachers need to teach students the skills of communication, teamwork, and cooperation with others. Teachers can develop students' social skills through group work and team projects. This process helps students improve their relationships and become successful in social settings. Teachers also play an important role in developing students' self-assessment skills. Teachers need to help students assess their knowledge and skills. [4]

Conclusion:

In short, foreign experiences in teaching English include modern approaches and innovative methods. Teachers need to use modern technologies to increase students' interest, develop their language skills and create opportunities for interaction. Through such approaches, the process of teaching English becomes more effective and interesting. Studying and using foreign experiences, in turn, helps to improve the teaching of English in the Uzbek education system.

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MODERN TECHNOLOGIES IN TEACHING IN ENGLISH

Abstract: *Modern technologies play an important role in teaching English. Today, the use of technologies in the educational process creates new opportunities not only for teachers, but also for students. This article provides information about the importance of modern technologies in teaching English, their various methods and advantages.*

Key words: *English language, teaching methodology, communicative approach, language, communication, reading and writing skills, modern technologies.*

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INGLIZ TILIDA O'QITISHNING ZAMONAVIY TEKNOLOGIYALARI

Annotatsiya: *Zamonaviy texnologiyalar ingliz tilini o'qitishda muhim rol o'ynaydi. Bugungi kunda, ta'lim jarayonida texnologiyalarning qo'llanilishi nafaqat o'qituvchilar, balki o'quvchilar uchun ham yangi imkoniyatlar yaratmoqda. Ushbu maqolada zamonaviy texnologiyalarning ingliz tilini o'qitishdagi ahamiyati, ularning turli usullari va afzalliklari haqida ma'lumotlar berilgan.*

Kalit so'zlar: *ingliz tili, o'qitish metodikasi, kommunikativ yondashuv, til, muloqot, o'qish va yozish ko'nikmalari, zamonaviy texnologiyalar.*

English language teaching methodology includes methods, strategies and techniques for organizing and managing the language learning process. The English language teaching methodology is important for teachers, because it helps to make the language learning process of students effective and interesting. There are basic principles of English language teaching methodology. These principles help teachers understand the needs of students and organize lessons according to their abilities. It is important to ensure the active participation of students in the educational process, to encourage interaction and practical language learning. Preparing lessons according to the interests and needs of students helps to develop

their ability to learn independently. Different methods are used in teaching English. These methods allow teachers to increase the level of knowledge of students and make their language learning process more effective. One of the most common methods is the communicative method. This method is aimed at developing students' ability to communicate. Students learn the language practically through mutual conversations, discussions and role-playing games. This method helps students to improve their language comprehension and expression skills. In addition, the audiovisual method is widely used in teaching English. In this method, students are presented with audio and video materials. Students learn the language by listening and seeing English. This method helps to develop students' listening comprehension skills. Also, audiovisual materials allow to attract the attention of students and make lessons more interesting. Game methods are also important in teaching English. Games increase students' interest in the lesson and make the learning process interesting. Through games, students will have the opportunity to learn new words, learn grammar rules and develop communication skills. With the help of games, students can strengthen their knowledge by competing with each other. It is important to use strategies in teaching English. Teachers can use different strategies to develop students' self-directed learning. For example, giving students the opportunity to choose the learning style that suits them will help them to strengthen their knowledge. Students can feel more free to choose classes according to their interests. Modern technologies help to further develop the methodology of teaching English. Today, students have the opportunity to learn English through the Internet, mobile applications and online platforms. Teachers can make lessons more interesting and effective with online lessons, webinars, and interactive materials. [1]

For example, students can assess their knowledge using online tests and assessment tools. This will help students to further strengthen their knowledge. First of all, the development of the Internet and the widespread use of mobile devices, such as smartphones and tablets, have made the process of learning English more convenient for students. Students now have the opportunity to learn English outside of classes, anywhere and anytime. Various mobile apps, such as Duolingo, Babbel, and Memrise, offer students the opportunity to learn English according to their interests. These apps help students consolidate their knowledge, learn new words and master grammar rules. In addition, online courses and webinars make the process of learning English more effective. Students can take English classes on online platforms such as Coursera, Udemy, or edX. These platforms provide an opportunity to learn not only English, but also other subjects. Students can manage their time and choose courses according to their interests. With the help of modern technologies, teachers can also make their lessons more interesting and interactive. For example, presentation software such as PowerPoint or Prezi allows teachers to present lessons visually. [2]

This helps to attract the attention of students and better master the material. Also, students can improve their listening comprehension skills by watching English videos through video materials, such as YouTube. Virtual reality and augmented reality technologies are also creating new opportunities for learning

English. With the help of these technologies, students can learn English in an interactive environment. For example, with the help of VR, students will have the opportunity to communicate in English, which will help them learn the language practically. And AR technologies allow students to see English words and phrases in real life, which makes their learning process more interesting. Also, social networks play an important role in learning English. Students will have the opportunity to find friends who communicate in English, watch content in English, and express their thoughts in English. This will help them learn the language practically. By writing, reading and communicating in English on social networks, students feel more free. With the help of modern technologies, teachers have the opportunity to individualize their lessons. Every student has unique needs and abilities. With technology, teachers can tailor lessons to students' interests and learning styles. This makes the process of learning English more effective for students. In addition, with the help of technology, teachers have the opportunity to assess and monitor the level of knowledge of their students. With a variety of online tests and assessment tools, teachers can gauge student learning and provide additional support as needed. This will help students to further strengthen their knowledge.[3]

The role of teachers in the methodology of teaching English is also important. In addition to imparting their knowledge to students, teachers are also involved in increasing their motivation and stimulating the process of self-learning. Teachers should help students, understand their difficulties and provide additional support when necessary. This will help students to further strengthen their knowledge. English language teaching methodology is important for teachers and students. This methodology helps to make the language learning process of students effective and interesting.[4]

Conclusion:

In conclusion, modern technologies are important in teaching English. They help students consolidate their knowledge, learn new words and master grammar rules. Also, technology allows teachers to make lessons more interesting and interactive. Through such opportunities, students can make the process of learning English more effective and interesting. With the help of modern technologies, the process of learning English becomes easier and increases the success of students.

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DEVELOPMENT OF PERSONAL COMPETENCIES OF FUTURE TEACHERS

Abstract: Teachers play an important role in the educational process. They provide national knowledge, but also have a great impact on the personal development of students. For this, there is an enterprise that helps to develop the personal competencies of future teachers. Information is provided on personal competencies in Ushba, the role of the article in the educational process, and how it can help in the training of future teachers.

Key words: personal competencies, individuals, personal and professional, result, analysis, evaluation.

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BO'LAJAK O'QITUVCHILARNING SHAXSIY KOMPETENSIYALARINI RIVOJLANTIRISH

Annotatsiya: O'qituvchilar ta'lim jarayonida muhim rol o'ynaydi. Ular nafaqat bilim beruvchi, balki o'quvchilarning shaxsiy rivojlanishiga ham katta ta'sir ko'rsatadi. Shuning uchun bo'lajak o'qituvchilarning shaxsiy kompetensiyalarini rivojlantirish masalasi dolzarb ahamiyatga ega. Ushbu maqolada shaxsiy kompetensiyalar, ularning ta'lim jarayonidagi o'rni va bo'lajak o'qituvchilarni tayyorlashda qanday rivojlantirish mumkinligi haqida ma'lumotlar berilgan.

Kalit so'zlar: shaxsiy kompetensiyalar, qobiliyatlar, shaxsiy va professional rivojlanish, natija, tahlil, rejalashtirish.

Future teachers are the main foundation of the educational system. They play an important role not only as educators, but also in the personal and social development of students. The teaching profession is not only a profession, but also a field that includes great responsibility, requires creativity and humanity. The process of training future teachers begins with their interest and motivation for the teaching profession. Young people who choose the teaching profession often want to pass on their knowledge to others, contribute to social change and educate a new generation. Based on their personal experiences, they develop their own approaches to communicating with, understanding and helping students. Teachers should not only impart knowledge, but also encourage students to express themselves, think critically, and be creative. In the process of training future teachers, it is important to study pedagogical methods, use modern educational technologies and take into

account the needs of students. In this process, it is necessary to pay special attention to practice in teacher training, because in a real classroom environment, teachers have the opportunity to apply their knowledge in practice. Personal competencies are a person's ability to understand himself, communicate with others, solve problems and achieve his goals. For teachers, these competencies are very important, because they should not only impart knowledge to students, but also help them realize themselves, develop their abilities and be successful in the social environment. [1]

There are a number of methods and strategies for developing personal competencies in the process of training future teachers. First of all, it is necessary to direct teachers to self-awareness. It helps to identify one's abilities, strengths and weaknesses, as well as to set one's goals. During the process of self-awareness, teachers should focus on their personal and professional development. Developing communication skills is also very important. Teachers must communicate effectively with students, listen to them, and respect their opinions. To develop these competencies, it is necessary to learn and practice different communication methods. Also, through group activities and discussions, teachers have the opportunity to exchange ideas and experience. Developing problem-solving competencies is also important for teachers. Teachers are faced with various problems in their work and need to have creative thinking skills to solve them. To develop this competence, teachers should be encouraged to analyze problems, develop alternative solutions and test them in practice. It is also important to develop competencies to achieve one's goals. Teachers must have the ability to set their own goals, plan to achieve them, and evaluate their own performance. To develop this competence, it is necessary to teach teachers to set goals, plan and analyze their results.[2]

In the process of developing personal competencies, the use of mentoring and coaching methods for teachers can also be effective. Mentors and trainers can help teachers share their experiences, encourage and develop them. This process has a positive impact on teachers' self-awareness and professional development. It is also important to use modern technologies in the development of personal competencies of teachers. Through the Internet and digital resources, teachers have the opportunity to expand their knowledge, learn new methods and exchange experiences. Through online courses, webinars and forums, teachers can develop their competencies.[3]

Cooperation and teamwork are also important during the process of developing personal competencies in teacher training. Teachers can improve their competence by sharing experiences with each other, exchanging ideas and solving problems together. Teamwork allows teachers to help each other, develop new ideas and support each other in achieving their goals. The motivation of teachers also plays an important role in the process of developing personal competencies. Teachers should approach their work with interest and enthusiasm, strive to achieve their goals. To increase motivation, it is necessary to encourage teachers, recognize their successes and provide them with new opportunities. Self-assessment and

analysis are also important during the process of developing personal competencies of teachers. Teachers should evaluate their activities, analyze their success in achieving their goals and plan their development. This process allows teachers to identify their strengths and weaknesses, develop themselves and achieve professional growth.[4]

In the modern education system, it is important to develop the personal competencies of teachers, increase the quality of education and ensure the success of students. Future teachers need to constantly update their knowledge and skills. Foreign experiences provide us with valuable information and approaches in this process. Programs and methods implemented abroad for the development of personal competencies of teachers can be used in our own educational system. There are many approaches to developing personal competencies for teachers abroad. For example, teacher training programs in the US are often practice-based. Teachers have the opportunity to apply their knowledge in practice, and also get the opportunity to work in groups to exchange ideas and gain experience. This process helps to develop teachers' collaborative skills. Teachers increase their personal competence by sharing their experiences and learning from each other during practice.

In European countries, special attention is paid to the development of personal competences of teachers. For example, the teacher training system in Finland focuses on the self-development of teachers. Teachers regularly participate in seminars and trainings to update their knowledge and learn new pedagogical approaches. This process helps teachers expand their knowledge and adapt to modern educational requirements.

Conclusion:

In conclusion, the development of personal competencies of future teachers is an important part of the educational process. Teachers succeed in their work by developing self-awareness, communication, problem-solving, and goal-directing competencies. Also, through mentoring, modern technologies and teamwork, teachers can improve their competence. Encouraging and motivating teachers is also an integral part of this process. By developing personal competencies, teachers can prepare not only themselves, but also their students for a successful future.

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ISSUES OF FORMATION OF THE CONSTITUENT ELEMENTS OF COMMODITY MATERIAL RESERVES ON THE BASIS OF INTERNATIONAL STANDARDS OF FINANCIAL STATEMENTS

Abstract. *This article is devoted to the issues of forming the structural elements of inventories based on international financial reporting standards. Inventories play an important role in the activities of the enterprise, their correct accounting and reflection in financial statements are of great importance in accurately reflecting the financial position of the enterprise. The article analyzes the International Financial Reporting Standards (IFRS) and their regulatory requirements for the assessment, accounting and reflection of inventories. The main problems and solutions arising in this process are also considered.*

Keywords: *Inventories, Financial reporting, International Financial Reporting Standards (IFRS), Valuation, Recognition, Regulatory requirements, Financial position of the enterprise.*

According to Appendix No. 1 to the Decree of the President of the Republic of Uzbekistan dated February 24, 2020 No. PP-4611 "Roadmap for the phased implementation of international standards of financial reporting and modern methods of personnel training in this area", it is planned to "carry out quality control over compliance with the annual financial statements of joint stock companies with the MHS". The purpose of this is to ensure the transparency of financial statements, increase the investment attractiveness of enterprises and ensure the structure of reports at the level of international standards.

Commodity material reserves - are materials, goods, products and other tangible assets that are used or intended to be sold in the activities of the enterprise, which play an important role in ensuring the daily activities of the company. And their proper accounting and reflection ensure the accuracy and reliability of the financial statements. International Financial Reporting Standards (IFRS) are of great importance in valuation of commodity stocks and their reflection in financial statements. The IFRS sets out several basic requirements for companies operating globally, including clear guidelines for the valuation and accounting of inventories. Also, methodological approaches on how to form, record and reflect in the report of commodity material stocks and their constituent elements play an important role. The article analyzes practical and theoretical aspects of formation of structural

elements of commodity material reserves within the framework of international financial reporting standards. Proper organization of the process will increase the efficiency of the enterprise and help to accurately reflect its financial position.

Literature review

On the composition elements of commodity stocks and their accounting there is a lot of scientific and practical works. The research carried out on the basis of International Financial Reporting Standards (IFRS) proposes a range of approaches to the valuation of reserves, including the classification and reporting of expenses related to them. The available research analyzes the methodological aspects of the valuation of reserves and the problems that arise in the implementation of this process. Among the scientific work that has been done on the valuation and accounting of commodity inventories, many experts have considered the complexities that arise in the valuation of inventories and the possibilities of automating this process. However, there are also separate analyses on IFRS and its impact, which is widely used internationally.

Methodology

The article analyzes the methodology of reflection of the structural elements of commodity material reserves in the financial statements. This methodology includes the following key steps:

Determination of reserves and their constituent elements: At this stage, inventories of goods and their constituent elements (materials, finished products, goods, etc.) are determined.

Selection of assessment methods: The methods used to estimate inventories (e.g., purchase price, average price, or realized value) are analyzed.

Accounting and Reflection: The relationship of commodity inventories to expenses and revenues, their reflection and presentation in the financial statements is considered.

Problems and solutions: The main problems that arise in the accounting and reflection of commodity inventories (e.g. price changes, uncertainties in inventory management) and ways to overcome them are analyzed.

International financial reporting standards: Analysis of IFRS regulations on commodity inventories, their requirements and practical application.

By means of this methodology it is shown ways to identify the problems that arise in the formation of the structural elements of commodity material reserves and ways to solve them. Tovar moddiy zaxiralarning tavsifi va tasnifi:

Commodity material reserves – all material resources (raw materials, semi-finished products, finished products, goods, goods etc.) intended for use in production or sale activities of an enterprise, actually used or stored for future sale. They are an integral part of the operation of every enterprise, and in the financial statements they are indicated as a separate important item. Classification and types of commodity material reserves are carried out on the basis of the International Financial Reporting Standards (IFRS) and the principles of national financial statements.

The main elements of commodity material inventories:

1.Raw materials and materials: Raw materials and materials are all major resources used in the manufacturing process. They are used directly for the production of the final product. For example, in automobile manufacturing plant, metal, plastic, glass, etc. are considered as raw materials. Raw materials and materials are the most important components in a company's manufacturing process that are stored, recycled and processed into a finished product.

2.Semi-finished products: Semi-finished products are products that are made during production, but do not yet have their final final form. They are usually added to subsequent production processes. For example, in enterprises producing machine parts or electronic devices, semi-finished products are part of the manufacturing process.

3.Finished product: Finished goods are goods that have passed the final stage of the production process, ready for sale or consumption. Examples of finished goods would be automobile, clothing, or electronics products. Finished products are kept as a backup, and they will be ready for sale.

Products: Commodities are products sold for the purpose of selling or distributing. Goods are the most common type of reserve in the trading activities of enterprises. Commodities are generally products that have minimal manufacturing process but are ready for sale. This includes, for example, clothing, food, electronics, and other products sold by retailers.

Products that are in Processing: These are products that are in the process of being manufactured, which are not the first finished product, but are waiting for the necessary changes to be made into the final product.

Classification of commodity material reserves and their place in international standards of financial statements:

According to International Financial Reporting Standards (IFRS), the value of commodity inventories will depend on two main factors: the cost they receive and the selling value. Acquisition cost is all costs incurred for inventories of the goods, including the costs necessary for their storage, transportation and processing. Sales value – it refers to the amount of profit received by the sale of goods. If the market value or sale value of commodity inventories is lower than the value of their acquisition, those inventories can be transferred to a loss.

The ways in which commodity inventories are reflected in financial statements relate to how an entity values those inventories and presents them in their financial statements. Commodity material inventories include products for sale of an enterprise or raw materials, materials, end products and other similar items. These reserves are reflected in the underlying financial statements, particularly the balance sheet and the profit and loss statements.

The main calculation methods when reflecting commodity material stocks are as follows:

Assessment methods.

- There are several key methods involved in the valuation of commodity material inventories:

- Cost method: Inventories are valued at the purchased price or based on production costs. In this method, inventories are reflected on the basis of sale value or expense

- Market value method: Stocks are valued by market value. If the market value exceeds the cost, the inventories can be reflected in the market value, but if the market value changes the cost, then it can be reflected in the reduced value.

- FIFO (First In, First Out): Stocks are considered first-come, first-served (sold). In this method, the oldest stock is sold first, and the newest stocks remain in the report. The FIFO method causes the value of reserves to rise in the face of inflation.

- LIFO (Last In, First Out): New stocks will be sold first. This method leads to a decrease in the price of reserves in conditions of inflation. However, LIFO is not accepted in some countries or under certain standards.

- Average price (Weighted Average Cost): Stocks are priced at an average cost. In this method, the prices of all stocks are averaged and the value is reflected on this basis.

- The methods used in accordance with international standards in the estimation of costs of raw materials and materials make it possible to conduct accurate and fair calculations. FIFO, LIFO, average value, and cost-of-production methods have specific advantages in each market condition that help businesses to ensure effective management.

Reflection in the report of commodity inventories.

- Reflection of inventories of goods in the financial statements is mainly carried out in the following forms:

- On the balance: Reserves are shown as a separate item in the balance sheet. This indicator is usually called "inventories", and it sums up the values of all types of stocks available (for example, raw materials, finished products, semi-finished products, etc.).

- Profit & Loss Statement: Reflects gains and expenses incurred through the sale or consumption of commodity inventory. When inventories are sold, they are reflected in the profit and loss statement in relation to sales income and expenses.

1. International financial accounting standards such as International Financial Reporting Standards (IFRS) and U.S. GAAP provide clear guidelines for accounting for finished products as inventories. When taking into account finished products as a backup, the following criteria are taken into account:

2. Cost determination: Finished goods inventory is valued by the costs incurred during the final stage of the production process. These costs include direct production costs (raw materials, labor, production costs) and actual warehousing and storage costs.

3. Selling Value: Since the Finished Products are Ready for Sale, they are valued at an amount that does not exceed the Selling Value. If the products in stock are valued lower than the sale price in the market, it will be necessary to recognize the loss (or downgrade the value of the stock)

4. Accounts for the fall of the reserve value: If the market value of the product in the inventory has decreased, the reserve value and the losses on it should be recorded. In this case, accounting for loss reduces the value of the reserve and reflects the loss in the financial statements.

Discussion and results

In order to fully bring commodity material stocks into full compliance with international standards, the following main measures should be taken:

1. Classification and coding of commodity material reserves: It is necessary to classify commodity material stocks in accordance with international standards based on a single classification system. This classification system should be identical on a global network, such as adopting the Harmonized Commodity System (HS Codes) or other international coding systems.

2. Quality control and certification: In order to compete successfully in international markets, it is necessary to carry out quality inspections and certification of products based on international standards. For example, it is necessary to comply with international standards such as ISO 9001 (quality management), ISO 14001 (environmental management) and ISO 22000 (food safety).

3. Study of international documents and requirements: Study of the special requirements and regulations of each country for the export of goods. These requirements may include inspection of the goods, quality assurance, and necessary permits for transportation.

4. Product safety and environmental protection: According to international standards, products should be safe, which is not only due to the quality of the goods, but also to its harmful effects on the environment. For this, environmental safety standards and toxicological tests are important. For example, REACH (European Union standards for chemicals) and RoHS (safety standard for electronics and electrical appliances).

5. Engage international auditors and advisory services: Before launching a commodity inventory on the international market, companies can avail of international auditors and advisory services. These help organizations achieve the standards they need and optimize processes.

6. Application of technological innovations: For effective management of material inventories of goods new technologies and software need to be introduced. For example, inventory management, quality control, and inventory processes can be optimized by using ERP (Enterprise Resource Planning) systems and other automated systems.

7. Adherence to international norms: It is necessary to comply with the recommendations and rules of international organizations, such as the UN (United Nations), WTO (World Trade Organization), ISO and other economic and legal organizations. These norms are important to ensure that goods are competitive in global markets.

8. Compliance with Laws and Regulations Governing Goods: Each country has special laws regulating inventories of commodities. Therefore, it is necessary to obtain proper permits, certificates and tax exemptions for the exported goods.

Implementation of these measures will ensure full adaptation of product inventories to international standards and successfully access to the global market will be created.

In conclusion, the article notes that a clear and correct approach to the formation of commodity material stocks based on international standards ensures the correctness of financial statements. Adherence to international standards in the determination of the value of goods not only ensures the accuracy and transparency of financial statements, but also increases global economic integration and trust between markets. The issues and solutions presented in the article offer effective methods of managing economic processes.

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THE ESSENCE AND FUNCTIONS OF ENTREPRENEURSHIP

Abstract: *This article covers the topic "The essence and tasks of entrepreneurship". It examines the basic concepts of entrepreneurial activity, its economic significance, as well as the role of entrepreneurs in society and the ways in which they achieve success. The article emphasizes the economic and legal conditions necessary for the development of entrepreneurship, as well as the importance of taking into account innovative and social responsibility. The main tasks of entrepreneurs are described in detail, including such important aspects as risk management, market needs analysis, and the creation of new products or services. The article also shows the impact of entrepreneurship development on economic growth.*

Keywords: *Entrepreneurship, Innovation, Business, Competitiveness, Business, New ideas, Economic development, Corporate governance, Strategy.*

Introduction: Entrepreneurship is the main engine of the economy. It plays an important role not only in creating new jobs, but also in the economic development of society. The success of entrepreneurs is often based on innovation, competitiveness, and effective management. This article discusses the essence of entrepreneurship, its tasks, the main principles of successful business management, and the current issues facing entrepreneurs. Entrepreneurship develops many economic processes, creates new opportunities, and serves to ensure sustainable growth in society.

As reported at a videoconference meeting chaired by our President on priority tasks for the development of entrepreneurship and the implementation of the program to ensure employment of the population this year, last year 120 trillion soums in loans and financial assistance were allocated to small businesses. The President instructed sector leaders to meet with small business representatives in the district every week and establish a system for resolving the most important issues such as land, infrastructure, and credit.

Now, district and city governorates, together with sectors, meet with entrepreneurs every day and engage in problem-solving. The activities of the regional, district and city sectors with entrepreneurs and solving problems are analyzed, and information is submitted to the Presidential Administration every month on how they are working. Experience in working with entrepreneurs in the

regions is summarized, and a quarterly incentive system is provided to governorates, deputy judges, sector and bank heads.

Literature Review: Entrepreneurship (or business) is seen as a process that plays an important role in the economic system and influences social and economic development. There is a large body of scientific literature on the study of entrepreneurship. This article analyzes the existing scientific work on the essence and functions of entrepreneurship.

1. Definition and essence of the concept of entrepreneurship.

There are several approaches to defining entrepreneurship. The most famous of these are:

The classical Greek school defines entrepreneurship as taking risks and taking initiatives.

The new economic schools explain entrepreneurship as introducing innovations, efficiently allocating resources, and creating competitive advantage in the market.

J.M. Schumpeter's theory of innovation plays an important role in studying the nature of entrepreneurship. He saw the entrepreneur as a stage of "creative destruction" in the economic process, defining him as a person who makes discoveries in the creation of new products, technologies, or services.

2. Entrepreneurship and Economic Development:

The relationship between entrepreneurship and economic development has also been widely studied. Entrepreneurs create new jobs, stimulate economic growth, and increase social welfare by allocating resources efficiently. D. McClelland's writings on entrepreneurship and motivation are extensive in this regard.

3. Entrepreneurial works:

There are different approaches in several literatures on the work of an entrepreneur. M. Port considers the work of an entrepreneur to ensure sustainability - market research, management analysis and development of effective business strategies. On the other hand, P. Drucker described the entrepreneur's enterprises as acquiring new things in society, producing technological innovations and effectively managing existing resources.

4. Entrepreneurship and Social Responsibility:

Recent entrepreneurship involves not only making economic profits, but also fulfilling social responsibilities. On this issue, C. Freeman's works on corporate social responsibility (CSR) are widely recognized. He emphasizes that corporations and entrepreneurs should serve broader social interests, not just shareholder interests.

5. Innovation and technology in entrepreneurship:

The literature on the role of innovation and technology in entrepreneurship and the organization of successful entrepreneurial activity in this process is based on numerous scientific studies. J. Schumpeter said that the success of an entrepreneur often depends on his innovative approaches. At the same time, A. Chesbrough's ideas about open innovation indicate the importance of diversifying markets and applying new approaches to product creation.

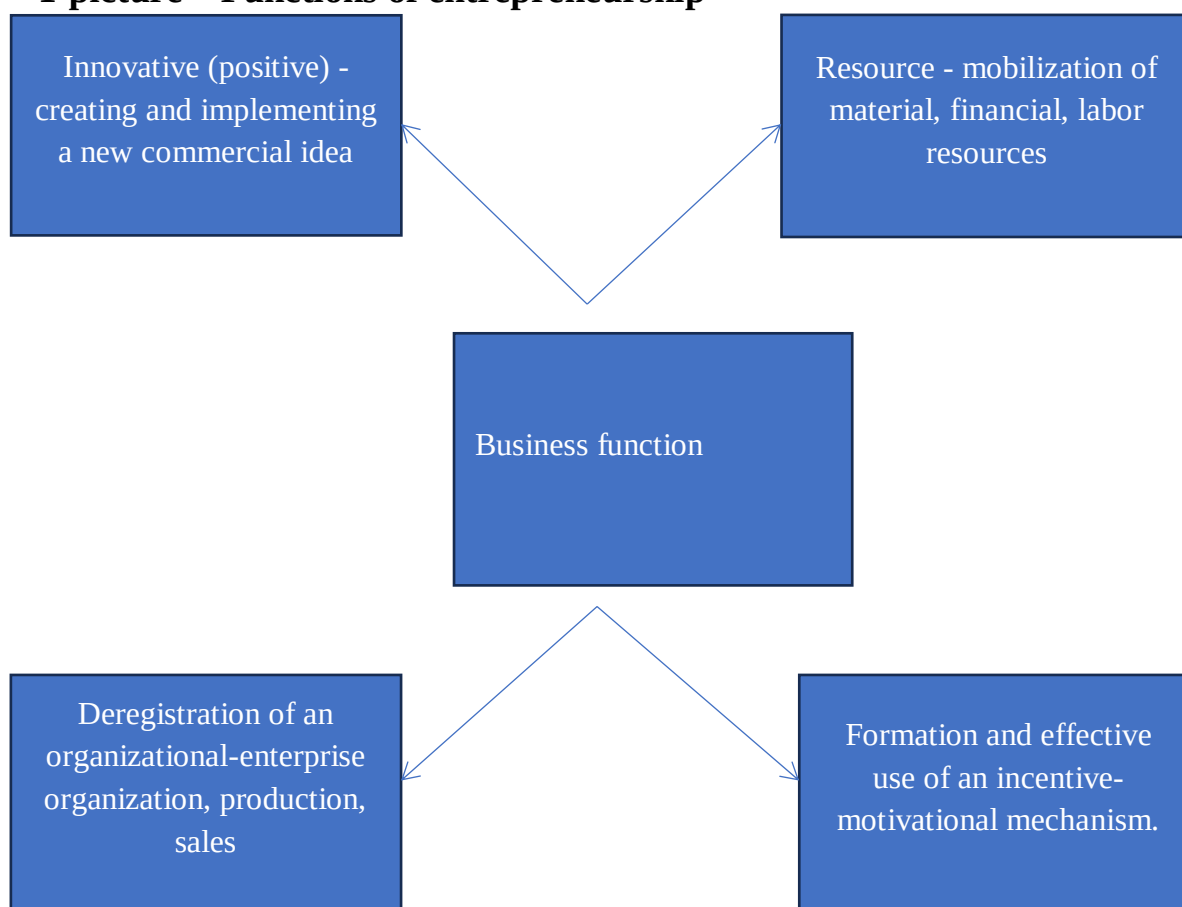
Analysis of opinions and comments:

The growth of entrepreneurial activity is also the result of the creation of a healthy socio-economic environment for entrepreneurship in our country, which has a positive impact on the development of entrepreneurship. In particular:

- the use of preferential taxation, which encourages the opening of new small businesses and helps attract investments to this area of activity;
- creation of a strong infrastructure to support entrepreneurship (innovation banks, business incubators, consulting centers on management, marketing, advertising, training courses for entrepreneurs);
- existence of a system for protecting industrial and intellectual property;
- simplification of the procedures for regulating entrepreneurial activity by state bodies;
- to form the prestige of entrepreneurial activity in society, to consider economic success as one of the highest social values, and at the same time tolerating entrepreneurial failures.

Entrepreneurship is the implementation of bold, important and complex projects. Entrepreneurship is the willingness to take risks associated with the implementation of new ideas. It is entrepreneurship that is associated with the concepts of "dynamism", "initiative", "courage", and turns new interesting ideas into reality. In economic practice, every enterprise, which is a complex production and economic system, implements. A set of separate types of entrepreneurial activity, combined into separate areas, such as the study of the market for goods and services, innovative activities, production activities, commercial activities, after-sales services (service) and two integrated directions - economic and social activities. The essence of entrepreneurship is further revealed through its main functions - innovative (creative), organizational, resource, and motivational.

1-picture – Functions of entrepreneurship



The role of entrepreneurship in a market economy is to ensure the development and constant renewal of the economic system, to create an innovative environment that paves the way for fundamental changes in the technical foundations and consciousness of people. Entrepreneurship, due to the action of the competition mechanism and the special interest of each entrepreneur in his own business, ensures the timely satisfaction of the needs of society through the efficient use of resources. Entrepreneurship contributes to consistent structural changes in the economy by rationally redistributing resources for the production of highly efficient products, creating new jobs, the needs of which are not fully satisfied, performing similar types of work and providing services. Formation of appropriate production and social infrastructure.

Innovation and new information: Entrepreneurs generate new ideas and problems that change and develop the market. They contribute to the innovative development of the economy through the introduction of new products and technologies.

Job creation: Entrepreneurship reduces unemployment by creating new jobs. This helps strengthen social stability in society. Small businesses and startups are creating new opportunities for the population, along with large enterprises.

Economic Growth and Governance: Entrepreneurship contributes to the overall growth of a country's economy. Through their activities,

they provide economic support by generating taxes, producing export products, and supplying fresh produce and food to markets.

Increasing competitiveness: Entrepreneurship increases competition and enhances the efficiency of a market economy. In a competitive environment, businesses strive to offer quality products and services, which is beneficial to consumers.

Social and environmental responsibility: Entrepreneurs are often actively involved in solving social and environmental problems. They support society through social projects and strive to achieve sustainability in environmental issues.

Financial stability: Entrepreneurship achieves financial stability by attracting new financial resources and making investments. Investors and banks show interest in entrepreneurial activities, which creates the basis for further economic development.

Conclusion: The scientific literature on the nature and tasks of entrepreneurship allows for a broad study of the economic, social and technological aspects of entrepreneurial activity. Entrepreneurs play an important role not only in creating new products or services, but also in implementing social changes in society. The literature provides a wide range of ideas about the theoretical foundations, strategies and practical approaches necessary for the effective implementation of entrepreneurship.

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QISHLOQ XO'JALIGI ATAMALARINING LEKSIK XUSUSIYATLARI TADQIQI

Annotatsiya: Ushbu maqolada qishloq xo'jaligi atamalarining lug'aviy xususiyatlari va xorijiy terminlarning o'ziga xos tizimi ochib berilgan. Qishloq xo'jaligi terminlari umumiy ilmiy va maxsus leksik birliklarni ajratib turadi. Ilmiy va texnik matnlarda lug'atning semantik xususiyatlari, tarkibiy va funksional parametrlarini aks ettiruvchi ko'plab manbalar tahlil qilingan.

Kalit so'zlar: qishloq xo'jaligi, tadqiqot, leksik birliklar, xorijiy til, atamalar, leksik xususiyatlar, turdosh manbalar, tizim, tilshunoslik.

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STUDY OF LEXICAL FEATURES OF AGRICULTURAL TERMS

Abstract. The article reveals the lexical features of agricultural terms and a unique system of foreign-language terms. In agricultural terms, general scientific and special lexical units are distinguished. In scientific and technical texts, many sources are analyzed, which present semantic features, structural and functional parameters of vocabulary.

Key words: agriculture, research, lexical units, foreign language, terms, lexical features, related sources, system, linguistics.

Bugungi kunda mamlakatimizda ilm-fan va ta'limga e'tibor har qachongidan ham yuqori darajada. Oliy ta'lim muassasalarida ilmiy kengashlar faoliyati yo'lga qo'yilgani bunga yaqqol misoldir. Jumladan, Prezidentimiz Shavkat Mirziyoyev - "Fan taraqqiyot poydevori. Na davlatning, na jamiyatning zamonaviy ilm-fan yutuqlariga, innovatsion g'oyalarga tayanmaydigan kelajagi yo'q. Faqat ilm-fan va ma'rifat orqali, intellektual salohiyat, yuksak bilimli kadrlar bilan biz O'zbekistonni taraqqiyotning yangi bosqichiga olib chiqa olamiz" [1]degan fikrlari fanning jamiyatimiz va mamlakatimiz hayotida naqadar muhim ahamiyatga ega ekanligini ko'rsatadi.

Ushbu maqolada tilshunoslikdagi leksik birliklar, ularning xususiyatlari, leksik birliklarning semantikasi tahlil qilinadi. Leksik birliklarning konnotativ komponenti, matn leksikasi, ratsional baholash kabi tushunchalarning ta'rif va tavsiflari ham o'rganiladi.

O'zbek tilida agrar sohani bildiruvchi tushunchalarning lisoniy ifodasi turli shakliy-struktur, semantik, genetik, derivatsion xususiyatlarga ega bo'lib, alohida mazmuniy maydonni tashkil etadi. Bu mazmuniy maydon empirik nuqtai nazardan juda murakkab, nazariy asosda munosabatda bo'linsa, juda mustahkam va anchayin sodda kognitiv mohiyat va strukturaga egaligi bilan xarakterlanadi. Qiyoslanayotgan tilda ham bu xususiyat xos bo'lib, tadqiqotimiz mobaynida bunga amin bo'ldik.

Tilshunoslik sohasiga oid atama va terminologiya, atamashunoslik sohasida bir qancha tadqiqotlar olib borilgan bo'lsada, atamaning ta'rifi, ayniqsa, atamaning tarixiy ildizlari, shakllanishi, madaniy-tarixiy taraqqiyoti va rivojlanish bosqichlari, tushunchasi. atama va unga bog'liq muammolar, atamalarning milliy o'ziga xosligi, shuningdek, ularning tarkibiy jihatlari kabi masalalarning kun tartibiga qo'yilishi amalga oshirilgan ishlarga har tomonlama va xolis baho berish imkonini beradi [1].

Tadqiqot uchun material qishloq xo'jaligi, agronomiya, genetika, botanika, o'simlikchilik, tuproqshunoslik va boshqalarning turli mavzulariga oid qishloq xo'jaligi matnlari va matn parchalari edi.

Ishning uslubiy asosi tilni ijtimoiy-madaniy va kognitiv hodisa sifatida talqin qilishning eng muhim tamoyillari hisoblanadi. Ilmiy ishning nazariy qoidalari til nazariyasi sohasidagi mahalliy va xorijiy olimlar, jumladan, Akhmanova O.S., Ismailov G.M., Madvaliyev A., E. Sapir, T. van Deyk, P. Serio, V. I. Karasik, V. G. Kostomarov, Yu. S. Stepanov, V. I. Txorik, V. A. Tatarinov, L. Yu. Buyanova, L. A. Novikov, E. S. Kubryakova va boshqalarning ilmiy qarashlariga tayangan holda yoritildi.

Qishloq xo'jaligi nutqini o'rganish agroterminologiya shakllanishining eng muhim nominativ-lingvistik birligi bo'lgan agronomiya atamasining og'zaki, kontseptual, mantiqiy va funksional xususiyatlarini aniqlashni o'z ichiga oladi.

Har qanday terminologiya tizimi kabi agronomiya terminologiyasi ham quyidagi vazifalarni bajaradi:

- kognitiv;
- pragmatik;
- diagnostik.

Agronomiyaga oid atamalar uchun tegishli ixtisoslashgan bilim sohalaridan atamalarning kelib chiqish hodisasi muhim hisoblanib, tahlillar shuni ko'rsatdiki, agronomiya soxasining terminologiya tizimi umumiy ilmiy, fanlararo, yuqori ixtisoslashgan va turli xil umumiy texnik atamalardan iborat.

Shu munosabat bilan agronomiya terminologiyasini qishloq xo'jaligi (agronomiya) fani tilining bir sohasi sifatida talqin qilish mumkin bo'lib, atamalarning mantiqiy-kontseptual va semantik mazmuni butun bog'lanishlar, munosabatlar, qonuniyatlar, jarayonlar, hodisalar va boshqalar tizimini aks ettiradi.

Agrotexnik atamalarni tahlil qilishga keng yondashishni tabiiyki, bir emas, balki bir nechta tushunchalar bilan bog'liq bo'lgan va bir-biri bilan o'zaro bog'liq bo'lgan agronomiya atamasini kengroq tushunishni taqozo etadi.

Shuni alohida ta'kidlash kerakki, qishloq xo'jaligiga oid adabiyotlar ilmiy uslubning tizimli hodisasi sifatida agronomiyaning fan sifatidagi predmeti, uning o'ziga xosligi, shuningdek, ilmiy fikrlash bilan belgilanadi.

Agrotexnika nutqining o'ziga xos xususiyati shundaki, u juda keng doiradagi maxsus lug'atga ega. Umuman olganda, agronomiyani fan sifatida tashkil etuvchi ilmiy bilimlar soni 25-30 ga yaqin (o'simlikshunoslik, o'simliklarni himoya qilish, botanika, genetika, seleksiya, sabzavotchilik, mevachilik, kimyo, fizika, agronomiya, biokimyo, o'simliklar fiziologiyasi, ekologiyasi, mikrobiologiyasi, tuproqshunoslik, qishloq xo'jaligi aviatsiyasi, agrofizika va boshqalar).

O'zbek tilshunosligida leksemalar hosil qilishning keng tarqalgan yo'llaridan biri affikslar orqali so'z yasashdir. Bu usulning terminlar yasash ko'lami keying davrda yanada kengaydi. Terminologik tizimga mansub terminlarning ayni shu usul bilan foydalanilayotgani shundan dalolat beradi.

Shu bilan birga agro terminologiyada soda tub terminlar asosida yuzlab yasama terminlar yasalganini ko'rish mumkin.

O'zbek tilida faol qo'shimchalardan biri bo'lgan *-chi* affiksi shaxs nomlarini yasab keladi. U qishloq xo'jaligining birir sohasida ish olib boruvchi shaxs ma'nosidagi ko'plab terminlarni yasab kelish uchun xizmat qiladi: *pillachi*, *uzumchi* kabi.

-korlik affiksi orqali: pillakorlik.

-chilik murakkab affiksi orqali: polizchilik.

-lash affiksi orqali: payvandlash.

-cha affiksi: qalamcha.

-shunos affiksi orqali: urug'shunos.

Tahlil ko'rsatganidek, zamonaviy ilmiy paradigmada terminlarni o'rganish dunyoning madaniy va lingvistik manzarasidagi ahamiyati va o'rnini hisobga olgan holda amalga oshiriladi.

Agronomiya fani mavjudlikning namoyon bo'lishining asosiy sohalaridan biri bo'lib, odamlar uchun maksimal ahamiyatga ega, ularning hayotidagi muhim toifalar, tushunchalar va tushunchalarni birlashtiradi. Shunga qaramay, agronomiya leksik birliklarining kontseptual-terminologik, pragmatik, kontseptual va sotsiolingvistik xususiyatlari haligacha tizimli o'rganilmagan.

Maqolada qishloq xo'jaligi sohasida olib borilayotgan islohotlar, agrar terminologiyani maxsus tizim sifatida o'rganish va sohaga doir lisoniy ifodalarning kengayishi kuzatilgan.

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COGNITIVE AND PRAGMATIC CHARACTERISTICS OF LEXICAL UNITS RELATED TO THE AGRICULTURAL SECTOR

Abstract: *The article examines the cognitive and pragmatic identity of agricultural terms in English. For the first time the study presents the results of a comparative analysis of the cognitive-pragmatic potential. The cognitive approach allows us to explain the emergence and evolution of special concepts, identify the causes and mechanisms of dynamic processes in professional nomination, and determine them by the changing cognitive-communicative needs of scientists.*

Key words: *agriculture, lexical units, cognitive, concepts, pragmatics, educational purpose, foreign languages, aspect.*

In this article, lexical units in linguistics, their pragmatic features, and the semantics of lexical units are analyzed. Definitions and descriptions of concepts such as the connotative component of lexical units, text lexicon, and rational evaluation are also studied.

Being one of the fundamental forms of manifestation of human existence, the subject area of agronomy is characterized by maximum significance for people, uniting nominations of essential categories, notions and concepts in their lives. Nevertheless, the conceptual-terminological, pragmatic, conceptual and sociolinguistic features of agronomic lexical units have not yet been subjected to systematic study,

The material for the study was agricultural texts and text fragments on various topics - on various issues of agriculture, agronomy, genetics, botany, plant growing, soil science, etc.

The methodological basis of the work is the most important principles of interpreting language as a socio-cultural and cognitive phenomenon. The theoretical provisions of the dissertation are based on the fundamental ideas and concepts of domestic and foreign scientists in the field of language theory: E. Sapir, T. van Dijk, P. Serio, V. I. Karasik, V. G. Kostomarov, Yu. S. Stepanov, V. I. Tkhorik, V. A. Tatarinov, L. Yu. Buyanova, L. A. Novikov, E. S. Kubryakova and others.

A concept may well have a lexical expression, but it is related in language not only to one word. It also correlates with a number of word-formation nests, the original lexemes of which are included in the synonymous series, while the

members of the synonymous series form the core of the conceptual paradigm, and the remaining cognate words form its periphery.

A concept is a verbal-mental core, the essence of a person's knowledge and ideas, the meaning of these ideas and knowledge, as Yu.S. Stepanov asserts, the content of the concept, in addition, a concept is a unit of knowledge.

The agronomic terminological concepts "Plants" and "Soil" fall under the definition of single-level concepts (Popova, Sternin, 2001), the base layer of which is only the subject-sensory core, the subject image. The corresponding lexical units act as subject-thematic dominants both in the microsphere of "Plant growing" and in the entire agronomic discourse as a whole, which is due to the cognitive specificity of this subject area.

The factual material showed that more than half of the formants of nouns in the agronomic terminology sphere are unproductive (55%), that is, they form one or two derivatives.

It has been established that discourse, as recognized by scientists, is an abstract invariant description of structural and semantic features realized in specific texts. The ideal to which it is necessary to strive in the process of communication should be considered the maximum correspondence between discourse as an abstract system of rules and discourse (or text) as a specific verbal

As is known, the importance of interdisciplinary connections in linguistics was emphasized back in the early 20th century. Taking into account the leading principle of linguistic research — the principle of anthropocentrism — we believe that the concepts of "Agronomist," "Life," "Living," "Evolution," "Plant," "Soil," "Seed," "Fruit," etc. dominate in agronomic terminology as the basis of agricultural discourse. These concepts are the terminological axes around which systems of terms and basic concepts related to them are formed. It has been established that the lexical, grammatical, and word-formation basis of agricultural discourse in the Russian language are nouns — more than 40% of all lexical units functioning in it. As a specific macrosystem, agricultural/agronomic discourse is characterized by structural-grammatical, lexical-semantic and conceptual-derivational complexity and multidimensionality, which is also determined by the specificity of the agronomic term itself.

The internal structure of terminology systems and its subsystems is distinguished by the allocation of multilevel relations (species-generic, inclusive, partitive, cause-and-effect, subject-object, etc.). Such relations indicate a strict ordering of special concepts and units allocated on their basis within terminology systems.

But in addition to this, each formed (developed) terminology system has a certain conceptual organization, which is fixed by means of linguistic means that appeared as a result of term formation processes. This conceptual organization is based on certain mechanisms for the formation of specific subsystems, structures and formats of knowledge, certain patterns of processing and sorting information, which can be built according to certain canonical and prototypical forms of its linguistic representation.

The linguistic, sign-pragmatic basis of the agronomic terms is the corresponding terminology, which is a systemically ordered continuum of terms functionally aimed at the explication and nomination of scientific and professional concepts that form the logical-conceptual field of the subject area "Agronomy".

The study of agricultural discourse involves identifying the verbal-conceptual and logical-functional features of the agronomic term, which is the most important nominative-metalinguistic unit of the formation of agroterminology.

Like any terminology system, agronomic terminology performs the following functions: 1) cognitive-gnoseological; 2) metalinguistic; 3) pragmatic; 4) diagnostic-prognostic; 5) systematizing. The phenomenon of migration of terms from related specialized fields of knowledge is relevant for agronomic terminology, due to which, as the analysis showed, the terminology system of the agronomic sphere consists of general scientific, interdisciplinary, highly specialized, and general technical terms of various genesis.

In this regard, agronomic terminology can be interpreted as an area of the language of agricultural (agronomic) science, the logical-conceptual and semantic content of the terms of which reflects the entire system of connections, relationships, patterns, processes, phenomena, etc.

Recognition of a broad approach to the stratification of agronomic terminology naturally entails an expanded understanding of an agronomic term, which is associated with not one, but several concepts, internally articulated and mutually correlated with each other. The basis of conceptual and defining gradation is both the original principle of the unity of knowledge and the principle of definability of one term through another.

It should be especially emphasized that the language of agronomic and agricultural literature as a systemic phenomenon of scientific style is determined by the subject of agronomy as a science, its specificity, as well as the "character of scientific, i.e. abstract thinking". The predominant position of nouns in agronomic discourse is also largely determined by the structural and subject-thematic specificity of the texts of this cognitive sphere.

A feature of the agronomic discourse is that it has a very wide range of specialized vocabulary. In general, the number of branches of scientific knowledge that form agronomy as a science is about 25-30 (plant growing, plant protection, botany, genetics, seed production, selection, vegetable growing, fruit growing, chemistry, physics, agronomy, biochemistry, plant physiology, ecology, microbiology, soil science, agricultural aviation, agrophysics, etc.).

As the analysis has shown, there are sufficient grounds to believe that in the modern scientific paradigm, the study of concepts is carried out taking into account their significance and place in culture, in the cultural and linguistic picture of the world.

We believe that if the types of concepts are an attribute of thought processes that are universal for all of humanity, then the picture of the world itself is related to the content of concepts, which differs from language to language.

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AVAILABILITY OF OPPORTUNITIES IN THE 1C PROGRAM FOR PREPARING TAX REPORTS AND DECLARATIONS

Abstract – *this article tax report and declarations in the 1c program preparation and reports in submission conveniences, precisions and other of programs auffazllillari and disadvantages based on analyses statement does . Software of supply other from programs and paper from documents differences and paperwork because of tax in the system to the surface arrived problems and to them solution as a result created program with general acquaintance about information is given .*

Key words – *tax report, Declaration, 1C, income tax, social tax,SAP, NetSuite, Manual writings*

Introduction – *article in the data taxes preparation and sending in 1C program one row advantage and amenities , program through submitted reports papers through submitted from reports differences and their advantage sides reflection Software supply tax in the law the complexities into account automated processes through business and entrepreneurs for time and resources saving opportunity creates . Also, tax in the system worker employees between planted social questionnaire through analysis was done and conclusion and offers brought passed*

Literature review: *Every how scientific research, first of all, this in the field previously done increased research and scientific developments from learning This begins. in the department to the topic related literature deep analysis made , they cited ideas and conclusions logical in order seeing exited*

In particular, 1c: 8.3 accounting program buy to take one how much amenities provides. Including , accounting of employees work lightening - program many time

- consuming 99 percent of the calculations will do and accounting account complete automates , regulates insertable reports formation (tax , statistical , funds) report to give), [1]

Also , about the 1C program on the (Milpark) website to the information according to , in the 1c 8.3 program income tax analysis to do , accounting policy designation , data correct input and of the month closure such as important processes about in detail explanations given . Also in the 1C program calculation and reports preparation processes clear and transparent , human factor without participation done increased because of errors almost unobservable about information brought passed .[2]

Tilakova Zaynura own 1c Accounting program in the article 1c program one row amenities about thoughts based on given . Including in the 1c program reports and declarations reliability and them excess without paperwork done increase useful work coefficient to increase service to do about idea The program also very understandable and easy that is made because of ummi study and from it user to be for for years time not leaving also their thoughts about proving gave .[3]

Methodology:

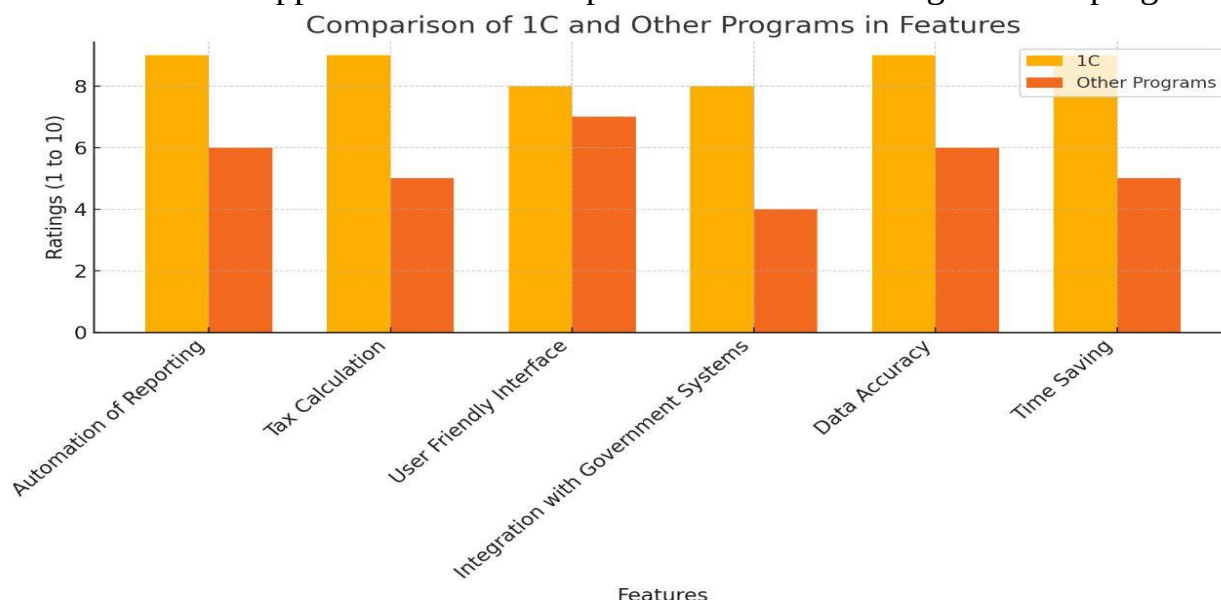
Primary research 1 in C program tax reports and declarations preparation of sorrow again one advantage side is that taxes to the system included change and additions automatic to the program entered and to calculate continue It makes . Like this to the amenities has was of the program useful and unnecessary was aspects determination for the purpose tax in the system activity showing employees between " Tax " reports and declarations through the 1c program done increase useful aspects of " social questionnaire This questionnaire as a result tax in the system activity showing of employees thoughts based on the 1C program advantage or other from programs remaining aspects determined analysis was done . Questionnaire following from questions organization found :

- Through the 1c program report and declarations done increase advantages where at what level?
- Software supply Do you think it is reliable ?
- Through the program to the reliefs has Have you been ?
- Reports automation you Are you satisfied ?
- Hand writings through prepared from reports advantages noticeable ?
- Reports through 1C program send and reflection of holding to you beneficial was advantages about your opinion let me know

Secondary research : 1C program tax payers tax obligations and calculations automatic accordingly management opportunity gives . Statistical to the information according to , from the 1C program user organizations tax accounts and declarations in preparation own on time errors reduced the number of . This program tax payments and reports further effective to manage help gives . In the program tax rates automatic in a way to update supports . In the 1C system tax rates update and them in calculation errors The number has decreased by 10-15% . This is due to In turn , tax payers to the manuals suitable to act accordingly helps . Through the 1C

program taxes complete and clear accounting audit processes 1C users can easily audit and from inspections in passing at least 25% of the time are saving because all information in the system correct is stored and documents automatic accordingly working is released . m

Result : Above from research visible As you can see , the 1C program is a how much to opportunities has complicated research through created program .

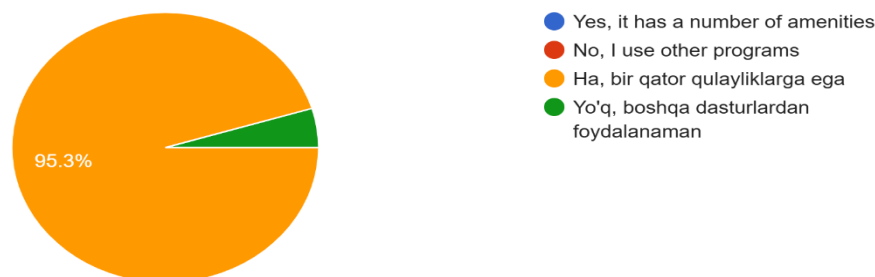


This table through 1C and other accounting of programs one row in categories advantage and disadvantages reflection added to the table importance giving If we are talking about 1C program, row from programs to the advantages has was program is considered . In programs the most important from processes one comfortable interface is considered and this to users amenities having given birth because of him/her understanding and use start many time can't and many Automatic calculation in processes through from the user very important to informants has not required to be that is , software supply soda and easy structured because of excess time and does not require workers .

Accounting and tax system worker employees between social questionnaire planted and to him/her more than 64 employees participation amenities and disadvantages about own thoughts In particular , the following table via 1C program reports of sending advantages about worker employees his/her opinion we know possible .

Is it preferable to prepare reports through the 1c program?

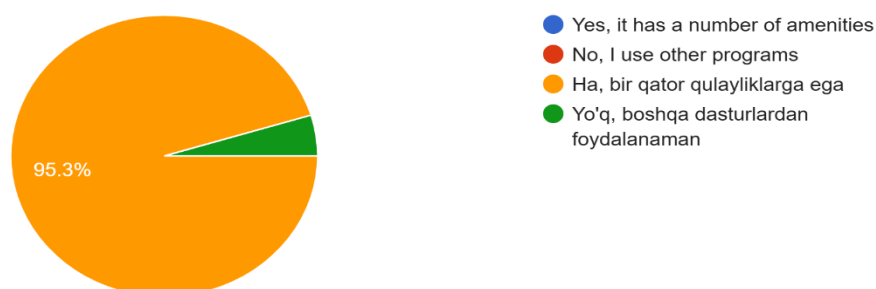
64 responses



Next question through and questionnaire participants of the program how much reliability showing They gave . According to this of the program privacy system and information rotation systems high level workers by structured and comfortable to the interface ownership confirmed .

Is it preferable to prepare reports through the 1c program?

64 responses



Also , finally in question reports through the 1C program send and reflection of holding beneficial was advantages about thoughts as usual reflection they continued .

- Of course all processes 1 C through to account from receiving then , all reports both 1 C through getting ready sent okay because I think .
- Software supply through reports send comfortable , time saves
- Documents electronic in the form will land no how paper printing it won't be possible time saves the work facilitates

And that's it. such as words with own thoughts they reported

Analysis. Above to the information dependent As for the 1C program, it is very many to users has even if it is different of programs from it advantage aspects existence our vision possible . Including Akkurad program from 1c program only Uzbekistan to tax pull tim = tim and local to the laws customization because of to the advantages has because in the global version of 1c sometimes this kind of uncertainties there is to be It is also possible to use the 1c program of NetSuite . Advantage Platform through users own to the information every from anywhere , everywhere how from the device entrances This is especially true for foreign

countries . in the country activity driver companies for very convenient . In general In general , the 1C program has many opportunities offer although it does , its to oneself typical complexity and flexibility some users for other , light and cheap programs preferably to do take arrival It is also possible to global and cloudy systems (SAP, NetSuite) more international to the market service to do companies for preferably to be possible .

Your coin As the second party , the other of programs useful aspects to be despite the millions of 1C programs to users has . The reason for this and software of supply privacy and high level to inspections ownership . This process reliability provided because of accountants by confession arrived is coming .

Discussion. In general when you get the system automation to us noticeable at the level systematic to simplify and the work much to relieve help gives . Papers through prepared reports and to them human factor when mixed to the surface error message and disadvantages big to problems reason to be born possible . Just one example with my opinion support I support : small and middle businesses between paper through prepared tax in the declarations errors very wide widespread was . The Russian Federation Tax inspection (Federal'naya tax service) in 2015 itself paper in the form of submitted tax in more than 25% of reports mistakes Russia tax organs by in early 2015 done increased audits 4.5 billion rubles as a result in the amount of additional taxes paid These numbers , paper in the form of wrong or late presented done tax reports with related payments as a result to the surface arrived .

Above to the information based on if we are , programs in our activities contribution very much big and the economy digitization one how much risks prevent takes and reliability provides

Conclusion. 1C program tax reports and declarations preparation and submission process simplifies , efficient does and mistakes This system reduces automation and tax to the legislation flexibility , tax to payers clear and own on time reports submission opportunity gives . Digital to systems to pass , to pass time saving and to tax related to mistakes road not to let provide The 1C program is very effective is the solution . Also , the system integration and update opportunities his/her in practice wide to be used service does .

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REHABILITATION VALUE OF PATIENT ADAPTATION TO PHYSICAL SKILLS

When complications arise in patients with various diseases, especially paralysis, there is a possibility of a violation of the natural abilities of a person. In this case, a well-thought-out multifaceted rehabilitation program comes to mind. Carrying out this event in a comprehensive and comprehensive manner will not only restore the patient's natural abilities, but also improve the quality of self-care. Rehabilitation value of patient adaptation to physical skills

Abstract: *When complications arise in patients with various diseases, especially paralysis, there is a possibility of a violation of the natural abilities of a person. In this case, a well-thought-out multifaceted rehabilitation program comes to mind. Carrying out this event in a comprehensive and comprehensive manner will not only restore the patient's natural abilities, but also improve the quality of self-care.*

keywords: *natural means. natural abilities. rehabilitation factor. slojnye processy. vajnye aspect*

The life of patients with cerebral palsy consists of a combination of various aspects of rehabilitation: rehabilitation, physical and psychological, social, emotional and educational. [6] Recently, increased attention has been paid to new organizational forms in a comprehensive rehabilitation system. Among them, the game method of teaching a child everyday skills is of considerable interest.

The purpose of the study is to develop and scientifically substantiate a new organizational form and system of classes in outdoor games in combination with other non-traditional means in order to teach everyday skills to children with the consequences of cerebral palsy.

Research methods - children aged 8 to 14 years with the consequences of cerebral palsy. Before starting rehabilitation activities, it is necessary to determine the initial degree of severity of motor disorders in order to properly plan and rationally structure classes. Rehabilitation classes should correspond to the child's capabilities, maintain the motivation of children with the consequences of cerebral palsy to continue classes, and create a favorable emotional background. The program of rehabilitation and recovery effects to teach a child to everyday skills by

means of physical education and sports for children with the consequences of cerebral palsy helps to solve the following problems:

The life of patients with cerebral palsy consists in the interrelation of various aspects of rehabilitation: rehabilitation, physical and psychological, social, emotional and educational. [6] Recently, increased attention has been paid to new organizational forms in the complex rehabilitation system. Among them, the game method of teaching a child to everyday skills is of considerable interest.

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- improving walking skills;
- improving balance and coordination of movements;
- developing fine motor skills of the hands;
- developing the emotional-volitional sphere;
- developing spatial motor orientations
- practicing the qualitative side and consolidating previously acquired motor skills and abilities.

In the early stages of rehabilitation and recovery measures, we consider the individual method of working with the child to be the most effective; in the future, training sessions with children should be conducted using various methods: individual, small-group and group. In a comprehensive system of rehabilitation and recovery measures to teach a child everyday skills along with generally accepted means and forms of physical education and sports, it is desirable to include non-traditional methods of influence, for example:

- computer educational games;
- psycho gymnastics.

To solve correctional problems, the game method of conducting classes was widely used, consisting of various game situations, tasks, exercises and games. When conducting sports games, children with spastic diplegia need special exercises that help strengthen the back muscles, relax the adductor muscles of the hips and overcome postural reflexes. A distinctive feature of the developed methodology of rehabilitation and recreational activities is the differentiation of all used means and forms of rehabilitation, outdoor and sports games by the forms of the disease and the degree of motor impairment. The implementation and

effectiveness of rehabilitation and health measures for children with the consequences of cerebral palsy can only be carried out with systematic medical supervision. The pedagogical experiment we conducted and the results obtained allowed us to scientifically substantiate the effectiveness of the integrated methodology of rehabilitation and recreational effects. Conclusions. The practice of using existing methods and means of rehabilitation for cerebral palsy, according to literary data, has shown insufficient effectiveness, which predetermines the search for new approaches, means, methods and forms for the successful implementation of rehabilitation and recreational activities. The nature of rehabilitation effects on the body of a child with the consequences of cerebral palsy should be comprehensive, rehabilitation and recreational activities should take into account the mechanisms to support the motivation of disabled children to regular activities, conduct classes in a mode that corresponds to the child's capabilities, and create a favorable psychological background. The comprehensive system of rehabilitation effects used in our work consisted of:

- special physical exercises of targeted impact;
- physical exercises with gymnastics elements;
- game activities of targeted impact;
- sports and outdoor games;
- computer educational games;
- psychogymnastics course.

The fundamental direction of our work is the game method. Along with traditional game methods, we also used a whole group of relatively new promising methods of working with this contingent of children: the method of music and rhythmic therapy; the method of analogies with animals and the plant world; the method of "theatre of physical education".

The results of physical rehabilitation of disabled children showed high efficiency, which was expressed in the improvement of their motor abilities.

The results of recreational and rehabilitation activities had a beneficial effect on the mental state of disabled children with cerebral palsy. This is illustrated by the following data:

- when conducting a test on the scale of personal differential for the factor of personal strength in the experimental group, the differences were reliable and amounted to 28%. In the control group, the differences revealed were not significant with an improvement in the indicator of the personality strength factor by 9%. Thus, the complex system of recreational and rehabilitation interventions has shown its effectiveness in teaching children with cerebral palsy everyday skills and can be recommended for use in practical work with disabled people with the consequences of cerebral palsy.

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THE IMPORTANCE OF DIFFERENT TYPES OF REHABILITATION IN THE TREATMENT OF PARALYSIS

Currently, the problem of life of patients with cerebral palsy consists in the interrelation of various aspects of rehabilitation: rehabilitation and recreational, physical and psychological, social, emotional and educational. Recently, increased attention has been paid to new organizational forms in the complex rehabilitation system. Among them, the game method is of considerable interest. The purpose of the study is to develop a new system for rehabilitation of children with cerebral palsy. 22 children aged 5 to 10 years with different forms of cerebral palsy were examined. In the control group, we did therapeutic physical training in a playful way together with their mothers. As a result of the study, the children who did the exercises in a playful way improved their mood, did the exercises with pleasure and showed a better result than the previous group.

Key words: recommendation. medical control. positive effect. research result. medical rehabilitation

Disability of children with cerebral pathology ranks first in the structure of childhood disability in the neurological profile and its severity is due to both motor and mental and speech disorders. The success of rehabilitation depends not only on the severity of the damage to the central nervous system (CNS) of the child, but also on timely diagnosis, proper organization of the treatment process, starting from the first years of the child's life. [4]

The purpose of the study is to develop and scientifically substantiate a new organizational form and system of classes in active and sports games in combination with other non-traditional means for the rehabilitation of children with the consequences of cerebral palsy.

Research objectives:

1. To develop new game methods for children - with the consequences of cerebral palsy in order to correct motor abilities, as determining the general development of a child with cerebral palsy. ,

2. To test the effectiveness of the game technique we have developed on the physical and mental state of disabled people with cerebral palsy.

Object of the study - We examined children aged 6 to 12 years with the consequences of cerebral palsy.

We used a comprehensive system in a game form together with mothers, which impacts give the child the opportunity to feel self-confidence. . Rehabilitation of children with cerebral palsy is complex. It includes psychological, social, medical, pedagogical and other aspects. Physical education is the most important part of the process [6] Since performing physical exercises ensures the participation of higher mental functions in the process of mastering motor skills and has a great influence on the development of the nervous system, we contributed to the mental development of the child with conscious movements. [1] We explained to the mothers that rehabilitation is timeliness, interconnectedness, continuity. [5]

The practice of using existing methods and means of rehabilitation for cerebral palsy, according to literary data, has shown insufficient effectiveness, which predetermines the search for new approaches, means, methods and forms for the successful implementation of rehabilitation measures. One of the most important aspects of cerebral palsy is related to the treatment and rehabilitation of disabled children.

Treatment of this disease has long been unpromising.[5] Early diagnosis of the disease is of great importance for further rehabilitation of children with cerebral palsy. The sooner specialists begin working with the child, the greater the chance to prevent, rather than subsequently correct, the slow reaction of parents, speech and mental deviations.[3] Another important criterion for successful rehabilitation work with disabled children with cerebral palsy is the participation of the mothers of the sick child in the rehabilitation event. In this regard, the use of restorative effects on the body of a sick child, therapeutic physical education with a play method, is also a very pressing issue. The play method, and especially with mothers as a means of physical rehabilitation of children with cerebral palsy, has a very good result.[1] Movement disorders that limit or interfere with normal physical activity adversely affect all aspects of personality development.[6] Through physical rehabilitation, these problems can be improved. The nature of the rehabilitation effects on the body of a child with the consequences of cerebral palsy consisted of complex support for the motivation of disabled children to regular classes, classes were conducted in a mode corresponding to the child's capabilities, and a favorable psychological background was created.[1] The complex system of rehabilitation effects used by us in our work consisted of:

- special physical exercises of targeted impact;
- physical exercises with gymnastics elements;
- game activities of targeted impact;
- sports and outdoor games;[4]

The fundamental direction of our dissertation is the game method, necessarily together with mothers.

Results. Physical rehabilitation by the game method together with mothers of disabled children showed high efficiency, which was expressed in the improvement of their motor abilities. Under the influence of therapeutic gymnastics in the muscles of the child with cerebral palsy, adequate motor sensations arose. In the process of therapeutic gymnastics, the postures and positions of the limbs were normalized,

muscle tone decreased, violent movements were reduced or overcome. The child began to correctly feel the postures and movements, which is a powerful incentive for the development and improvement of his motor functions and skills.[7,] As a result of the introduction of a comprehensive rehabilitation system, the game method and specifically with mothers, children with the consequences of cerebral palsy gave a very positive effect. These events had a beneficial effect on both the mental and physical condition of disabled children with cerebral palsy.

Thus, the complex system of rehabilitation events in the game method together with mothers has shown its effectiveness. This gives a positive result when used in practical work with disabled people with the consequences of cerebral palsy.

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POSTOPERATIVE REHABILITATION MEASURES IN THE TREATMENT OF PARALYSIS IN CHILDREN

Paralysis, unlike other diseases, requires constant qualified rehabilitation. Now, when it comes to rehabilitation of children, rehabilitation is considered to be at the highest level. If the problem is amenable to surgical treatment, then it can be said that the surgical procedure and subsequent rehabilitation are the best. It is considered appropriate for a child psychologist to participate in the preparation of the patient for surgery, unless the patient has a severe mental disorder. In addition, massage and physical exercise also have a positive effect on the body.

Keywords: *therapeutic exercise. Regular training. physical exercise. rehabilitation specialist psychologist's recommendation*

Currently, in the rehabilitation of children with various consequences of cerebral palsy and the nature of the disorders of the musculoskeletal functions of the lower extremities, as a rule, complex rehabilitation methods are used.

Disability of children with cerebral pathology ranks first in the structure of childhood disability in the neurological profile and its severity is due to both motor and mental and speech disorders. The success of rehabilitation depends not only on the severity of the damage to the central nervous system (CNS) of the child, but also on timely diagnosis, proper organization of the treatment process, starting from the first years of the child's life. Recently, increased attention has been paid to new organizational forms in the complex rehabilitation system. Among them, the game method is of considerable interest.

The aim of the study is to develop and scientifically substantiate a new organizational form and system of classes in active and sports games in the rehabilitation complex for children with cerebral palsy. Research objectives:

1. To develop new forms of activities for children with the consequences of cerebral palsy in order to correct motor abilities.
2. To determine methods for assessing the impact of the rehabilitation measures we have developed on the psychomotor state of children with the consequences of cerebral palsy.
3. To test the effectiveness of the methods we have developed on the physical and mental state of disabled people with cerebral palsy.

Research material - children aged 8 to 14 years with the consequences of cerebral palsy. The first (main) group consisted of 35 children who received basic therapy in the form of physiotherapy (thermal procedures in the form of paraffin-ozokerite applications at a temperature of 45-48°C on the spastic muscles of the lower and upper extremities, exposure time 10-15-20 minutes daily, 10 procedures; general massage with differentiated techniques taking into account muscle tone, daily, up to 10 procedures per course). In addition to basic therapy, patients received exercise therapy in the form of elastic supports, which made it possible to change the motor limitations of patients with cerebral palsy. Classes were held in the exercise therapy room 4-5 times a week, for 15-30 minutes, per course of up to 15 procedures.

The second group (comparison) - 35 children who received basic therapy (thermal procedures, massage).

A system of classes was developed using non-traditional forms of rehabilitation and recovery measures, including, in addition to outdoor and sports games, computer correctional games for children with cerebral palsy, as well as a training and game complex and psychogymnastics classes. [2]

As a result of the introduction of a comprehensive rehabilitation system, the arsenal of means of physical rehabilitation of children with the consequences of cerebral palsy was expanded through the use of outdoor and sports games. [1st article 27]

In the main group, we taught mothers therapeutic physical education. Mothers were engaged and played with different types of toys together with their children. They were engaged every day regularly at the same time. [3rd article 46] Taking into account the different experiences, in therapeutic gymnastics classes, we developed a method [4] for the rehabilitation of patients with cerebral palsy (CP) was much more effective. The purpose of its application is to improve the statodynamic functions in patients with cerebral palsy [5, p. 6]. The use of therapeutic physical training allowed us to solve the following problems: increase mobility in the joints of the lower extremities; reduce pathological tone of the muscles of the chest, shoulder girdle, neck; develop skills of standing upright; improve the emotional mood of the child. [5 p. 35]

The classes included a warm-up, the main and final part. The load was controlled by a physician of therapeutic physical training. [2 p. 54]

The result of therapeutic and restorative measures in children with cerebral palsy depended on the severity of limitations, age, adaptation to the procedures. Complex therapy [4 p. 66], heat therapy, massage, allowed to significantly improve the condition of patients with cerebral palsy. In patients with cerebral palsy in the main group, movement improved in more than 2/3. [1 st. 87] Play activity was also impaired in all observed children: 1st degree of limitation in every fifth child, 2nd and 3rd degree equally often in the remaining children. Physiotherapy allowed the non-ambulatory child to develop strength qualities. We conducted classes with the child from any position (lying on the back, sitting in a wheelchair, standing with a soft support). This ensured the principle of a comprehensive load impact on the

child's body, on the priority development of the required motor functions. The absence of rigid parts in the supporting elements significantly expanded the range of possible therapeutic physical training exercises for patients with cerebral palsy. [4 st. 36] Communication between children increased significantly. No significant increase in children with the first degree of limitation was observed for children in the comparison groups. [5 st. 43]

Modern approaches to the comprehensive rehabilitation of disabled children due to cerebral palsy have been developed, including various types of therapeutic exercise.[4 Art. 54] The significance of the work follows from its objectives and consists in the development of measures aimed at improving medical, social, and expert services for the child population due to cerebral palsy, and strengthening measures for their social protection. The obtained data on the state and dynamics of primary disability, social and hygienic characteristics of the contingent of disabled people due to cerebral palsy can be used in the development of comprehensive programs for the prevention of disability due to cerebral palsy. [2 Art. 53] A method of artificial correction of movements by means of electrical stimulation of muscles has been introduced into clinical practice. [1 Art. 34] The proposed method of comprehensive rehabilitation of patients with cerebral palsy can serve as a way of significant correction of muscle function deficiency, and is also a prevention of further progression of deformations in such patients. [5 Art. 62] The use of a set of developed methods in patients with cerebral palsy contributed to the effective elimination of their remaining predisposition to an early formed pathological stereotype of posture and walking. The identified need for medical and social assistance is the basis for developing a standard individual program of medical and social assistance for disabled children due to cerebral palsy, and the need for rehabilitation treatment is 100%.

An individual rehabilitation program for this pathology includes a medical aspect (exercise therapy, massage, physiotherapy, acupuncture, walking training, technical rehabilitation equipment).

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QURITISH USULLARINING ANDIJON-35 VA ANDIJON-36 NAVLARINING PAXTA TOLASI SIFAT KO'RSATKICHLARIGA TA'SIRI

Annotatsiya. Ushbu maqolada Andijon-35 va Andijon-36 navlarining paxta tolasining sifat ko'rsatkichlariga turli quritish usullarining ta'siri tahlil qilinadi. Konvektiv va kontaktli quritish usullarining paxta tolasining elastikligi, uzunligi, rang o'zgarishi kabi sifat ko'rsatkichlariga ta'siri o'rganilgan.

Kalit so'zlar. Paxta tolasining sifati, Andijon-35, Andijon-36, konvektiv quritish, kontaktli quritish, quritish harorati, namlik darajasi.

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EFFECTS OF DRYING METHODS ON THE QUALITY INDICATORS OF COTTON FIBER FROM ANDIJON-35 AND ANDIJON- 36 VARIETIES

Annotation. This article analyzes the effects of different drying methods on the quality indicators of cotton fibers from the Andijon-35 and Andijon-36 varieties. The study investigates the influence of convective and contact drying methods on the fiber's elasticity, length, and color change.

Key words: Cotton fiber quality, Andijon-35, Andijon-36, convective drying, contact drying, drying temperature, moisture content.

Kirish. O'zbekiston iqtisodiy rivojlanish dasturida yuqori sifatli paxta tolasini ishlab chiqarish va uni xalqaro bozorda muvaffaqiyatli sotish masalasi muhim o'rin tutadi[1]. Paxta xomashyosidan yuqori sifatga ega tola olish ishlab chiqarish texnologik jarayonlarining to'g'ri tashkil etilishiga bog'liq. 2017-yil 28-noyabrda davlatimiz rahbari Sh.M.Mirziyoyev tomonidan "Paxtachilik tarmog'ini boshqarish tizimini tubdan takomillashtirish chora-tadbirlari to'g'risida" PQ-3408

sonli qarori qabul qilindi. Ushbu qarorda paxtachilik sohasidagi holat tahlil qilinib, ishlab chiqarish jarayonlarini tezkor yangilash va modernizatsiya qilish zarurati, shuningdek, ilg'or texnologiyalar va zamonaviy korporativ boshqaruv usullarini joriy etish bilan bog'liq qiyinchiliklar qayd etilgan. Sanoatning jadal rivojlanishiga to'siq bo'layotgan tizimli muammolar va kamchiliklar ham alohida ta'kidlangan[2].

Paxtani quritish jarayonida namlikni me'yoriy darajaga tushirish va saqlash katta ahamiyatga ega. Paxtani quritish jarayonida keng qo'llaniladigan usullardan biri issiqlik tarqatish asosida quritishdir. Ushbu jarayon yoqilg'i sarfini kamaytirishga va sifatli tolani ishlab chiqarishga yordam beradi[3].

Paxtani quritish usullari

Paxta xomashyosini quritishning ikki asosiy usuli mavjud:

1. **Tabiiy quritish** — paxta xomashyosi dala sharoitida quyosh nurida quritiladi, bunda paxtaning namligi 2-3% ga kamayadi. Paxta maydonga yoyilib, tezlashtirish uchun vaqt-vaqti bilan ag'dariladi.

2. **Sun'iy quritish** — paxta zavodlarida yoki tayyorlash punktlarida maxsus quritgichlarda amalga oshiriladi. Bunda namlik va ifloslik yuqori bo'lsa, chigitli paxta maxsus quritgichlarda quritiladi[4].

Paxta tolasining sifatiga quritish haroratining ta'siri

Andijon-35 va Andijon-36 navlarining paxta tolasiga turli haroratlarda konvektiv quritish usulining ta'siri o'rganildi. Tahlil natijalari quyidagi jadvalda keltirilgan

1-jadval (Andijon-35 navli paxtaning konvektiv usulda quritilishi)

№	Harorat (°C)	Quritish vaqti (daq)	Namlik darajasi (%)	Elastiklikni yo'qotish (%)	Tola uzunligining qisqarishi (%)	Tsellyuloza parchalanishi (%)	Rang o'zgarishi (ΔE)	Mikrostrukturadagi o'zgarish (%)
1	60	30	8	10	1.5	2	1.5	5
2	60	60	7	12	2	3	2	6
3	60	120	6.5	15	2.5	4	2.5	7
4	80	30	7.5	13	2	3	2	6
5	80	60	6.8	16	2.3	4.5	3	8

2-jadval (Andijon-36 navli paxtaning konvektiv usulda quritilishi)

№	Harorat (°C)	Quritish vaqti (daq)	Namlik darajasi (%)	Elastiklikni yo'qotish (%)	Tola uzunligining qisqarishi (%)	Tsellyuloza parchalanishi (%)	Rang o'zgarishi (ΔE)	Mikrostrukturadagi o'zgarish (%)
1	60	30	8.2	9	1.7	2	1.2	4
2	60	60	7.8	11	1.6	2.2	1.5	5
3	60	120	6.5	14	2.2	4	2.5	7

№	Harorat (°C)	Quritish vaqti (daq)	Namlik darajasi (%)	Elastiklikni yo'qotish (%)	Tola uzunligining qisqarishi (%)	Tsellyuloza parchalanishi (%)	Rang o'zgarishi (ΔE)	Mikrostrukturadagi o'zgarish (%)
4	80	30	8.0	8.88	1.5	1.8	1.2	5

Izohlar: Paxta tolasidagi elastiklik, uzunlik va rangdagi o'zgarishlar quritish vaqti va haroratiga bog'liq. Optimal harorat 60-70°C atrofida, 30-40 daqiqa davomida quritish yaxshi natijalarga olib keladi.

Kontaktli quritishning ta'siri. Kontaktli quritish usulida paxta tolasining sifatidagi o'zgarishlar quyidagi jadvalda keltirilgan:

3-jadval (Kontaktli quritishning paxta tolasiga tasiri)

№	Paxta navi	Quritish harorati (°C)	Quritish vaqti (daq)	Namlik darajasi (%)	Elastiklikni yo'qotish (%)	Tola uzunligining qisqarishi (%)	Tsellyuloza parchalanishi (%)	Rang o'zgarishi (ΔE)	Mikrostrukturadagi o'zgarish (%)
1	Andijon-35	60	30	8	10	1.5	2	1.5	5
2	Andijon-35	60	60	7	12	2	3	2	6
3	Andijon-35	80	30	7.5	11	1.8	2.5	1.8	5.5
4	Andijon-35	80	60	6.5	14	2.2	3.5	2.2	7
5	Andijon-36	60	30	8.2	9	1.7	2	1.2	4
6	Andijon-36	60	60	7.8	11	1.6	2.2	1.5	5

Xulosa. Paxta tolasining sifatini oshirish va uning bozor talablari darajasida bo'lishini ta'minlash uchun quritish jarayonining harorat va vaqt parametrlarini to'g'ri tanlash muhim ahamiyatga ega. Tadqiqot davomida Andijon-35 va Andijon-36 navlarining paxta tolasiga quritishning turli usullari va harorat darajalarining ta'siri tahlil qilindi. Tadqiqot natijalari shuni ko'rsatdiki, quritish harorati va vaqti paxta tolasining fizik-mexanik xususiyatlariga sezilarli ta'sir ko'rsatadi. Tabiiy quritish usuli juda past samaradorlikka ega bo'lib, paxtaning sifatiga minimal ta'sir ko'rsatadi, chunki u asosan namlikni kamaytirishga qaratilgan. Tabiiy quritishda paxta namligi 2-3% ga kamayishi mumkin, ammo bu usul paxtaning umumiy sifatini yaxshilash uchun yetarli emas. Shu sababli, ko'pgina qayta ishlash korxonalari sun'iy quritish usullaridan foydalanishga o'tmoqda, chunki ular paxta tolasining sifatini sezilarli darajada yaxshilaydi.

Konvektiv va kontaktli quritish usullarining harorat va vaqt parametrlariga qarab paxta tolasida bir qator sifat o'zgarishlari kuzatiladi. Konvektiv usulda

haroratni 60-80°C oralig'ida belgilash paxta tolasining elastikligini, tola uzunligini va mikrostrukturasini sezilarli darajada yaxshilaydi. Ayniqsa, 60-70°C haroratda 30-40 daqiqa davomida quritish, namlik darajasini samarali kamaytirib, tolada minimal sifat yo'qotishlari bilan yuqori natijalar beradi. Ushbu usulda paxtani optimal harorat va vaqt rejimida quritish, tolaning asosiy ko'rsatkichlarini yaxshilaydi, xususan, rang o'zgarishi minimal darajada bo'ladi va tola mikrostrukturasining yaxlitligi saqlanadi.

Kontaktli quritish usulida esa harorat va vaqt parametrlarining ta'siri konvektiv usulga o'xshash bo'lib, paxta tolasining elastikligi va uzunligi sezilarli darajada yaxshilanadi. Ayniqsa, Andijon-35 navli paxtani 60°C haroratda 30-60 daqiqa davomida quritish, tolaning elastikligi va uzunligini saqlab qolishga yordam beradi. Shu bilan birga, Andijon-36 navida ham o'xshash natijalar qayd etildi. 60-70°C haroratda vaqti to'g'ri tanlanganida, bu navning tola sifati ham yaxshilanadi, ayniqsa rang o'zgarishi va mikrostruktura bo'yicha minimal salbiy ta'sirlar kuzatiladi.

Tadqiqot natijalari shuni ko'rsatadiki, paxta tolasining sifatini saqlab qolish va uni yuqori bozor talablariga javob beradigan darajada ta'minlash uchun quritish jarayonida harorat va vaqt parametrlariga diqqat bilan e'tibor qaratish zarur. Xususan, haroratni juda yuqori bo'lmagan darajada ushlab turish va quritish vaqtini maksimal darajada optimallashtirish kerak.

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TURIZM TARMOQLARI VA RIVOJLANISH ISTIQBOLLARI **(XORAZM VILOYATI MISOLIDA)**

Annotatsiya. Ushbu maqolada turizm tarmoqlari va ularning jahon miqyosda rivojlanishi hamda o‘ziga xos jihatlari tahlil qilingan. Turizm tarmoqlarining hududiy jihatlari bir qancha mamlakatlar va O‘zbekiston Respublikasi hamda Xorazm viloyati misolida qisqacha tadqiq qilingan.

Kalit so‘zlar: turizm, agro turizm, madaniy turizm, xizmat ko‘rsatish, turizm resurslari, turizm marshrutlari, turizm infratuzilmasi

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TOURISM NETWORKS AND DEVELOPMENT PROSPECTS **(using the example of the Khorezm region)**

Abstract. This article analyzes tourism networks and their global development and specific aspects. The territorial aspects of tourism industries are briefly studied in several countries and the Republic of Uzbekistan and the Khorezm region.

Keywords: tourism, agrotourism, cultural tourism, service provision, tourism resources, tourism routes, tourism infrastructure

Kirish. Bugungi kunda jahon miqyosida turizm yuqori daromad keltiruvchi iqtisodiyotning tarkibiy qismlaridan biri hisoblanadi. Aksariyat iqtisodiyoti rivojlangan mamlakatlarda yalpi ichki mahsulotda turizm sohasining ulushi juda yuqori ekanligi bilan ajralib turadi. Jumladan Fransiya (79,8 %), Gretsiya (78,9%), Buyuk Britaniya (78,3%), Belgiya (77,7%), Italiya (73,8%), kabi mamlakatlarda xizmat ko‘rsatish xususan turizm sohasining ulushi 70 foizdan ortiq ko‘rsatkichni tashkil etadi. Globallashuv jarayonida mamlakatlarning iqtisodiy ijtimoiy rivojlanganligining asosiy indekatorlaridan biri xizmat ko‘rsatish sektorining holati bilan baholanadi.

Rivojlanayotgan va o‘tish iqtisodiyotidagi O‘zbekiston Boliviya, Turkmaniston, Serbiya kabi mamlakatlarda xizmat ko‘rsatish sohalarining ulushi 50 foizdan oshmaydi. Bunday ko‘rsatkich ushbu mamlakatlarda xizmat ko‘rsatish va turizm sohasining bosqichma bosqich rivojlanayotganligini anglatadi.

Asosiy qism. Turizmning afzalligi uning xomashyo, murakkab infratuzilma talab qilmasdan yuqori daromad keltirishidir. **Turizm** – fransuzcha **tour-** sayr,

sayohat, sayyohlik- sayohat qilish, faol dam olish turlaridan biri. Turizm deganda jismoniy shaxsning doimiy istiqomat joyidan sog'lomlashtirish, ma'rifiy, kasbiy, amaliy yoki boshqa maqsadlarda borilgan joyda haq to'lanadigan faoliyat bilan shug'ullanmagan holda uzog'i bilan 1 yil gacha jo'nab ketish tushuniladi [1].

Quyida turizmning asosiy turlari quyidagilardan iborat.

Madaniy turizm - bu sayohatchilar mamlakat yoki din madaniyati, ayniqsa turmush tarzi va odamlar hayotini shakllantirgan boshqa elementlar bilan shug'ullanadigan joy. Sayyohlar marosimlar va festivallar kabi tegishli tadbirlarga sho'ng'ishadi. Dunyodagi mashhur madaniy turizm yo'nalishlaridan ba'zilari Madagaskardir; Lombok, Indoneziya; Latviya; Haida Gvayi, Britaniya Kolumbiyasi; Shimoliy Shri-Lanka; Chiang May, Tailand; Aristi, Gretsiya; G'arbiy Keyp, Janubiy Afrika va Tamilnadu, Hindiston. Xashimov Sh.J tomonidan Madaniy turizmni rivojlantirishda O'zbekistonda madaniy turizmning rivojlanishi va uning mamlakat xalqaro imidji yuksalishiga ko'rsatgan ta'siri masalalari tahlil qilingan. Tarixiy-madaniy turizmning madaniy turizm tarkibida tutgan o'rni va ahamiyati masalalari ko'rib o'tilgan. O'zbekistonda ham yuqorida ko'rsatilganturizm sohalarining deyarli berchasi tashkil etilgan bo'lib, keying yillarda tashrif buyurayotgan turistlar soni ortib bormoqda. Ayniqsa katta turistik salohiyatga ega bo'lgan Xiva shaxriga shaxsan Prezident SH.Mirziyoyev tomonidan katta e'tibor qaratilib, ko'plab davlat rahabrlari va martabali mehmonlar Xiva shaxriga mehmon qilinmoqda. Jumladan, Turkiya prezidenti Rajab Toyib Erdugan, Qirg'iz respublikasi prezidenti Sadir Jeparov, Rossiya federatsiyasi prezidenti Vladimir Putin Xiva shaxriga tashrif buyurib "Ochiq osmon ostidagi muzey" shahar bilan tanishganlar. Alohida ta'kidlash joizki, Xiva shaxrida turizmni rivojlantirish maqsadida juda katta investitsiyalar jalb qilinmoqda. Bundan tashqari 2020-yilda Turkiy dunyoning madaniy poytaxti, 2024-yilda esa Islom dunyosining turizm poytaxti bo'ldi.

Tibbiy turizm deganda davolanish uchun boshqa davlatga sayohat qiladigan odamlar tushuniladi. Rivojlangan mamlakatlardan odamlar arzon narxlarda davolanish uchun rivojlanayotgan mamlakatlarga boradilar. Dunyodagi mashhur tibbiy turizm yo'nalishlari Hindiston, Malayziya, Braziliya, Tailand, Meksika, Kosta-Rika, Tayvan, Janubiy Koreya va Singapurdir. O.Umarovning tadqiqotlarida tibbiy turizmning rivojlanish tarixi, Amerika, Yevropa hamda uning Osiyodagi ko'lami, tibbiy turistlarning asosiy muammolari va uning yechimi, O'zbekistonda tibbiy turizm, shuningdek, yangi "exchange program in medical tourism" ni tibbiyot oliygohlari bilan hamkorlikda tadbqiq etish bilan bog'liq taklif, mulohazalar keltirilgan

Diniy turizm, shuningdek, **e'tiqod turizmi** muqaddas joylarga alohida yoki guruh bo'lib sayohat qilishni anglatadi. Bu joylarga madaniy, tarixiy va diniy ahamiyatini bilmoqchi bo'lgan diniy e'tiqodsiz sayyohlar ham tashrif buyurishadi. Dunyodagi mashhur diniy turizm yo'nalishlari: Shvedagon pagodasi, San-Vitale bazilikasi, Makka, Xarmandir Sohib, Osmon ibodatxonasi, Bahai bog'lari, Vatikan, Vat Rong Khun, Avliyo Bazil sobori, Paro Taktsang, Ispaniya sinagogasi va Quddus. Kurbanova M tomonidan diniy turizm, ziyorat va turizmning kelib chiqish

tarixi ilmiy asoslanib, tushunchalarining mohiyati nazariy jihatdan yoritib berilgan, xorijiy olimlar tomonidan berilgan ta'riflar tahlil qilingan.

Agroturizm odatda fermer xo'jaliklarida sodir bo'ladi. Bu sayohatchilarga qishloq hayotini boshdan kechirish, mahalliy taomlarni tatib ko'rish va turli dehqonchilik vazifalari bilan tanishish imkoniyatini beradi. Ushbu turdagi turizm Italiyada fermer xo'jaligi turizmi deb ham ataladi. Agroturizmning ba'zi turlari to'g'ridan-to'g'ri bozor agroturizmi, tajriba va ta'lim agroturizmi va dam olish agroturizmidir. M.Roman, E.Tog'aymurodov tomonidan Samarqand viloyati fermer xo'jaliklari misolida agroturizmni rivojlantirish imkoniyatlari statistik tahlil, logistik regressiya metodlaridan foydalangan holda tadqiq qilingan. Viloyatda agroturizmning rivojlantirish bo'yicha fermer xo'jaliklarining geografik o'rni logistika imkoniyatlaridan samarali foydalanishga qaratilgan taklif tavsiyalar ishlab chiqilgan [2].

Ekoturizm buzilmagan tabiiy hududlarga tashrif buyurishni o'z ichiga oladi. Bu atrof-muhitni asrash va mahalliy aholi farovonligini oshirishga yordam beradi. Dunyodagi eng yaxshi ekoturizm yo'nalishlari qatoriga Alyaska, Amazonka, Antarktida, Avstraliyaning Moviy tog'lari, Borneo, Botsvana, Kosta-Rika, Dominika, Galapagos orollari va Himoloy tog'lari kiradi. Azamova S.A tomonidan O'zbekiston ekologik muhitining ekologik globallashuv jarayoni asosida o'zgarayotgani, ekologik munosabatlarning tarixiy tajribalar natijasida meyoriy rivojlanganligi, milliy ekologik qarashlar, tasavvur va bilimlar jahon ekologik madaniyati rivojiga ta'sir etganligi va ularga adekvatligi falsafiy asoslab berilgan.

Sarguzasht turizmi - sayohatchilar kutilmagan hodisalarni kutishlari mumkin bo'lgan uzoq joylarni o'rganishni o'z ichiga oladi. Bu yangi madaniyat yoki yangi landshaft bilan bog'lanishni va ayni paytda jismoniy faollikni o'z ichiga oladi. Sarguzasht turizmining ba'zi turlari kunduzgi yurish, ryukzak, zip astar, erkin tushish, rafting, tog' velosipedi, chang'i va snoubordni o'z ichiga oladi. Daminov M. tomonidan sarguzasht turizmini rivojlantirish yo'llari, sarguzasht turizmi rivojlangan hududlar, sarguzasht turizmida qatnashuvchi turistlarning tafavutlari, sarguzasht turizmining yo'nalishlari, sarguzasht turizmidagi muommolar, sarguzasht turizmining salmog'i, bu turizm orqali mamlakatlarga tushadigan daromadlar, marketingning turizm sohasidagi o'rni, sarguzasht turizmida qatnashuvchilarning ulushlari va ularga yechimlar to'g'risida bayon qilingan.

Rasmiy statistik ma'lumotlar turizm sohasining yaqin yillar ichida sayyohlar oshib borishi bilan O'zbekiston iqtisodiyotida yetakchi o'rinlarni egallab kelayotganligini isbotlamoqda. 2023-yil hisobi bo'yicha taxminan 7 millionta sayyohlar yurtimizga turli maqsadlarda tashrif buyurishdi. Bu ko'rsatkichni 2024-yil uchun prognoz natijalariga ko'ra, sayyohlar sonini 10 milliontaga oshirish belgilandi [6].

Xorazm viloyati O'zbekistonning eng boy tarixiy-madaniy merosiga ega hududlaridan biri bo'lib, turizm sohasida katta salohiyatga ega. Viloyatda 255 ta madaniy meros obyekti davlat ro'yxatiga olingan, shulardan 53 tasi Xiva shahridagi "Ichon-Qal'a" Davlat muzey qo'riqxonasida joylashgan [3].

Viloyatda turizmni rivojlantirishda bir qancha islohotlar va maxsus davlat dasturlari amaliyotga joriy qilinmoqda. Jumladan, O‘zbekiston Respublikasi Prezidentining qarori, 04.05.2017 yildagi PQ-2953-son “2017 — 2021-yillarda Xorazm viloyati va Xiva shahrining turizm salohiyatini kompleks rivojlantirish Dasturi to‘g‘risida”gi Prezident qarori Xiva shaxri turizm resruslaridan yanda samarali foydalanish ishlarini jadallashtirmoqda.

Hozirgi kunda Viloyatda mehmonxonalar soni ortib, turoperator va turagentliklar soni 50 tadan oshdi. Mehmonxonalardagi o‘rinlar soni esa yuqori suratlarda oshilimoqda. Bu o‘zgarishlar natijasida turizm sohasida faoliyat yuritadigan malakali xodimlarga ehtiyojni oshirmoqda.

Xorazm viloyatining turizm salohiyatini targ‘ib qilish maqsadida xalqaro yarmarkalarda ishtirok etilmoqda. Masalan, Qatarning Doha shahrida bo‘lib o‘tgan "Qatar Travel Mart" xalqaro turizm yarmarkasida viloyatning turizm salohiyati namoyish etildi. Shuningdek, viloyatda turizm sohasida mutaxassislar tayyorlash, qayta tayyorlash va malakasini oshirishga alohida e‘tibor qaratilmoqda. Bu borada qabul qilingan normativ-huquqiy hujjatlar va dasturlar asosida ishlar olib borilmoqda.

Xulosa. Xorazm viloyatining boy tarixiy-madaniy merosi, rivojlanayotgan infratuzilmasi va sayyohlik xizmatlarining takomillashuvi viloyatning turizm salohiyatini oshirishga xizmat qilmoqda. Albatta, sohani rivojlantirish uchun xalqaro bozorni monitoring qilish, ichki potensialni baholash, mavjud resurslardan samarali foydalanish, infratuzilmani shakllantirish hamda marketing faoliyatini kengaytirish kabi ishlarni bosqichma bosqich amalga oshirish zarur.

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THE ROLE OF EPITHETS IN SIMON ARMITAGE'S I SAY I SAY I SAY AND ABOUT HIS PERSON

Abstract: *This article explores the use of epithets in Simon Armitage's I Say I Say I Say and About His Person, focusing on how these descriptive devices evoke vivid imagery and convey complex themes of despair, identity, and memory. Drawing on insights from Leech's poetic stylistics, Halliday and Matthiessen's systemic functional linguistics, Galperin's Stylistics, and Baldick's analysis of literary terms, the study demonstrates how Armitage's epithets enhance the emotional resonance of his work and transform ordinary objects into profound symbols of human experience.*

Keywords: *Epithets, poetic imagery, stylistics, systemic functional linguistics, emotional resonance, symbolism, thematic analysis, descriptive modifiers, narrative depth, experiential meaning.*

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SIMON ARMITAGE EPITETLARINING ROLI MEN AYTAMAN MEN AYTAMAN VA UNING SHAXSI HAQIDA

Annotatsiya: *Ushbu maqola Saymon Armitijning I Say I Say I Say va About His Person she'rlarida epitetlardan foydalanishni o'rganadi. Unda bu tasviriy vositalar qanday qilib yorqin tasvirlarni yaratishi va umidsizlik, o'zlikni anglash hamda xotira kabi murakkab mavzularni ifodalashi ko'rib chiqiladi. Lichning poetik stilistikasi, Xollidey va Mettissenning tizimli funksional lingvistikasi, Galperinning stilistikasi va Baldikning adabiy atamalarga oid tahlillaridan foydalanilgan holda, tadqiqot Armitij epitetlarining uning ijodiy ishlariga qanday qilib kuchli hissiy rezonans keltirishi va oddiy obyektlarni inson tajribasining chuqur ramzlariga aylantirishi haqida ma'lumot beradi.*

Kalit so'zlar: *epitetlar, poetik tasvirlar, stilistika, tizimli funksional lingvistika, hissiy rezonans, ramzchilik, tematik tahlil, tasviriy modifikatorlar, hikoya chuqurligi, mazmunij tajriba.*

Epithets are an essential tool in poetry, serving to add emotional depth and vividness to the imagery. Defined by Baldick (2001) as descriptive modifiers that

encapsulate a subject's defining qualities, epithets are key to Armitage's ability to evoke complex emotional states. In *I Say I Say I Say* and *About His Person*, Armitage employs epithets to explore themes of despair, memory, and identity, transforming everyday objects into symbols of human fragility.

Galperin (1971) highlights the dual function of epithets: to provide an emotional evaluation of the object they describe and to imbue the narrative with a subjective perspective. This aligns with Leech's (1969) notion of linguistic foregrounding, where epithets stand out from the surrounding text to capture the reader's attention. Halliday and Matthiessen's (2004) systemic functional linguistics framework further positions epithets as essential in conveying both experiential and interpersonal meanings.

This study investigates the role of epithets in *I Say I Say I Say* and *About His Person* by addressing two key questions:

1. How does Armitage use epithets to portray despair and identity?
2. What is the symbolic and emotional significance of epithets in constructing poetic narratives?

The study employs a qualitative textual analysis of *I Say I Say I Say* and *About His Person*. Specific lines containing epithets were analyzed using Galperin's (1971) insights into the emotive and stylistic functions of epithets, Leech's (1969) framework for understanding linguistic foregrounding, and Halliday and Matthiessen's (2004) systemic functional linguistics perspective on nominal modifiers. Baldick's (2001) interpretation of the symbolic role of epithets was also utilized to explore their narrative impact.

In *I Say I Say I Say*, Armitage employs epithets to evoke the physical and emotional realities of self-harm. A striking example appears in the lines:

"A crimson tidemark round the tub, / a yard of lint, white towels washed a dozen times, still pink."

The epithet "*crimson tidemark*" encapsulates the aftermath of self-harm, blending the domestic familiarity of a bathtub with the starkness of violence. According to Halliday and Matthiessen (2004), epithets in the nominal group often modify meaning by adding an evaluative layer that amplifies the experiential depth of the text. Similarly, Galperin (1971) suggests that such emotionally charged epithets guide the reader's interpretation, creating a subjective perspective on the scene.

Another example of epithets as symbols of concealment appears in:

"A passion then for watches, bangles, cuffs."

Here, "*watches, bangles, cuffs*" symbolize the physical and emotional scars that the speaker seeks to hide. As Leech (1969) observes, such foregrounded details capture the reader's attention and emphasize the unspoken pain behind seemingly ordinary objects.

The dark humor of the poem is also reinforced through epithets, as seen in:

"Lashed by brambles picking berries from the woods."

The epithet "*lashed by brambles*" trivializes the gravity of self-inflicted wounds, reflecting societal discomfort with addressing such topics. Baldick (2001)

argues that such language serves to bridge the personal and universal, inviting readers to confront difficult themes while maintaining accessibility.

In *About His Person*, Armitage uses epithets to construct a fragmented narrative through an inventory of the deceased man's belongings. Each epithet carries symbolic significance, as illustrated in:

"A library card on its date of expiry."

The epithet *"on its date of expiry"* serves as a metaphor for the man's life reaching its conclusion. Galperin (1971) explains that epithets often carry connotative meaning, transforming mundane descriptions into symbols of greater emotional and thematic resonance.

Another evocative example appears in:

"A rolled-up note of explanation / planted there like a spray carnation / but beheaded, in his fist."

The epithet *"spray carnation"* invokes floral imagery associated with mourning, while *"beheaded"* disrupts this softness with a jarring note of violence. This duality reflects the tension between beauty and despair. Leech (1969) notes that such juxtapositions heighten emotional impact by creating moments of surprise and reflection.

The closing lines further highlight the emotional weight of epithets:

"No gold or silver, / but crowning one finger / a ring of white unweathered skin."

The phrase *"white unweathered skin"* signifies absence, hinting at unfulfilled relationships or solitude. Baldick (2001) describes this use of epithets as a way to evoke the *"invisible traces of human loss,"* transforming the ordinary into the extraordinary (p. 104).

The analysis reveals that Armitage's use of epithets enhances both the emotional and thematic complexity of his poetry. In *I Say I Say I Say*, epithets such as *"crimson tidemark"* and *"still pink"* confront the reader with the visceral realities of self-harm, evoking powerful visual and emotional imagery. In *About His Person*, phrases like *"spray carnation"* and *"white unweathered skin"* transform mundane items into profound symbols of absence and memory, demonstrating how simple descriptive modifiers can encapsulate universal human experiences.

Galperin's (1971) emphasis on the emotive power of epithets is particularly relevant in this context, as Armitage's language invites readers to engage deeply with the text's themes. Leech's (1969) concept of linguistic foregrounding further underscores the significance of epithets in capturing the reader's attention and emphasizing key moments of emotional resonance. According to Halliday and Matthiessen (2004), epithets contribute to the experiential function of language, combining descriptive and evaluative elements to deepen the meaning of the text.

Ashurova (2020) expands on this by emphasizing the interplay between culture and language, noting that linguistic elements such as epithets not only reflect individual emotions but also embody culturally significant experiences. Armitage's use of epithets aligns with this perspective, as his descriptions transcend the personal and connect with broader cultural notions of loss, identity, and memory.

The vivid imagery created by epithets like “*spray carnation*” taps into a shared cultural understanding of mourning and remembrance, making his work resonate across diverse audiences.

By integrating emotional, cultural, and linguistic dimensions, Armitage’s epithets serve as a bridge between the personal and universal, inviting readers to explore the deeper meanings behind ordinary objects. This multifaceted approach underscores the importance of epithets not only as descriptive tools but also as carriers of cultural and emotional depth.

Simon Armitage’s use of epithets in *I Say I Say I Say* and *About His Person* demonstrates his mastery of transforming ordinary objects into profound symbols of human experience. Through vivid imagery and emotional depth, Armitage constructs narratives that resonate universally while remaining deeply personal. Future research could explore his use of epithets across a broader range of his work or compare his approach to other contemporary poets.

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NEFT VA GAZ QAZIB OLISH JARAYONLARIDA OPTIMALLASHTIRISH USULLARI

Annotatsiya: Ushbu maqolada neft va gaz qazib olish jarayonlarida qo'llaniladigan optimallashtirish usullari tahlil qilinadi. Asosiy e'tibor jarayonlarni iqtisodiy va texnologik jihatdan samarali amalga oshirishga qaratilgan. Turli matematik modellarning qo'llanilishi, hisoblash usullari va ularning real hayotdagi tadbiqlari haqida batafsil ma'lumot beriladi. Tadqiqotda chiziqli va nolinear dasturlash, dinamik dasturlash va raqamli hisoblash usullarining sohada qanday ishlatilishi tahlil qilingan.

Kalit so'zlar: Optimallashtirish, neft va gaz, matematik modellar, hisoblash usullari, iqtisodiy samaradorlik, texnologik jarayonlar, quvurlar tizimi, rezervuar modellashtirish.

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OPTIMIZATION METHODS IN OIL AND GAS EXTRACTION PROCESSES

Annotation: This article analyzes optimization methods used in oil and gas production processes. The main focus is on economic and technological implementation of the processes. The use of various mathematical models is provided with detailed information about the methods of calculation methods and their real life. The study analyzes how to use linear and nurse programming, dynamic programming and digital calculation methods in the field.

Keywords: Optimization, oil and gas, mathematical models, calculation methods, economic efficiency, technological processes, piping systems, tubers system, reservoir modeling.

KIRISH

Neft va gaz sohasida qazib olish jarayonlarining samaradorligini oshirish bugungi kunda global iqtisodiyot uchun katta ahamiyatga ega. Ushbu jarayonlarning samaradorligini oshirish uchun optimallashtirish usullari keng qo'llaniladi. Optimallashtirish nafaqat qazib olish xarajatlarini kamaytiradi, balki atrof-muhitga salbiy ta'sirni minimallashtirishga ham xizmat qiladi. Neft va gaz qazib olishda texnologik jarayonlarning murakkabligi ko'plab o'zgaruvchilarni nazorat qilishni talab qiladi, bu esa matematik modellashtirish va hisoblash usullarining muhimligini oshiradi.

Bu maqola quyidagi savollarga javob berishga qaratilgan:
- Neft va gaz qazib olish jarayonlarida qaysi optimallashtirish usullari

qo'llaniladi?

- Ushbu usullar qaysi matematik asoslarga tayanadi?
- Real hayotdagi tadbiqlar va ulardan olinadigan natijalar qanday?

ADABIYOTLAR TAHLILI

Optimallashtirish usullarining neft va gaz sohasidagi tadbiqi bo'yicha bir qancha muhim tadqiqotlar amalga oshirilgan. Masalan, P. G. Sushko va boshqalarning ishlarida (2019) matematik dasturlash orqali quvurlar tizimida energiya sarfini minimallashtirish tahlil qilingan. Tadqiqotda oqimning matematik modellarini yaratish va ularni optimallashtirish usullari yordamida yechish yo'llari ko'rsatib berilgan.

Shuningdek, A. K. Smith va J. Doe (2021) o'z tadqiqotlarida rezervuarlar modellashtirishda gradient usullarining samaradorligini ko'rsatib bergan. Ushbu usul rezervuarlarni boshqarishda qazib olish hajmini maksimal qilishda qo'llaniladi. R. E. Bellman tomonidan ishlab chiqilgan dinamik dasturlash usuli esa qazib olish jarayonlarini vaqt o'zgarishiga mos ravishda optimallashtirish uchun keng qo'llaniladi.

Bundan tashqari, D. G. Luenbergning (2008) nolinear dasturlash bo'yicha tadqiqotlari murakkab texnologik jarayonlarni modellashtirishda muhim ahamiyatga ega.

ASOSIY QISM

1. Optimallashtirish usullari va ularning matematik asoslari

Neft va gaz qazib olish jarayonlarida qo'llaniladigan asosiy optimallashtirish usullari quyidagilarni o'z ichiga oladi:

1.1. Chiziqli dasturlash

Chiziqli dasturlash qazib olish xarajatlarini minimallashtirish va qazib olingan resurslarni optimal taqsimlash uchun ishlatiladi. Matematik model:

$$Z = c_1X_1 + c_2X_2 + \dots + c_nX_n$$

cheklovlar:

$$a_{11}X_1 + a_{12}X_2 + \dots + a_{1n}X_n \leq b_1$$

$$a_{m1}X_1 + a_{m2}X_2 + \dots + a_{mn}X_n \leq b_m$$

Ushbu modelda Z - xarajatlar funksiyasi, x_i - qazib olish jarayonining o'zgaruvchilari, c_i va a_{ij} esa iqtisodiy va texnologik koeffitsiyentlarni ifodalaydi.

1.2. Nolinear dasturlash

Murakkab qazib olish jarayonlarini modellashtirishda nolinear dasturlash usullari qo'llaniladi. Masalan, rezervuar bosimi va oqim tezligi orasidagi nolinear bog'liqliklar tahlil qilinadi:

$$Z = f(x_1, x_2, \dots, x_n),$$

bunda f — jarayonni ifodalaydigan nolinear funksiya.

1.3. Dinamik dasturlash

Dinamik dasturlash vaqtga bog'liq bo'lgan jarayonlarni optimallashtirishda qo'llaniladi. Masalan, qazib olish tezligini vaqt bo'yicha optimal boshqarish modeli:

$$V(t+1) = \max \{R(t) + \beta V(t)\},$$

bunda $R(t)$ - hozirgi qazib olish daromadi, β - diskontlash koeffitsiyenti.

2. Real hayotdagi tadbiqlar

2.1. Quvurlar tizimini optimallashtirish

Gaz yoki neftni quvurlar orqali tashish jarayonida energiya sarfini kamaytirish uchun oqim tezligi va bosim taqsimotini optimallashtirish ishlatiladi. Matematik modellar quvurlar uzunligi, diametri va gidravlik qarshilikni hisobga oladi.

2.2. Rezervuarni boshqarish

Rezervuarlardagi qazib olish jarayonini boshqarish uchun matematik modellar orqali optimal bosim va qazib olish hajmi aniqlanadi. Bu jarayonlarda nolinear dasturlash keng qo'llaniladi.

2.3. Burg'ulash jarayonlarining optimallashtirilishi

Burg'ulash yo'nalishlarini optimallashtirish orqali ish samaradorligini oshirish va xarajatlarni kamaytirish mumkin. Dinamik dasturlash usullari bu jarayonlarda qo'llaniladi.

XULOSA

Neft va gaz qazib olish jarayonlarida optimallashtirish usullarining qo'llanilishi nafaqat iqtisodiy samaradorlikni oshiradi, balki resurslardan oqilona foydalanish imkoniyatini yaratadi. Ushbu maqolada chiziqli va nolinear dasturlash, dinamik dasturlash va boshqa matematik usullarning amaliy tadbiqlari yoritildi. Kelgusida bu usullarning yanada rivojlanishi uchun matematik modellashtirish va kompyuter texnologiyalarining yangi yutuqlaridan foydalanish lozim.

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GENERAL CHARACTERISTICS OF CONSECUTIVE AND SIMULTANEOUS INTERPRETATION

Abstract: This study examines English-language translation discourse as a result of the implementation of translation strategies in consecutive and simultaneous oral translation.

Key words: *translation, linguistic aspects of translation, interlingual translation, professional activity, methods.*

In the modern world, due to the increase in the number of international contacts in various fields of activity, the role of oral translation is growing, especially translation into English, which is the language of international communication. It is for this reason that the study of the mechanisms of oral translation is of interest.

At present, the study of oral forms of translation is relevant for a number of reasons. Firstly, the very need of society to create fast forms of oral translation text, which are in demand by various media; secondly, the active development of translation studies in terms of creating theoretical models of oral translation. Finally, the study of English translation discourse as a separate element of linguistic research, due to its wide circulation. These aspects determine the relevance of this study.

Translation is considered as a process during which a speech product of the source language (SL) is re-created in the target language (TL), and the result of this process is a new speech product in the target language.

Theoretical understanding of the linguistic aspects of translation is carried out in the works of domestic and foreign researchers (Barkhudarov 1975; Komissarov 1973; Retsker 1950; Schweitzer 1988; Fedorov 1983; Catford 1965; Nida 1969, etc.). Nevertheless, simultaneously with linguistic research, an analysis of translation activity from the point of view of psychology is also developing (Artemov 1966; Belyaev 1963, 1965; Zimnyaya 1975, Lambert 1988, Dillinger 1994, etc.). This fact is proof of the “fruitfulness of linguistic study of translation” (Shiryaev 1979: 10).

Translation as one of the types of human activity and a form of interlingual mediation can be implemented in two ways: in writing and orally. Both methods, as forms of interlingual translation, represent the interpretation of a verbal sign through its translation into another language.

Oral translation is a process included in “communication using two languages”. It assumes a one-time perception due to the non-fixed form of the texts

of the FL and TL. The immateriality of information received in the process of oral translation is one of the factors that presents difficulties in implementing this type of activity.

Interpreting in the modern world is a serious professional activity. And, like any professional activity, “interpreting is a fusion of technique and art” (Aleksееva 2005: 3). It can be defined as an activity consisting of transmitting into the target language the most accurate and natural equivalent of an oral message in the source language. Interpreting is a process of oral transition of speech or text from one language to another based on invariant requirements that depend on the type of speech or text to be translated and the context in which the translation occurs; as well as the result of this process, since the product of such transition is perceived by the target audience as a translation. Interpreting is characterized by spontaneity, that is, the urgency of execution, without the possibility of maintaining a distance in time.

The essence of interpreting is that it is a process of transmitting understanding. Its usefulness is rooted in the fact that the meaning of the speaker's words is better expressed in his or her native language but is better understood in the language of the listeners. Also, the respect that is demonstrated when addressing the interlocutor in his or her native language contributes to the successful outcome of negotiations (Nolan 2005: 2).

Oral translation is carried out by implementing two stages - analysis and synthesis, brought to automatism.

Other authors define oral translation as a three-phase process. According to D. Seleskovic, the following three stages of oral translation can be distinguished:

1. Listening to a linguistically significant signal that is perceived, analyzed and understood on an intellectual level;
2. After the first stage is completed, this signal is intentionally forgotten, leaving only a mental image;
3. A new linguistic signal is created in another, translating language.

These three stages occur simultaneously in such a way that different messages are found at each stage of the process. And the entire process is characterized as instantaneous and irrevocable (the latter - in the case of simultaneous interpretation).

There are two types of oral interpretation: consecutive and simultaneous.

In consecutive interpretation, the interpreter begins to voice the text of the TL only after the speaker has finished speaking or part of it. Thus, this type of translation can also have a paragraph-phrase model of implementation and, if necessary, be accompanied by taking notes.

Simultaneous translation is performed by the interpreter simultaneously (or with a slight delay) with the pronunciation of the translated text.

All types of oral translation are characterized by the combination of speech-thinking actions. During simultaneous translation, the interpreter must simultaneously listen (perceive) information and speak, and during consecutive translation, take notes while perceiving the translation and subsequently read the

notes made in parallel with the reproduction of the translation. All types of oral translation presuppose the active involvement of mental mechanisms, since they require the interpreter to simultaneously implement different types of activity, make quick decisions, store large amounts of information in memory, have a high degree of concentration and the ability to correctly distribute attention. Nevertheless, consecutive translation differs primarily from simultaneous translation by the so-called ear-voice span (EVS) - the time division between the perception of the source text and the reproduction of the translated text. Consecutive interpreting is also characterized by a much greater load on working memory, the presence of active interpersonal relationships with the participants in the communication, a different scope of application, and the use of translator's shorthand.

Oral interpreting can be carried out at a level of understanding sufficient for communication, but not corresponding to the proper design of the utterance. Or, when translating, an idiomatic level can be achieved, when the translation "is completely adequate and sounds easy, natural, beautiful, with the correct combination of words" (Chuzhakin 2007: 15).

Any "communication situation is understood by the communicant within the framework of his social experience" (Sorokin, Tarasov, Shakhnarovich 1979: 19). For this reason, the model of the oral interpreting situation, as one of the types of speech activity, in addition to other factors, will be determined by such parameters as the social experience of the communicants, on the one hand, and the tasks and motive of the activity, on the other.

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OPTIK MATERIALLAR VA FOTONIKA ELEMENTLARINING ZAMONAVIY TAHLILI

Annotatsiya: *Optik materiallar yorug'likni uzatish, sochish, sinish, yutish va aks ettirish kabi xususiyatlarga ega bo'lgan materiallardir. Bu materiallar turli optik tizimlarda, jumladan, ko'zoynaklar, optik tolalar, lazerlar, fotosensitiv materiallar va boshqalarda qo'llaniladi.*

Kalit so'zlar: *Fotonika, Optik aloqa va telekommunikatsiya, nanofotonika va metamateriallar, kimyoviy modifikatsiya, polimerizatsiya, nanotexnologiya.*

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MODERN ANALYSIS OF OPTICAL MATERIALS AND PHOTONIC ELEMENTS

Abstract: *Optical materials are materials that have properties such as light transmission, scattering, breaking, absorption, and reflection. These materials are used in various optical systems, including eyeglasses, optical fibers, lasers, photosensitive materials, and others.*

Keywords: *Photonics, Optical communication and telecommunication, Nanophotonics and metamaterials, Chemical modification, Polymerization, Nanotechnology.*

Optik materiallar va fotonika — ilm-fan va texnologiyaning ikki muhim sohasi bo'lib, ular yorug'likning xususiyatlari, uning materiallar bilan o'zaro ta'siri va turli tizimlarda qo'llanilishi bilan bog'liq. Quyida bu sohalar haqida qisqacha ma'lumot beraman. Optik materiallar — yorug'likni uzatish, sochish, sinish, yutish va aks ettirish kabi xususiyatlarga ega bo'lgan materiallardir. Bu materiallar turli optik tizimlarda, jumladan, ko'zoynaklar, optik tolalar, lazerlar, fotosensitiv materiallar va boshqalarda qo'llaniladi. Optik materiallarning asosiy turlari:

1. Optik shishalar (masalan, soda va qalay shishalari) yorug'likni o'ziga tortish xususiyatiga ega bo'lgan materiallar.
2. Ko'zoynaklar va optik linzalar: yorug'likning sinishini nazorat qilish uchun ishlatiladigan materiallar.
3. Polimerlar va plastiklar: ko'plab optik qurilmalarda ishlatiladi, masalan, optik tolalarda.
4. Fotokristallar fotonlarni ta'sir etish yoki modifikatsiya qilish uchun ishlatiladigan materiallar.

Fotonika — bu yorug'lik (fotonlar) bilan bog'liq texnologiyalar va ilm-fan sohasidir. Fotonika yorug'likni yaratish, ishlov berish, o'zgartirish, uzatish va o'lchash bilan bog'liq barcha jarayonlarni o'z ichiga oladi. Fotonika asosan quyidagi sohalarda qo'llaniladi. Optik aloqa tizimlari: Optik tolalar yordamida ma'lumotlarni uzatish texnologiyalari. Lazer texnologiyalar lazerlar turli sohalarda, jumladan, tibbiyot, sanoat, ilmiy tadqiqotlarda qo'llaniladi. Kvant fotonika: Fotonlarning kvant xususiyatlaridan foydalangan yangi texnologiyalarni, masalan, kvant kompyuterlar va kvant kommunikatsiyalarni rivojlantirish. Fotonik sensorlar: Yorug'likni o'lchovchi va detektorlash vositalari, ular atrof-muhitni monitoring qilish, xavfsizlik va sanoatda ishlatiladi.

Fotonika — bu yorug'lik va uning modifikatsiyasiga asoslangan texnologiyalarni o'rganadigan fan sohasidir. Fotonika sohasining asosiy ob'ekti fotonlar (yorug'lik zarrachalari) bo'lib, ular elektromagnit to'lqinlar sifatida xususiyatlarga ega. Fotonika — yorug'likni yaratish, boshqarish, o'tkazish va qayta ishlash bo'yicha ilmiy va texnologik jarayonlarni o'z ichiga oladi. Fotonika zamonaviy texnologiyalar, masalan, optik aloqa, lazerlar, optik sensorlar, mikroskopiya va fotovoltaik qurilmalar kabi sohalarda muhim rol o'ynaydi.

Optik mikroskopiya va fotonik tasvirlash texnologiyalari mikro va nano miqyosda materiallarni o'rganishda yordam beradi. Fotonika yordamida bir nechta qatlamli yoki uch o'lchovli tasvirlar yaratish mumkin, bu ilmiy tadqiqotlarda va tibbiyotda muhim ahamiyatga ega.

Nanofotonika va metamateriallar Nanofotonika yorug'likni nano o'lchamda boshqarish va o'rganishni o'z ichiga oladi. Bu texnologiyalar yuqori samarali qurilmalar va tizimlar yaratish uchun ishlatiladi. Metamateriallar — bu materiallar oddiy materiallar o'rniga yangi fizik xususiyatlarga ega bo'lib, ular yorug'likni har xil yo'llar bilan boshqarishga yordam beradi.

Lazerlar keng qo'llaniladi: Tibbiyotda: lazerli jarrohlik, ko'zni davolash (masalan, lazerli ko'z operatsiyalari), tish davolash.

Sanoatda: materiallarni qayta ishlash, o'yma, kesish, payvandlash va boshqalar. Qurilmalarda: lazerli printerlar, optik disklar (DVD, Blu-ray) va lazerli skanerlar. Ilmiy tadqiqotlar: lazerlar, masalan, spektroskopiyada yoki materiallarning xususiyatlarini o'rganishda ishlatiladi. Fotovoltaik (Quyosh Energiya) Texnologiyalari Fotonika quyosh energiyasini elektr energiyasiga aylantiruvchi fotovoltaik hujayralarni ishlab chiqish uchun ishlatiladi. Fotovoltaik texnologiyalar quyosh nurlarini yutib, ularni elektr energiyasiga aylantiradi. Quyosh batareyalari (fotovoltaik panellar) to'g'ridan-to'g'ri quyosh nuridan foydalangan holda, uylar, sanoat qurilmalari va boshqa ob'ektlar uchun toza energiya manbaiga aylanadi. Nanofotonika yorug'lik va materiallar o'rtasidagi o'zaro ta'sirni nano o'lchamda o'rganadi.

Bu soha, ayniqsa, yangi texnologiyalar va qurilmalar yaratishda yordam beradi, chunki yorug'likni manipulyatsiya qilishda nano o'lchamdagi strukturalar yuqori samaradorlikka erishishni ta'minlaydi. Nanolentalar va nanostrukturalar yordamida yangi materiallar va optik qurilmalar ishlab chiqiladi, ular an'anaviy

optik materiallardan farq qiladi va ko'proq miniatyuralashgan tizimlar yaratishga imkon beradi.

Fotoniikka asoslangan Hisoblash Texnologiyalari Fotonik hisoblash — bu elektr signallari o'rniga yorug'lik signallarini ishlatadigan kompyuter tizimlaridir. Bu texnologiya yuqori tezlikda ishlashni va energiya samaradorligini oshirishga yordam beradi. Fotonik kompyuterlar kelajakda kompyuter texnologiyalarini yangilash, yangi va samarali hisoblash tizimlarini yaratish imkoniyatlarini taqdim etadi. Optik Tasvirlash va Mikroskopiya Fotonika orqali mikroskopiya va boshqa optik tasvirlash usullari yordamida materiallarning mikro va nano strukturalarini aniqlash mumkin. Bu ilmiy tadqiqotlar uchun, masalan, biologik tizimlarni o'rganish, materiallar ilmda yangi xususiyatlarni aniqlash uchun kerak. Fluoresan mikroskopiya, konfokal mikroskopiya kabi usullar yuqori aniqlikdagi tasvirlarni yaratish imkonini beradi.

Metamateriallar — bu tabiiy materiallarga nisbatan yangi fizik xususiyatlarga ega bo'lgan materiallardir. Ular yorug'likni, ovozni yoki boshqa to'lqinlarni boshqarish uchun ishlatiladi. Masalan, negativ sinish yoki kamchiliklardan qochish kabi xususiyatlar metamateriallar yordamida amalga oshiriladi.

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KOSMIK TADQIQOTLAR VA MATERIALLAR FIZIKASI

Abstract. Space research and material physics are important fields of modern science that enable the study of outer space and the development of new materials designed to perform under extreme conditions. Cosmic vacuum, radiation, microgravity, and high-energy radiation create unique environments in which material properties undergo significant changes. These studies help in the creation of materials that are resistant to extreme temperatures, radiation, and vacuum, which are crucial for successful space missions.

Keywords. Space research, material physics, cosmic vacuum, space radiation, microgravity, thermal insulation, high-energy radiation, nanomaterials, space technologies.

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SPACE RESEARCH AND MATERIALS PHYSICS

Annotatsiya. Kosmik tadqiqotlar insoniyat uchun yangi imkoniyatlar ochmoqda. Kosmosni o'rganish nafaqat boshqa sayyoralar va galaktikalarni tadqiq etish, balki Yerning o'ziga ham yangicha qarashlar ochmoqda. Kosmik missiyalar yordamida yuqori energiyali fizika, nurlanish, magnetizm, gravitatsiya va boshqa murakkab jarayonlarni chuqurroq tushunish imkoniyati yaratilmoqda.

Kalit so'zlar. Kosmik tadqiqotlar, materiallar fizikasi, kosmik vakuum, radiatsiya, mikrografiya, issiqlik izolyatsiyasi, koinot, nanomateriallar.

Kosmik tadqiqotlarning boshlanishi XX asrning o'rtalariga to'g'ri keladi. 1950-yillarda Sovet Ittifoqi va AQSH o'rtasidagi "kosmik poyga" kosmosni o'rganishda katta turtki bo'ldi. Sovet Ittifoqi tomonidan 1957 yilda "Sputnik-1" sun'iy yo'ldoshi uchirilganida, insoniyat tarixida birinchi marta sun'iy ob'ekt Yer atmosferasidan tashqariga chiqqan bo'ldi. Bu, o'z navbatida, kosmik tadqiqotlarning boshlanishi sifatida qabul qilinadi. Sovet kosmonavti Yuri Gagarin 1961 yilda kosmosga uchib, Yer orbitasida birinchi bo'lib aylanib chiqdi. Bu kashfiyot koinotga insonning ilk chiqishi bo'lib, kosmik tadqiqotlar tarixida yana bir muhim qadam edi. AQSH tomonidan yuborilgan Apollo 11 missiyasi orqali Neil Armstrong va Buzz Aldrin 1969 yilda Oyga qo'ngan birinchi odamlar bo'ldi. Bu voqea kosmik tadqiqotlar sohasidagi eng ulkan yutuqlardan biri

hisoblanadi. 1970-yillardan boshlab, kosmik tadqiqotlar yanada rivojlanib, yangi texnologiyalar va missiyalarni o'z ichiga oldi. 1971 yilda Sovet Ittifoqi tomonidan "Salyut-1" kosmik stansiyasi orbitaga chiqarildi. Bu yerda kosmonavtlar uzoq vaqt davomida yashab, ilmiy tajribalar o'tkazishdi. Keyinchalik, AQSH va boshqa davlatlar ham o'z kosmik stansiyalarini yaratishga kirishdilar. Marsga yuborilgan "Curiosity" va "Perseverance" roverlari masalan, o'zlarining sun'iy intellekti yordamida geologik tahlil va tasvirlar olishadi. Elon Muskning SpaceX kompaniyasi kosmik sanoatni tubdan o'zgartirdi. 2012 yilda SpaceXning "Dragon" kapsulasi Xalqaro Kosmik Stansiyaga birinchi xususiy yuk tashish missiyasini amalga oshirdi. Keyinchalik, ularning reaktivlarining qayta ishlanishi, kosmik tashish xarajatlarini ancha kamaytirdi. NASA ning "Perseverance" roveri 2021 yilda Marsga yuborilib, uning yuzasini o'rganish va potentsial hayot izlarini topishga harakat qildi. Shuningdek, "Osiris-Rex" missiyasi asteroidga yetib borib, uning namunalari Yerga olib keldi.

Kosmosda materiallarning xususiyatlari Yerda ko'rishimiz mumkin bo'lgan sharoitlardan ancha farq qiladi. Kosmik sharoitlar materiallarning fizik xususiyatlariga, jumladan mexanik kuch, issiqlik, nurlanish va vakuumga ta'sir ko'rsatadi. Bu, materiallar fizikasi sohasida keng qamrovli tadqiqotlarni amalga oshirishni talab qiladi. Quyida kosmosdagi asosiy sharoitlar va ular materiallarning xususiyatlariga qanday ta'sir qilishini ko'rib chiqamiz. Kosmosda deyarli vakuum sharoiti mavjud, ya'ni havo yoki boshqa gazlar juda kam. Bu sharoitda materiallar bir necha tarzda o'zgarishi mumkin: Kosmik vakuumda moddalar, ayniqsa suyuqliklar, atmosferadagi bosimning o'zgarishi tufayli o'zining fazasini (suyuqdan gazga yoki qattiq holatga) o'zgartirishi mumkin. Misol uchun, suyuqliklar tezda bug'lanishi yoki muzlashishi mumkin. Kosmik vakuumda materiallar o'zaro ishqalanishsiz harakat qiladi. Bu, kosmik kemalar va apparatlarning ishqalanishdan xoli bo'lishini ta'minlaydi, bu esa ularning uzoq muddatli ishlashini yaxshilaydi. Yerda atmosferadagi kislorod va suv bug'lari materiallarni korroziya va oksidlanishdan himoya qilmaydi. Ammo kosmik vakuumda, atmosferaning mavjud emasligi sababli, bu jarayonlar deyarli sodir bo'lmaydi. Kosmosda yuqori darajadagi ionlashgan nurlanish mavjud, bu nurlanish asosan quyosh va boshqa yulduzlar tomonidan chiqariladi. Kosmik radiatsiya materiallarga va elektron tizimlarga ta'sir qiladi: Kosmik radiatsiya va yadro nurlanishlari materiallarning ichki tuzilishini o'zgartirishi, atomlar va molekulalarning bog'lanishini buzishi mumkin. Bu materiallarning mexanik, elektr va optik xususiyatlariga ta'sir ko'rsatishi mumkin. Kosmik radiatsiya materiallarning poydevorlarini, masalan, plastmassalarni, metallarni va boshqa moddalarni yoshi qo'shishiga olib keladi, natijada ular materiallarning mustahkamligini va barqarorligini yo'qotishi mumkin. Kosmik kemalar va kosmonavtlar uchun maxsus radiatsiyaga chidamli materiallar talab qilinadi. Bunga misol sifatida plazma qatlamlarini yoki suv bilan to'ldirilgan ekranlarni keltirish mumkin. Kosmik kemalarda issiqlik va radiatsiyani izolyatsiya qilish uchun maxsus materiallar ishlatiladi. Kosmosda harorat juda past bo'lishi mumkin, bu yerda harorat -270°C ga yetishi mumkin, ya'ni absolut nolga juda yaqin. Bunday sharoitlar materiallarning fizikaviy xususiyatlariga sezilarli ta'sir qiladi.

Kosmosda materiallar juda past haroratga duchor bo'ladi. Metallarning mustahkamligi va moslashuvchanligi o'zgaradi. Misol uchun, qattiq materiallar sovuq sharoitlarda mo'rt bo'lishi mumkin, bu esa mexanik xususiyatlarga ta'sir ko'rsatadi. Kosmosdagi haroratning keskin o'zgarishlari, kosmik kemalarning tashqi yuzasida issiqlik va sovutish tizimlarini ishlab chiqish zaruratini keltirib chiqaradi. Bu tizimlar materiallarning barqarorligini va funktsionalligini ta'minlashga yordam beradi. Kosmosda materiallar past harorat ta'sirida sezilarli darajada qisqaradi, shuningdek, yuqori haroratda kengayadi. Bu holat materiallarning mexanik kuchiga, shuningdek, kosmik kemandagi o'z tuzilishini saqlashga ta'sir qilishi mumkin. Kosmosda mikrogravitatsiya sharoitlari mavjud, ya'ni Yerga nisbatan juda past og'irlik kuchi bo'ladi. Buning materiallar va moddalarga ta'siri quyidagicha bo'lishi mumkin. Mikrografining ta'siri ostida, materiallar, ayniqsa suyuqliklar, ko'proq sirtli va osmondagi shakllarda bo'lishi mumkin.

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KIRISHMA TARKIBI VA MATERIALLAR XUSUSIYATLARINI O'ZGARTIRISH

Annotatsiya. Kirishma tarkibi va materiallar xususiyatlarini o'zgartirish, materiallar ilm-fanida, ayniqsa, muhandislik, kimyo va materialshunoslik sohalarida keng qo'llaniladi. Bunda maqsad, materialning fizik, kimyoviy yoki mexanik xususiyatlarini ma'lum bir vazifa yoki ilova uchun moslashtirishdir

Kalit so'zlar: Kirishma tarkibi o'zgartirish, Materiallar xususiyatlarini o'zgartirish, termal ishlov berish, kimyoviy modifikatsiya, polimerizatsiya, nanotexnologiya.

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MODIFICATION OF ALLOY COMPOSITION AND MATERIAL PROPERTIES

Abstract. Modification of alloy composition and material properties is widely applied in the field of materials science, especially in engineering, chemistry, and material science. The aim is to adapt the physical, chemical, or mechanical properties of a material for a specific task or application.

Keywords: alloy composition modification, material property modification, thermal treatment, chemical modification, polymerization, nanotechnology.

Kirishma tarkibi va materiallar xususiyatlarini o'zgartirish, materiallar ilm-fanida, ayniqsa, muhandislik, kimyo va materialshunoslik sohalarida keng qo'llaniladi. Bunda maqsad, materialning fizik, kimyoviy yoki mexanik xususiyatlarini ma'lum bir vazifa yoki ilova uchun moslashtirishdir. Bu materialga qo'shilgan komponentlarni yoki elementlarni o'zgartirish orqali uning xususiyatlarini o'zgartirish jarayonidir. Masalan, metallni qotishmalarga aylantirishda, unga boshqa metall yoki elementlar qo'shiladi. Materiallar xususiyatlarini o'zgartirish – bu materialning mavjud tarkibini o'zgartirish orqali uning fizik, kimyoviy, mexanik yoki boshqa xususiyatlarini o'zgartirish jarayonidir. Bunga quyidagilar kiradi:

1. Termal ishlov berish
2. Mexanik ishlov berish
3. Kimyoviy modifikatsiya
4. Nanotexnologiya
5. Polimerizatsiya

Bunday o'zgartirishlar materiallarning mustahkamligini, elastikligini, korroziyaga chidamliligini, issiqlik yoki elektr o'tkazuvchanligini yaxshilash kabi turli xil ehtiyojlarga moslashishini ta'minlaydi.

Metallarning kirishma tarkibini o'zgartirish orqali ularning mexanik, korroziyaga chidamlilik yoki boshqa xususiyatlari yaxshilanadi. Temirni karbon bilan aralashtirish orqali po'lat hosil bo'ladi. Metallarga, ayniqsa po'latga, yuqori haroratda ishlov berish orqali martensit fazasi hosil bo'ladi, bu esa materialning qattiqligini sezilarli darajada oshiradi. Po'latning tarkibini o'zgartirish (masalan, xrom yoki nikel qo'shish orqali) uning mustahkamligini, elastikligini yoki korroziyaga chidamliligini yaxshilashga imkon beradi. Xrom va nikel qo'shilishi tufayli yuqori korroziyaga chidamlilikka ega bo'lgan qotishma ishlab chiqariladi.[1-6]

Polimerlarning tarkibini o'zgartirish orqali ularning fizik va kimyoviy xususiyatlari o'zgartiriladi. Polimerlarga boshqa materiallar, masalan, tolalar, minerallar yoki boshqa polimerlar qo'shilishi orqali ularning mexanik mustahkamligi, issiqlikka chidamliligi yoki elektr o'tkazuvchanligi yaxshilanadi. Polimer molekulalarini kimyoviy reaksiyalar yordamida bog'lash orqali ularning termal va mexanik xususiyatlari yaxshilanadi. Polimerlar kimyoviy reaksiyalar orqali ularning strukturasini o'zgartirish orqali yangi xususiyatlar berish mumkin. Misol uchun, poliamid (nylon) va polietilen (PE) kabi polimerlarning xususiyatlarini o'zgartirish orqali ularni issiqlikka, kimyoviy ta'sirlarga yoki mexanik yuklarga chidamli qilish mumkin. Polimer zanjirlarini kimyoviy yoki fizik usullar bilan bir-biriga bog'lash orqali polimerning qattiqligini va mexanik xususiyatlarini oshirish mumkin. Bu usulning eng oddiy misoli vulkanizatsiyalashdir.[7-10]

Kompozit materiallar – ikki yoki undan ortiq komponentlardan iborat materiallar bo'lib, har bir komponent o'ziga xos xususiyatlarga ega. Kompozit materiallarda kirishma tarkibini o'zgartirish quyidagicha amalga oshiriladi: Uglerod tolasi yoki aralash tolalar bilan mustahkamlangan plastmassa. Tarkibdagi tolalar miqdori va turi materialning kuchini, elastikligini yoki boshqa xususiyatlarini o'zgartiradi. Keramika va metal yoki boshqa materiallar birlashtirilishi orqali yuqori issiqlik va mexanik mustahkamlikka ega kompozit materiallar hosil qilinadi.[8-15]

Nanomateriallar va nanokirishmalar, masalan, karbon nanotubalar yoki grafen kabi elementlar yordamida materialning xususiyatlarini o'zgartirish. Nanomateriallarning kirishma tarkibini o'zgartirish orqali: bu moddalar va tizimlarning nanometr (1 nanometr = 1 milyarddan bir qism) o'lchamdagi miqyosida o'rganilishi, ishlab chiqilishi va qo'llanilishi bilan bog'liq bo'lgan fan va texnologiya sohasidir. Nanotexnologiya, asosan, materiallarni, qurilmalarni va tizimlarni yaratishda, ularning xususiyatlarini nanometr darajasida o'zgartirishga imkon beradi. Nanotexnologiya sohasida ishlov berilgan materiallar o'zining o'lchamidan qat'i nazar, ancha yaxshilangan mexanik, termal, elektr va kimyoviy xususiyatlarga ega bo'ladi. Nanotexnologiya asosiy yo'nalishlari quyidagilar: Nanotexnologiya yordamida yaratadigan materiallar juda kichik o'lchamlarga ega, masalan, nanotrubkalar, nanodisks, nanoxaltalar va boshqa nanomateriallar. Bu

materiallar ko'pincha odatdagi materiallarga qaraganda kuchliroq, engilroq va chidamlirroq bo'ladi. Misol uchun, uglerodning nanotruvkalari juda yuqori kuchga, elastiklikka va elektr o'tkazuvchanlikka ega. Nanomashinalar bu nanoskopik o'lchamdagi mexanik qurilmalar, masalan, nanomotorlar, nanorobotlar va mikroskopik ishlov berish tizimlari.[16-20]

Nanomateriallar hujayralarga ta'sir qilish yoki o'tkazuvchanlikni yaxshilash, dori vositalarini maqsadli joylarga etkazish, tahlil qilish va diagnostika qilish uchun ishlatiladi. Masalan, nanobotlar kasalliklarni aniqlashda yoki dori moddalarini to'g'ridan-to'g'ri zararlangan hududlarga yuborishda ishlatilishi mumkin.

Metallni yoki boshqa materiallarni o'rtacha yoki yuqori haroratda qizdirib, keyin ularga turli usullar bilan sovutish (masalan, havo, suv, yoki moy bilan). Bu jarayon materialning mexanik xususiyatlarini o'zgartiradi. Termal ishlov berish materialning qattiqligi, chidamliligi, qarshilik ko'rsatishi va boshqalar kabi sifatlarini yaxshilashga yordam beradi. Har bir jarayon aniq material va uning kerakli xususiyatlariga qarab tanlanadi. Kimyoviy modifikatsiya bu materialning kimyoviy tarkibini yoki uning yuzasini o'zgartirish jarayonidir.

Bu, materialning xususiyatlarini yaxshilash yoki yangi xususiyatlarni kiritish maqsadida amalga oshiriladi. Kimyoviy modifikatsiya materialning kimyoviy reaksiyalar orqali o'zgarishini ta'minlaydi, bu esa uning mexanik, termal, korroziyaga chidamliligi va boshqa xususiyatlariga ta'sir qiladi. Kimyoviy modifikatsiyaning asosiy turlari quyidagilar: Materialning faqat yuzasini kimyoviy o'zgartirish, bu orqali materialning korroziyaga chidamliligini oshirish yoki yopishqoqligini yaxshilash mumkin. Masalan, metall yuzasiga xususiy qoplama materiallarini qo'llash (misol uchun, galvanizatsiya, kislota bilan ishlov berish) orqali bu xususiyatlar yaxshilanadi.

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IONLASHTIRUVCHI NURLANISH TA'SIRIDA MgF_2 KRISTALLARINING DEFEKTLI TUZILISHLARI VA ULARNING OPTIK XOSSALARIGA SALBIY TA'SIRI

Annotatsiya. Mazkur maqolada ionlashtiruvchi nurlanishning MgF_2 kristallarining tuzilishiga va optik xossalariga salbiy ta'siri o'rganilgan. MgF_2 kristallari yuqori optik tozaligi va UV nurlariga chidamliligi bilan tanilgan bo'lsa-da, ionlashtiruvchi nurlanish ta'sirida ularning strukturasida defektlar, nuqsonlar va ionlashgan atomlar paydo bo'lishi mumkin. Bu esa kristallning optik uzatish va yutilish qobiliyatiga salbiy ta'sir ko'rsatadi. Maqolada, ionlashtiruvchi nurlanishning salbiy ta'sirini kamaytirish yoki oldini olish uchun kristallning tozaligini oshirish, dopantlar qo'llash, himoya qoplamalari ishlatish va nurlanish dozasini nazorat qilish kabi choralar tavsiya etilgan. Bundan tashqari, yangi materiallar va kompozitlar ishlab chiqish orqali MgF_2 kristallarining nurlanishga qarshi chidamliligini oshirish imkoniyatlari ko'rib chiqilgan. Ushbu tadqiqot, MgF_2 kristallarining uzoq muddatli ishlashini ta'minlash va ilmiy hamda sanoat sohalarida samarali foydalanish uchun muhim ahamiyatga ega.

Kalit so'zlar. MgF_2 kristallari, ionlashtiruvchi nurlanish, optik xossalar, defektlar, dopantlar, himoya qoplamalari, kristall tuzilishi, nurlanishga chidamlilik, optik uzatish, kompozit materiallar.

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DEFECTIVE STRUCTURES OF MgF_2 CRYSTALS AND THEIR NEGATIVE IMPACT ON OPTICAL PROPERTIES UNDER IONIZING RADIATION

Abstract. This paper examines the negative effects of ionizing radiation on the structure and optical properties of MgF_2 crystals. While MgF_2 crystals are known for their high optical purity and UV radiation resistance, exposure to ionizing radiation can lead to defects, vacancies, and ionized atoms in their structure. These changes negatively affect the optical transmission and absorption capabilities of the crystals. The paper proposes measures to reduce or prevent the adverse effects of ionizing radiation, such as improving crystal purity, using dopants, applying protective coatings, and controlling radiation dose. Additionally, the development of new materials and composites is discussed as a way to enhance the radiation resistance of MgF_2 crystals. This research is crucial for ensuring the long-term performance of MgF_2 crystals and their effective use in scientific and industrial applications.

Keywords. *MgF₂ crystals, ionizing radiation, optical properties, defects, dopants, protective coatings, crystal structure, radiation resistance, optical transmission, composite materials.*

Ionlashtiruvchi nurlanish — bu atom va molekulalarni ionlashtirish qobiliyatiga ega bo‘lgan yuqori energiyali nurlar, masalan, rentgen nurlari, gamma nurlari, va zarrali nurlar (alfa, beta va protonlar) bilan bog‘liq bo‘lgan jarayonlar. Bu nurlar materiallarni ionlash va energetik darajalarni o‘zgartirish orqali materiallarning strukturasiga ta’sir qiladi. Ionlashtiruvchi nurlanishning materiallarga ta’sirini o‘rganish, ayniqsa, yuqori energiyali qurilmalarda ishlatiladigan materiallar uchun juda muhim.

Ionlash: Elektronlar yoki protonlar o‘z energiyalarini berib, atom yoki molekulalarni ionlashtirishi mumkin.

Radikal shakllanishi: Nurlanish ta’sirida molekulalardan radikallar yoki ionlar hosil bo‘lishi mumkin, bu esa kristallning kimyoviy va fizika-kimyoviy xossalarini o‘zgartiradi.

Termik va mexanik ta’sirlar: Yuqori energiyali zarrachalar kristall tuzilmasida issiqlik hosil qilish orqali mexanik stresslarni keltirib chiqarishi mumkin.

MgF₂ kristallari yuqori optik tozalikka ega bo‘lib, UV va rentgen nurlanishiga qarshi kuchli chidamlilikka ega. Biroq, ionlashtiruvchi nurlanish ta’siri kristallarning tuzilishini va xossalarini o‘zgartirishi mumkin. Quyida ionlashtiruvchi nurlanishning MgF₂ kristallari tuzilishiga ta’sir ko‘rsatadigan asosiy jarayonlar keltirilgan:

Vakantlar — bu nurlanish ta’sirida Mg yoki F atomlarining kristall strukturasidan chiqib ketishidir. Vakantlar kristallning umumiy tuzilishini buzadi va optik xossalarini yomonlashtiradi.

Iyonlashgan atomlar — ionlashtiruvchi nurlanish natijasida kristalldagi atomlar elektronlarini yo‘qotadi, natijada ionlar hosil bo‘ladi. Bu holat kristallning elektr o‘tkazuvchanligini o‘zgartirishi va uning optik spektrini o‘zgartirishi mumkin.

Dislokatsiyalar — kristallning mukammal tuzilmasi buzilib, dislokatsiyalar, ya’ni kristallning qattiq strukturasida mayda uzilishlar yoki kesishmalar paydo bo‘ladi. Bu, o‘z navbatida, kristallning mexanik va optik xossalarini yomonlashtiradi.

Sublattitsiya nuqsonlari — bu nurlanishning ta’siri natijasida bir atom o‘z joyini o‘zgartirishi yoki kristall tuzilmasining qismlarini boshqa joyga ko‘chirishidir.

Materialning chidamliligi: Kristallar nurlanishdan zarar ko‘rganidan so‘ng, ularning mexanik mustahkamligi va optik xossalari yomonlashadi, bu esa ularni maxsus ilmiy va sanoat qurilmalari uchun kam ishlatishga olib keladi.

Ionlashtiruvchi nurlanishning MgF₂ kristallariga ta’sirini kamaytirish uchun quyidagi choralar ko‘rilishi mumkin:

Kristallning tozaligini oshirish: Yaxshi ishlab chiqilgan va toza MgF_2 kristallari nurlanishga qarshi ko'proq chidamli bo'ladi.

Himoya qoplamalarini qo'llash: MgF_2 kristallarini ionlashtiruvchi nurlanishdan himoya qilish uchun maxsus qoplamalar qo'llanishi mumkin.

Yuqori chidamlilikka ega yangi materiallar yaratish: Nurlanish ta'sirini kamaytirishga yordam beradigan yangi materiallar, masalan, doplangan yoki qo'shimcha qatlamlarga ega kristallar ishlab chiqish mumkin.

Ionlashtiruvchi nurlanish ta'siri MgF_2 kristallarining strukturasi va optik xossalariга salbiy ta'sir ko'rsatadi. Bu ta'sir kristallning defektli tuzilishini, optik uzatish va yutilish xossalari yomonlashtirishi, shuningdek, uzoq muddatli ishlash imkoniyatini pasaytirishi mumkin. Biroq, bir qator choralar orqali bu kamchiliklarning oldini olish yoki kamaytirish mumkin:

Kristallning tozaligini oshirish: Yuqori sifatli, defektsiz kristallar ishlab chiqarish, nurlanishga qarshi chidamliligini oshiradi.

Dopantlar qo'llash: Dopantlar yordamida kristallning strukturasi mustahkamlash va nurlanish ta'siriga chidamliligini oshirish mumkin.

Himoya qoplamalari: Kristallarni maxsus qoplamalar bilan himoya qilish orqali nurlanish ta'sirini kamaytirish mumkin.

Nurlanish dozasini nazorat qilish: Nurlanishning ta'sirini qisqartirish, kristallning uzoq muddatli ishlashini ta'minlaydi.

Yangi materiallar va kompozitlar: MgF_2 kristallari bilan birgalikda yangi materiallar ishlab chiqish, nurlanishga qarshi chidamliligini oshiradi.

Kelgusida bu yondashuvlar, nurlanishdan zarar ko'rgan MgF_2 kristallarining samarali ishlashini ta'minlashga yordam beradi va ularning turli ilmiy va sanoat sohalaridagi ishlash muddatini uzaytiradi. Shuningdek, materiallarni yaxshilash bo'yicha yangi texnologiyalar va yondashuvlar ishlab chiqish zarur.

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TASHQI TASIR OSTIDA ISHLOVCHI GENERATORNING SXEMASINI TADQIQ QILISH

Annotatsiya. *Radiouzatuvchi qurilmalarda, tashqi ta'sir ostida ishlovchi generator sxemasini o'rganish va siljitish zanjirini tadqiq qilish.*

Kalit so'zlar: *Amplituda, chastota, faza, radiouzatuvchi qurilmalar, generator, generator sxemasi, xabar, elektrik kattalik, signal, past chastotali tebranish.*

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INVESTIGATION OF THE CIRCUIT OF A GENERATOR OPERATING UNDER EXTERNAL INFLUENCE

Abstract. *Study of the circuit of the generator operating under external influence and research of the shift chain in radio transmitting devices.*

Key words: *Amplitude, frequency, phase, radio transmitters, generator, generator scheme, message, electric quantity, signal, low-frequency vibration.*

Xabarlarni uzoq masofalarga uzatish uchun uni elektrik kattalikka, ya'ni dastlabki signalga o'zgartiriladi. Dastlabki signal past chastotali tebranishlar hisoblanadi. Uzatish kanallari orqali dastlabki signalni uzatish uchun uni modulyatsiyalash orqali yuqori chastotali tebranishlarga o'zgartiriladi. Modulyatsiyalash deb yuqori chastotali garmonik tashuvchi tebranishning biror bir parametirini (amplitudasini, chastotasini, yoki fazasini) past chastotali birlamchi signalning o'zgartirish qonuniga mos ravishda o'zgarishiga aytiladi.

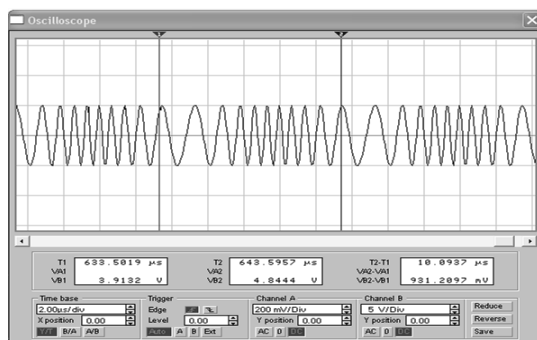
Ko'p hollarda xabarni uzoq masofaga uzatishda yuqori chastotali sinusoidal tebranishlardan foydalaniladi,

$$S(t) = A \sin(\omega_0 t + \varphi_0). \quad (1.1)$$

Bu tashuvchi uchta parametr: A -amplitudasi; ω_0 -tebranish chastotasi va φ_0 -boshlang'ich fazasi bilan baholanadi. Ushbu tashuvchining har bir parametrini uzatiladigan nisbatan past chastotali analog yoki raqamli signalga mos ravishda o'zgartirib, amplitudasi modulyatsiyalangan (AM); chastotasi modulyatsiyalangan (CHM) va fazasi modulyatsiyalangan (FM) signalni olish mumkin. Shunday qilib:

$$\text{AM da } A(t) = A_0 + \Delta A_k U_n(t); \quad (1.2)$$

$$\text{CHM da } \omega(t) = \omega_0 + \Delta\omega kU_n(t); \quad (1.3)$$

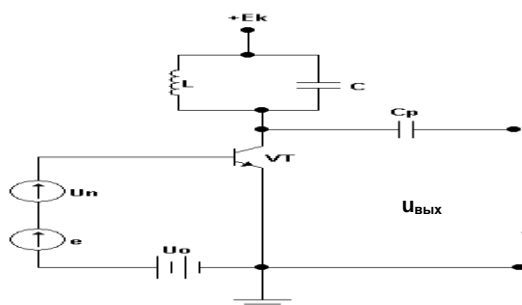


$$\text{FM da } \varphi(t) = \varphi_0 + \Delta\varphi kU_n(t); \quad (1.4)$$

bo`ladi, bunda k -proporsionallik koeffitsienti.

Amplitudali modulyatsiyada signalning amplitudasi past chastotali axborotli signalga to`g`ri proporsional hisoblanadi.

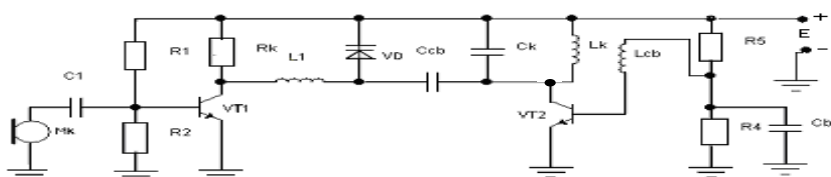
Amplitudali modulyator qurilmasini loyihalashda ko`pincha rezonans quvvat kuchaytirgichlaridan foydalaniladi(1.3-rasm).



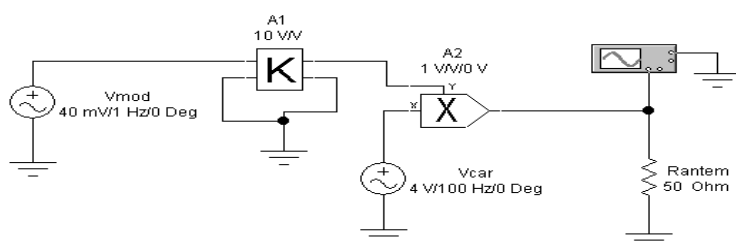
1.3-rasm. Rezonans kuchaytirgich asosidagi amplitudali modulyator

Chastotali modulyatsiya, modulatsiyalanuvchi signalning tebranishlarning oniyli chastotasi bilan chiziqli bog`lanishga egaligi bilan xarakterlanadi. Chastotali modulyatorning sodda sxemasi 1.4-rasmda ko`rsatilgan, undan ko`rinib turibdiki, amplitudali modulyatsiyadan farqli, chastotali modulyatsiya bevosita uzatuvchining generatorida amalga oshiriladi.

1.4-rasm. Chastota modulyatorining sxemasi



Electronics Workbench paketi vositalaridan foydalanib bajarilgan, amplitudali va chastotali modulyatsiyali RUQ strukturalari 1.5 va 1.6-rasmlarda ko`rsatilgan. Amplitudali modulyatsiyali RUQ signalni past chastotali modulyatsiya qiluvchi Vmod manbaaga (real RUQlarda bu manba mikrafon, magnitafon va boshqalar bo`lishi mumkin), yuqori chastotali tebranishlarni tashib yuruvchi Vcar manbaaga, modulyatsiyalanuvchi past chastotali signalni kuchaytirgich - A1, noxiziqli kuchaytirgich – A2 modulyator (signallarni ko`paytirgich) va sxemada ekvivalent qarshiliklar - Ranten qilib tasvirlangan antennaga egadir.



1.5-rasm. Amplitudali modulyatsiyali RUQ strukturalari

Chastota modulyatsiyali RUQ (1.6-rasm) Vfm yuqori chastotali modulyatsiyalangan signal manbaasiga (real RUQlarda varikapli avtogenerator, chastotali chiqishga ega avtogeneratorli o`zgartirgich va boshqalar bo`lishi mumkin), modulyatsiyalangan A1 signalni kuchaytirgich va Ranten antennaga egadir.

Signallarni modulyatsiyalovchi va tashuvchi manbaalar quyidagi ko`rinishdagi past chastotali(PCH) va yuqori chastotali(YUCH) tebranishlarni shakllantiradi:

$$\begin{aligned} V_{\text{mod}} &= U_{\text{mod}} \cos \Omega_{\text{mod}} t, \\ V_{\text{car}} &= U_{\text{car}} \cos \omega_{\text{car}} t. \end{aligned} \quad (1.5)$$

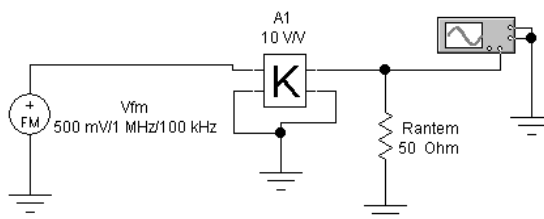
Modulyatsiyalangan YUCH signallar amplitudali va chastotali modulyatsiyalashda quyidagi vaqtli tasavvurlarga ega bo`ladi.

$$\begin{aligned} V_{\text{am}} &= U_{\text{car}} (1 + M \cos \Omega_{\text{mod}} t) \cos \omega_{\text{car}} t \\ V_{\text{fm}} &= U_{\text{car}} \cos \omega_{\text{car}} (1 + M \cos \Omega_{\text{mod}} t) t \end{aligned} \quad (1.6)$$

bu yerda, M –modulyatsiyaning chuqurlik indeksi.

Amplitudali buzilishlar (ideal holatlarda) bo'lmagan hollarda, amplitudali va chastotali modulyatsiyada $M = k \cdot U_{\text{mod}}$ ga teng bo'ladi, bu yerda k – modulyatsiyalash xarakteristikasining tikligi hisoblanadi.

1.6-rasm. Chastota modulyatsiyali RUQ strukturalari va signalning



ossillogramasi

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CHASTOTA KUCHAYTIRGICHNI TADQIQ QILISH

Annotatsiya. Radiosignal uzatuvchi qurilmalarda chastota kuchaytirgichi (ko'paytirgichi)ni tadqiq qilish. Chastota ko'paytirgichlaridan juda yuqori chastotali barqaror kvarsli avtogeneratorni yaratishning iloji bo'lmagan holatlarda foydalaniladi.

Kalit so'zlar: Radio, signal, radiosignal, modulyatsiyasi, tashuvchi to'lqinlar, amplituda, amplituda modulyatsiyasi, tashuvchi signallar.

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INVESTIGATION OF A FREQUENCY AMPLIFIER

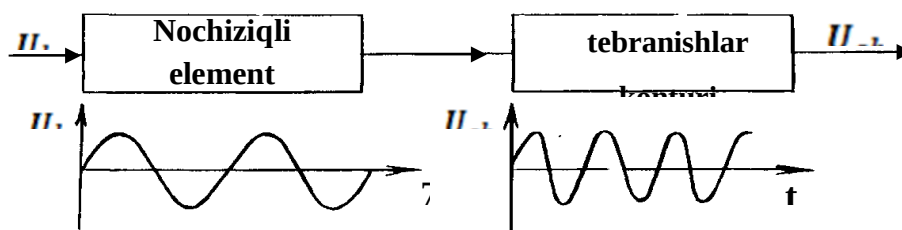
Abstract. Research of frequency amplifier (multiplier) in radio signal transmitting devices. Frequency multipliers are used in situations where it is impossible to create a stable quartz autogenerator with a very high frequency.

Key words: Radio, signal, radio signal, modulation, carrier waves, amplitude, amplitude modulation, carrier signals.

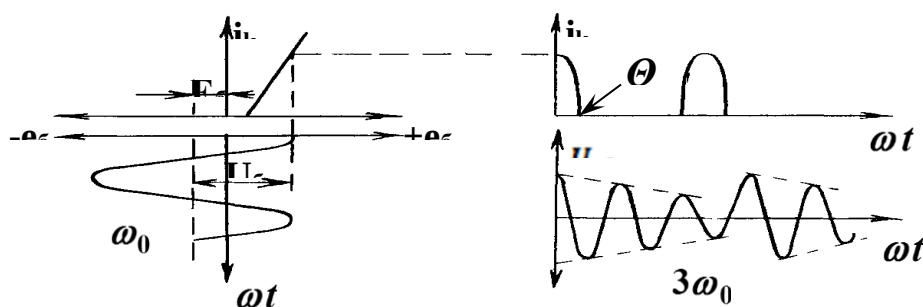
Chastota ko'paytirgichi deb - tebranishlar chastotasini butun son bo'yicha bir necha marotabaga oshirishga mo'ljallangan qurilmaga aytiladi. Chastota ko'paytirgichlaridan juda yuqori chastotali barqaror kvarsli avtogeneratorni yaratishning iloji bo'lmagan holatlarda foydalaniladi. Chastota ko'paytirish operatsiyasini quyidagicha ifodalash mumkin:

$$u_k = U_1 \cos \omega t \rightarrow u_{ch} = U_2 \cos n\omega t$$

bu yerda $n=2,3,4 \dots$ – ko'paytirish koeffitsienti. Chastotani ko'paytirish maqsadida nochiziqli yoki parametrik elementlardan foydalaniladi. Kerakli garmonikani ajratib olish uchun, filtr yoki garmonika chastotasiga sozlangan tebranishlar konturidan foydalaniladi (1-rasm).



1-rasm. Filtr yoki garmonika chastotasiga sozlangan tebranishlar konturi



2-rasm. Chastotani uch marotaba ko`paytiruvchining ishlash diogrammasi

Nochiziqli elementli chastota ko`paytirgichlari garmonikli deb atalib, tashqi ta'sir ostida ishlovchi generatorlar bazasida yaratiladi. Chastotani 3 marotaba ko`paytiruvchi chastota ko`paytirgichining ishlash diogrammasi ( $n = 3$ ) 2-rasmda ko`rsatilgan. 3-rasmda differensial kuchaytirgich asosida yaratilgan chastota ko`paytirgich sxemasi ko`rsatilgan.

Chastota ko`paytirgichining Electronics Workbench dastur paketidan foydalanib yig'ilgan sxemasi 4 - rasmda ko`rsatilgan. Ko`paytirgichning  $n$  ko`paytirish koeffitsienti ikkidan to'rtgacha bo'lgan diapazonda yotadi. Kompyuterda hisoblashlarni amalga oshirishdan oldin tebranishlar konturining parametrlarini, Q -sifatlilik 20 dan 40gacha bo'lgan diapazonda aniqlash kerak bo'ladi.

Parallel konturning sifatlilik $Q = Rc/\rho$ bo'lib, bu yerda Rc – konturdagi qarshilik yo`qotishlari yig'indisi bo'lib, u parallel ulangan kollektorli qarshiliklar va ko`paytirgichning tashqi yuklanish rezistorlariga teng hisoblanadi, ρ -konturning xarakteristik qarshiligi bo'lib, quyidagicha aniqlanadi:

Ishni bajarish tartibi

- Kirish va chiqishdagi signallarning ossillogrammasi olinadi. Ularni taqqoslab, chastota ko`paytirgichining ko`paytirish koeffitsienti tekshiriladi. Bu ossillogrammani o`qlar bo'yicha ko`rsatilgan masshtabda chiziladi.

- Ossillografni tranzistorning emitter zanjiridagi rezistorga ulab, tranzistorning emitterida garmonik signal hosil bo'lishi ko`riladi. Bu signalni yuzaga kelishi sabablarini va uning kirishdagi garmonik signal shaklidan farqlanishini tushuntirib bering. Tranzistorning VAXsidan foydalanib, tranzistorning emitter toki impulsi amplitudasini hisoblang.

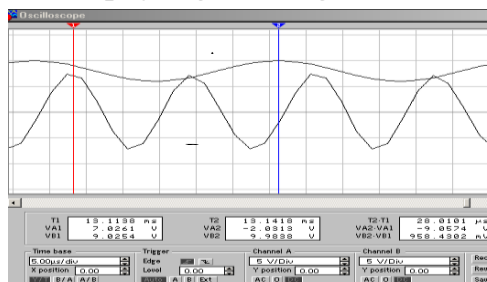
- Chastota ko`paytirgichining amplituda xarakteristiklari olinadi. Kirish signalini 0,1 Vgacha va undan kamiga kamaytirishda ko`paytirgich chiqishdagi kuchlanishning pasayishi kuzatiladi.

- Kirish signalining chastotasini kamaytirib, ko`paytirish koeffitsientiga nisbatan kuchaytirilgan signal hosil qilinadi.

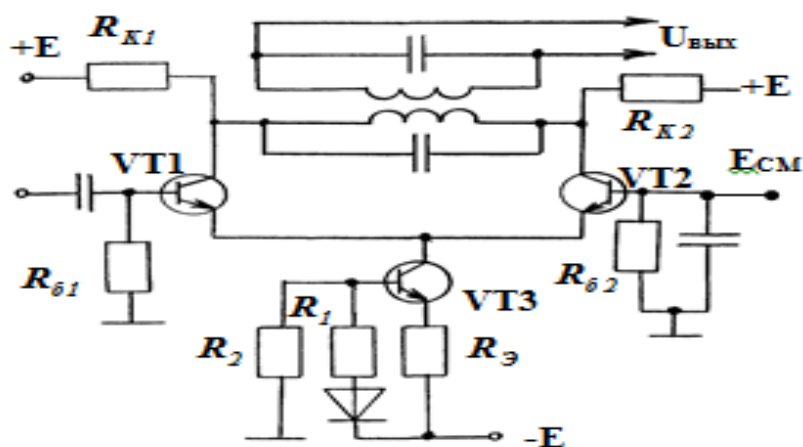
- Kirishga amplitudali modulyatsiyalangan signal generatori ulanadi va modulyatsiyalangan signalga chastota o`zgartirgichi kiritgan xalaqitlarni tadqiq qilinadi (5-rasm).

• Chastota ko'paytirgichining A kirish va V chiqish ossillogrammasi 6-rasmda ko'rsatilgan.

6- rasm. Chastota ko'paytirgichining A kirish va V chiqish



ossillogrammasi



7-рasm. Differensial kuchaytirgich asosidagi chastota kupaytirgich prinsipial sxemasi

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RADIOSIGNALLAR MODULYATSIYASI: AMPLITUDA BO'YICHA MODULYATSIYALANGAN (AM) RADIOSIGNALLAR

Annotatsiya. Radiosignallar modulyatsiyasi — radioaloqa tizimlarida informatsiyani uzatish uchun foydalaniladigan asosiy texnologiyalardan biri. Modulyatsiya signallarning tashuvchi to'lqinlarini o'zgartirib, ularga ma'lumot yuklash jarayonidir. Amplituda bo'yicha modulyatsiya (Amplitude Modulation, AM) modulyatsiyaning eng ko'p qo'llaniladigan usullaridan biri bo'lib, unda signalning amplitudasi uzatilayotgan ma'lumotga bog'liq ravishda o'zgaradi.

Kalit so'zlar: Radio, signal, radiosignal, modulyatsiyasi, tashuvchi to'lqinlar, amplituda, amplituda modulyatsiyasi, tashuvchi signallar.

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RADIO MODULATION: AMPLITUDE MODULATED (AM) RADIO SIGNALS

Abstract. Modulation of radio signals is one of the main technologies used to transmit information in radio communication systems. Modulation is the process of changing the carrier waves of signals and loading them with information. Amplitude Modulation (AM) is one of the most widely used modulation methods, in which the amplitude of the signal changes depending on the information being transmitted.

Key words: Radio, signal, radio signal, modulation, carrier waves, amplitude, amplitude modulation, carrier signals.

Modulyatsiyaning asosiy tushunchalari - Radiosignallar modulyatsiyasi ma'lumotni elektr signallar shaklida kodlashni o'z ichiga oladi. Bu jarayonda ikkita asosiy signal ishtirok etadi:

1. Tashuvchi signal (carrier signal): Yuqori chastotali va past amplitudali sinusoidal to'lqin.

2. Modulyatsiyalovchi signal (modulating signal): Uzatilishi kerak bo'lgan ma'lumot yoki signal (masalan, ovoz yoki video).

Modulyatsiyaning asosiy maqsadi uzatilayotgan signalni elektromagnit to'lqinlar orqali uzoq masofalarga yetkazishdir.

Amplituda bo'yicha modulyatsiya (AM)

Amplituda modulyatsiyada tashuvchi signalning amplitudasi modulyatsiyalovchi signalning qiymatiga bog'liq ravishda o'zgaradi. Bunda chastota va faza doimiy bo'lib qoladi. AM signalning matematik ifodasi quyidagicha yoziladi:

$$s(t) = [A_c + m(t)] \cos(2\pi f_c(t))$$

Bu yerda:

- A_c — tashuvchi signal amplitudasi,
- $m(t)$ — modulyatsiyalovchi signal,
- f_c — tashuvchi signal chastotasi,
- $s(t)$ — modulyatsiyalangan signal.

Amplituda modulyatsiya prinsipi

1. Tashuvchi signal: Tizimda asosiy signalni uzatish uchun ishlatiladi. Bu yuqori chastotali va doimiy amplitudaga ega.
2. Modulyatsiyalovchi signal: Uzatiladigan ma'lumot (masalan, musiqa yoki ovoz).
3. Natijaviy signal: Modulyatsiyadan so'ng hosil bo'lgan signal, unda tashuvchi signalning amplitudasi modulyatsiyalovchi signalga mos ravishda o'zgaradi.

Amplituda modulyatsiyaning afzalliklari va kamchiliklari

Afzalliklari:

1. Texnik jihatdan soddaligi: AM texnologiyasini ishlab chiqarish va amalga oshirish arzon va oson.
2. Keng qo'llanilishi: Ovozli axborotlarni uzatishda keng ishlatiladi.
3. Tarkibiy qismlarning oddiyligi: Modulyatsiya va demodulyatsiya uchun oddiy texnik uskunalar yetarli.

Kamchiliklari:

1. Past samaradorlik: AM signallarning energiyasining asosiy qismi tashuvchi signalga ketadi.
2. Shovqin sezgirlik: Tabiiy va sun'iy shovqinlar signal sifatini pasaytiradi.
3. Tor tarmoqli o'tkazuvchanlik: AM tizimlarida tarmoqli kengligi modulyatsiyalovchi signal chastotasi ikki barobariga teng bo'ladi.

Amplituda modulyatsiya qo'llaniladigan sohalar

1. Radioeshittirish: AM texnologiyasi FM (Chastota bo'yicha modulyatsiya) va raqamli tizimlar kelib chiqishidan avval keng ishlatilgan.
2. Aviatsiya va dengiz aloqalari: Qisqa to'lqinlar orqali uzoq masofalarga signal uzatishda ishlatiladi.
3. Soddalashtirilgan aloqa tizimlari: Past chastotali tizimlarda oddiy va arzon aloqa kanallarini yaratishda foydalaniladi.

Xulosa

Amplituda modulyatsiyasi radioaloqa texnologiyalari tarixida muhim ahamiyatga ega bo'lib, texnik jihatdan soddaligi sababli haligacha ko'plab sohalarda qo'llanilmoqda. Hozirgi kunda zamonaviy modulyatsiya usullari (masalan, FM va QAM) keng qo'llanilayotgan bo'lsa-da, AM o'zining texnologik o'rnini yo'qotgani yo'q.

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ZAMONAVIY TEXNOLOGIYALAR VOSITASIDA KORRUPSIYAGA QARSHI KURASHISH MASALALARI

Annotatsiya: *Korrupsiya har qanday davlat va jamiyat taraqqiyotiga jiddiy xavf soluvchi muammolardan biri hisoblanadi. U iqtisodiy o'sishni sekinlashtiradi, davlat boshqaruvi samaradorligini pasaytiradi hamda jamiytdagi adolat va tenglik prinsiplariga putur yetkazadi. Zamonaviy texnologiyalar esa korrupsiyaga qarshi kurashda samarali vosita sifatida namoyon bo'lmoqda. Raqamlashtirish, sun'iy intellekt, blokchain texnologiyalari va elektron hukumat tizimlari korrupsiya risklarini kamaytirishga, shaffoflikni oshirishga va hisobdorlikni ta'minlashga yordam beradi.*

Kalit so'z: *davlat va jamiyat, taraqqiyot, muammo, iqtisodiy o'sish, boshqaruv, samaradorlig, adolat va tenglik, zamonaviy texnologiyalar, korrupsiya, korrupsiyaga qarshi kurash, raqamlashtirish, sun'iy intellekt, blokchain texnologiyalari, elektron hukumat tizimlari, shaffoflik.*

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ISSUES OF FIGHTING CORRUPTION THROUGH MODERN TECHNOLOGIES

Abstract: *Corruption is one of the problems that seriously threatens the development of any state and society. It slows down economic growth, reduces the efficiency of public administration, and undermines the principles of justice and equality in society. Modern technologies are proving to be an effective tool in the fight against corruption. Digitization, artificial intelligence, blockchain technologies, and e-government systems help reduce corruption risks, increase transparency, and ensure accountability.*

Keywords: *state and society, development, problem, economic growth, governance, efficiency, justice and equality, modern technology, corruption, fight against corruption, digitalization, artificial intelligence, blockchain technologies, e-government systems, transparency .*

Zamonaviy texnologiyalar va ularning imkoniyatlari

1.Elektron hukumat tizimlari - Elektron hukumat fuqarolar va davlat tashkilotlari o'rtasidagi muloqot va xizmatlarni avtomatlashtirish orqali inson omilini kamaytiradi. Bu esa korrupsiya uchun imkoniyatlarni cheklaydi. Elektron davlat xizmatlari:

- Hujjatlarni to'ldirish va taqdim etishda inson omilini kamaytiradi;

- Xizmatlarning tezkor va shaffof taqdim etilishini ta'minlaydi;
- Qog'ozbozlikni kamaytirib, xarajatlarni qisqartiradi.

Masalan, O'zbekistonda "Yagona interaktiv davlat xizmatlari portal" orqali ko'plab xizmatlar onlayn tarzda taqdim etilishi natijasida xizmatlar uchun ortiqcha to'lovlarning oldi olinmoqda.

2.Blokchain texnologiyasi - Blockchain - bu haqiqiy hayotdagi voqealar haqidagi ma'lumotlarni saqlaydigan bugalteriya ma'lumotlar bazasi. Uni soxtalashtirish yoki o'chirish mumkin emas, lekin barcha yozilgan voqealarni tekshirish mumkin. Blokchain texnologiyasi korrupsiya muammosini yechishda katta imkoniyatlarga ega. Blokchain orqali amalga oshiriladigan tranzaksiyalar shaffof va o'zgartirilmas xususiyatga ega bo'ladi.

Bu texnologiyaning afzalliklari:

- Ma'lumotlar o'zgartirilmasligi tufayli hujjatlar soxtalashtirilishining oldi olinadi;

- Barcha tranzaksiyalar izohli bo'lib, kuzatib borish mumkin;
- Davlat xaridlarida va shartnomalarda shaffoflik ta'minlanadi.

Masalan, dunyoning ayrim davlatlari davlat xaridlari va tender tizimlarini blokchain texnologiyasi asosida yuritishni boshlab yuborgan.

3."Sun'iy intellekt va katta ma'lumotlar tahlili" - Sun'iy intellekt va katta ma'lumotlar tahlili korrupsiyaga qarshi kurashda yangi yondashuvlarni taqdim etmoqda. Bu texnologiyalar yordamida korrupsiya risklari oldindan aniqlanadi va prognoz qilinadi. Sun'iy intellekt yordamida:

- Korrupsiya xavfini yuqori darajada aniqlash mumkin;
- Moliyaviy operatsiyalar va davlat xarajatlarining shaffofligini nazorat qilish osonlashadi;

- Ma'lumotlar bazalari orqali noqonuniy harakatlarni aniqlash mumkin.

Misol sifatida, sun'iy intellekt yordamida davlat amaldorlarining moliyaviy faoliyatini kuzatish va daromadlari manbasini tahlil qilish amaliyotini keltirish mumkin.

4."Raqamli kuzatuv tizimlari" - Raqamli kuzatuv tizimlari korrupsiyaga oid noqonuniy harakatlarni real vaqt rejimida aniqlash imkonini beradi. Ushbu tizimlar orqali:

- Davlat amaldorlarining faoliyati onlayn tarzda nazorat qilinadi;
- Byudjet mablag'larining to'g'ri sarflanishi ustidan nazorat o'rnatiladi;
- Jinoyatchilik va huquqbuzarliklarning oldi olinadi.

Korrupsiyaga qarshi kurashda texnologiyalarning afzalliklari

1."Shaffoflikning oshishi": Zamonaviy texnologiyalar orqali davlat va jamiyat o'rtasidagi aloqalar shaffoflashadi.

2."Inson omilining kamayishi": Avtomatlashtirilgan tizimlar orqali inson aralashuvini kamaytirib, korrupsiya riskini pasaytirish mumkin.

3."Tezkor va samarali nazorat": Sun'iy intellekt va blokchain texnologiyalari orqali moliyaviy operatsiyalar tez va aniq nazorat qilinadi.

4."Fuqarolarning ishtiroki": Texnologiyalar fuqarolarga davlat boshqaruvida faol ishtirok etish imkonini beradi.

Xulosa. Zamonaviy texnologiyalar korrupsiyaga qarshi kurashda samarali va muhim vosita hisoblanadi. Elektron hukumat, blokcheyn, sun'iy intellekt va boshqa innovatsion texnologiyalar orqali shaffoflikni oshirish, hisobdorlikni ta'minlash va korrupsiya risklarini kamaytirish mumkin. Ushbu texnologiyalarning to'g'ri va keng qo'llanilishi natijasida davlat boshqaruvi samaradorligini oshirish hamda jamiyatda adolat va ishonchni mustahkamlash mumkin. Shu boisdan, korrupsiyaga qarshi kurashda texnologiyalarni keng joriy etish dolzarb masala hisoblanadi.

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OPTIK TOLALI ALOQA LINYASINING AFZALIGI VA KAMCHILIKLARI

Annotatsiya. Optik tolali aloqa liniyalari optik tolali aloqa shahar, mintaqaviy va federal aloqa tarmoqlarini qurish, shuningdek shahar avtomat telefon stantsiyalari o'rtasida tutashuv liniyalarini o'rnatish uchun faol ishlatiladi. Bu tola tarmoqlarining tezligi, ishonchliligi va yuqori o'tkazuvchanligi bilan bog'liq. Shuningdek, optik tolali kanallardan foydalanish orqali mavjud kabel televideniesi, masofadan turib videokuzatuv, videokonferentsiyalar va videoeshittirish, telemetriya va boshqa axborot tizimlari. Kelgusida optik-tolali tarmoqlarda nutq signallarini optik signallarga aylantirishdan foydalanish rejalashtirilgan.

Kalit so'zlar. Optik tolali aloqa liniyalari, optik tolali aloqa, mintaqaviy va federal aloqa, aloqa tarmoqlari, avtomat telefon, stantsiyalar, tolaning ishonchliligi va yuqori o'tkazuvchanligi, optik tolali kanal, kabel televideniesi, videokuzatuv, videoeshittirish.

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ADVANTAGES AND DISADVANTAGES OF OPTICAL FIBER COMMUNICATION LINE

Abstract. Optical fiber communication lines are actively used for the construction of city, regional and federal communication networks, as well as connecting lines between city automatic telephone exchanges. This is due to the speed, reliability and high throughput of fiber networks. Cable television, remote video surveillance, videoconferencing and video broadcasting, telemetry and other information systems are also available through the use of optical fiber channels. In the future, it is planned to use conversion of speech signals into optical signals in optical fiber networks.

Keywords. Fiber optic communication lines, fiber optic communication, regional and federal communication, communication networks, automatic telephone, stations, fiber reliability and high throughput, fiber optic channel, cable television, video surveillance, video broadcasting.

Optik tolali aloqaning afzalliklari;

• Juda yuqori tashuvchi chastotalar tufayli keng polosali optik signallar. Bu shuni anglatadiki, ma'lumot optik tolali liniya orqali taxminan 1 Tbit / s tezlikda uzatilishi mumkin;

- Elyafdagi yorug'lik signalining juda past darajada susayishi, bu 100 km va undan ortiq uzunlikdagi optik tolali aloqa liniyalarini signallarni qayta tiklamasdan qurish imkonini beradi;

- Atrofdagi mis kabel tizimlari, elektr jihozlari (elektr uzatish liniyalari, elektr dvigatellari va boshqalar) va ob-havo sharoiti elektromagnit parazitga qarshi immunitet;

- Ruxsatsiz kirishdan himoya. Optik tolali aloqa liniyalari orqali uzatiladigan ma'lumotni buzib bo'lmaydigan tarzda ushlab turish deyarli mumkin emas;

- Elektr xavfsizligi. Aslida dielektrik, optik tolalar yuqori xavfli texnologik jarayonlarga xizmat ko'rsatishda tarmoqning portlashi va yong'in xavfsizligini oshiradi, bu ayniqsa kimyoviy va neftni qayta ishlash zavodlarida juda muhimdir;

- Optik tolali aloqa liniyalarining chidamliligi - optik tolali aloqa liniyalarining ishlash muddati kamida 25 yil.

Optik tolali aloqaning kamchiliklari;

- Elektr signallarini nurga va yorug'likni elektr signallariga aylantiradigan faol chiziqli elementlarning nisbatan yuqori narxi;

- Optik tolalarni birlashtirishning nisbatan yuqori narxi. Buning uchun aniqlik va shuning uchun qimmat texnologik uskunalar talab qilinadi. Natijada, optik kabel uzilib qolganda, optik tolali aloqani tiklash qiymati mis kabellar bilan ishlashga qaraganda yuqori bo'ladi.

Optik tolali chiziq elementlari

- Optik qabul qilgich-optik qabul qiluvchilar optik tolali kabel orqali uzatiladigan signallarni aniqlaydilar va uni elektr signallariga aylantiradilar, so'ngra ular o'zlarining shakllarini, shuningdek soat signallarini kuchaytiradilar va qayta tiklaydilar. Qurilmaning uzatish tezligiga va tizimning o'ziga xos xususiyatiga qarab ma'lumotlar oqimi ketma-ketlikdan parallelga aylantirilishi mumkin.

- Optik transmitter-Optik tolali tizimdagi optik uzatuvchi tizim tarkibiy qismlari tomonidan berilgan ma'lumotlarning elektr ketma-ketligini optik ma'lumotlar oqimiga aylantiradi. Transmitter sinxronlashtiruvchi sintezatorga ega bo'lgan ketma-ket ketma-ket konvertordan (bu tizim sozlamalari va bit tezligiga bog'liq), haydovchidan va optik signal manbasidan iborat. Optik uzatish tizimlari uchun turli xil optik manbalardan foydalanish mumkin. Masalan, yorug'lik chiqaradigan diodlar ko'pincha arzon narxlardagi mahalliy tarmoqlarda qisqa masofali aloqa uchun ishlatiladi. Biroq, keng spektral o'tkazuvchanlik qobiliyati va ikkinchi va uchinchi optik oynalarning to'liq uzunliklarida ishlashning iloji yo'qligi telekommunikatsiya tizimlarida LEDni ishlatishga imkon bermaydi.

- Oldindan kuchaytirgich-Kuchaytirgich fotodiod sensoridan assimetrik tokni assimetrik kuchlanishga aylantiradi, u kuchaytiriladi va differentsial signalga aylanadi.

- Ma'lumotlarni sinxronlashtirish va tiklash IC-Ushbu mikrosxem qabul qilingan ma'lumotlar oqimidan soat signallarini va ularning ishlashini tiklashi kerak. Sinxronizatsiyani tiklash uchun zarur bo'lgan fazali blokirovka qilingan tsikl ham sinxronizatsiya chipiga to'liq qo'shilgan va tashqi sinxronizatsiya boshqaruvi impulslarini talab qilmaydi.

- Seriya kodini parallelga aylantirish uchun birlik
- Seriyali konvertorga parallel
- Lazer shakllantiruvchi

Uning asosiy vazifasi lazer diodasining to‘g‘ridan-to‘g‘ri modulyatsiyasi uchun yon oqim va modulyatsion oqimni ta’minlashdir.

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3-4 YOSHLI BOLALARNI OILADA MILLIY QADRIYATLAR ASOSIDA AXLOQIY TARBIYALASH MAZMUNI

Annotatsiya: Mazkur maqolada 3-4 yoshli bolalarni oilada milliy qadriyatlar asosida axloqiy tarbiyalash masalasi tahlil qilinadi. Bolalarning axloqiy rivojlanishida oila muhitining o'rni, ota-onalarning mas'uliyati va milliy qadriyatlarning ahamiyati chuqur o'rganilgan. O'zbek xalqining urf-odatları, ertakları, maqollari va milliy o'yinlari tarbiya jarayonidagi muhim vositalar sifatida ko'rib chiqilgan. Axloqiy tarbiyaning asosiy maqsadi bolalarda halollik, mehr-oqibat, hurmat va milliy o'zlikni anglash hissini shakllantirish ekanligi qayd etilgan. Shuningdek, milliy qadriyatlar asosida tarbiya bolalarning jamiyatda munosib shaxs bo'lib kamol topishida asosiy omil ekanligi yoritilgan.

Kalit so'zlar: Milliy qadriyatlar, axloqiy tarbiya, oila muhitining ahamiyati, 3-4 yosh bolalar, o'zbek urf-odatları, ota-onalarning roli.

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THE CONTENT OF MORAL EDUCATION OF 3-4-YEAR-OLD CHILDREN IN THE FAMILY ON THE BASE OF NATIONAL VALUES

Abstract: This article analyzes the moral upbringing of 3-4-year-old children in the family based on national values. The role of the family environment, the responsibility of parents and the importance of national values in the moral development of children has been thoroughly studied. The traditions, tales, proverbs and national games of the Uzbek people are considered as important tools in the educational process. It is noted that the main goal of moral education is to form a sense of honesty, kindness, respect and national identity in children. It was also explained that education based on national values is the main factor in the development of children as worthy individuals in society.

Key words: National values, moral education, importance of family environment, 3-4 year old children, Uzbek traditions, role of parents.

Bolalar tarbiyasi har bir jamiyatning ma'naviy va madaniy rivojlanishining asosi bo'lib, uning ma'no-mazmunini milliy qadriyatlar va urf-odatlarga asoslangan axloqiy tarbiya tashkil etadi. 3-4 yoshli bolalar tarbiyasi esa o'ziga xoslik bilan ajralib turadi, chunki bu yoshda bola dunyoqarashi shakllanib, jamiyatga moslashuvning dastlabki bosqichlarini o'zlashtiradi. Ushbu davrda oilaviy muhit va

undagi qadriyatlar, ota-onalarning axloqiy qoidalarni bola ongiga singdirishdagi roli juda muhim ahamiyat kasb etadi. Shuningdek, milliy qadriyatlar asosida tarbiya berish orqali bolalar nafaqat axloqiy ko‘nikmalarga ega bo‘ladi, balki ular o‘z milliy madaniyatini chuqur his qilishni o‘rganadilar. Axloqiy tarbiyaning asosiy maqsadi bolalarga yaxshi va yomon tushunchalarini o‘rgatish, ularda insoniylik, adolat, halollik, mehr-oqibat kabi fazilatlarni shakllantirishdir. Milliy qadriyatlar esa bu jarayonda asosiy vosita bo‘lib xizmat qiladi, chunki ular xalqning tarixi, madaniyati va urf-odatlariga asoslangan. Masalan, o‘zbek xalqining bolalarga bo‘lgan mehribonligi, kattalarga hurmat, kichiklarga g‘amxo‘rlik qilish kabi qadriyatlari kichik yoshdagi bolalarning axloqiy tarbiyasini shakllantirishda muhim o‘rin tutadi. Shu sababli, ota-onalar va tarbiyachilar bolalarni nafaqat umumiy qoidalarga, balki milliy urf-odatlar asosida axloqiy qadriyatlarni singdirishga alohida e‘tibor qaratishlari lozim.

O‘zbekiston Respublikasi Prezidenti tomonidan ilgari surilgan "Yangi O‘zbekiston – inson qadrini ulug‘laydigan jamiyat" g‘oyasi ham aynan yoshlarga, jumladan, bolalar tarbiyasiga qaratilgan muhim choralardan biri hisoblanadi. Bu g‘oya bolalarning ma‘naviy va axloqiy tarbiyasini milliy qadriyatlar asosida yo‘lga qo‘yishning zamonaviy yondashuvlarini shakllantirish zarurligini ko‘rsatadi. Shu nuqtai nazardan, 3-4 yoshli bolalarga oilaviy tarbiya jarayonida milliy qadriyatlarni singdirish nafaqat oilaviy masala, balki davlat miqyosidagi muhim masalalardan biridir. Oilaviy tarbiya jarayonida milliy qadriyatlarni bolalarga singdirishning bir necha samarali yo‘llari mavjud. Birinchi navbatda, ota-onalar bolalarga shaxsiy namuna bo‘lishlari kerak. Chunki bolalar ota-onaning xulq-atvorini kuzatish va unga taqlid qilish orqali axloqiy qoidalarni o‘zlashtiradi. Ikkinchidan, bolalarga milliy ertaklar, qo‘shiqlar va maqollar orqali ma‘naviy-axloqiy qadriyatlarni yetkazish muhimdir. Masalan, xalq ertaklarida yovuzlik va yaxshilik o‘rtasidagi kurash, halollikning g‘alaba qilishi kabi mavzular bolalar ongida yaxshi axloqiy qoidalarni shakllantiradi. Uchinchidan, diniy qadriyatlar va an‘anaviy urf-odatlarining bolalarga mos ravishda tushuntirilishi ularning ma‘naviy rivojlanishiga ijobiy ta‘sir ko‘rsatadi.

Milliy qadriyatlar asosida tarbiyalangan bolalar kelgusida o‘z jamiyatining faol a‘zolari bo‘lish bilan birga, uning rivojlanishiga o‘z hissasini qo‘shishga intiladilar. Tarbiya jarayonida ota-onalarning o‘z milliy madaniyatini yaxshi bilishi va bolalarga ularni to‘g‘ri talqin qilib bera olish qobiliyati alohida ahamiyatga ega. Shu bilan birga, bu yoshdagi bolalar tarbiyasi nafaqat ma‘lum bir oilaning ichki masalasi sifatida qabul qilinishi kerak, balki butun jamiyatda milliy madaniyatni saqlash va rivojlantirishning poydevori sifatida qaralishi lozim. Ushbu maqola milliy qadriyatlar asosida 3-4 yoshli bolalarni axloqiy tarbiyalashning mazmun-mohiyatini o‘rganish, ota-onalar va pedagoglar uchun amaliy tavsiyalar ishlab chiqishga qaratilgan. Milliy qadriyatlar asosida shakllangan axloqiy tarbiya nafaqat bolalarning individual rivojlanishiga, balki milliy birdamlikning mustahkamlanishiga ham xizmat qiladi. Shu bois, bu masala o‘z dolzarbligi va ahamiyati jihatidan o‘rganishga arziydi.

3-4 yosh bolalar rivojlanishining eng sezgir davri hisoblanib, bu yoshda axloqiy ko'nikmalar va odob-axloq qoidalarini shakllanishi boshlanadi. Ushbu bosqichda bolalarning fikrlashi, atrof-muhitga munosabati va jamiyatda o'z o'rnini topishga bo'lgan dastlabki qobiliyatlari rivojlanadi. Shu sababli bolalarning axloqiy tarbiyasi jarayonida milliy qadriyatlar muhim ahamiyat kasb etadi. Milliy qadriyatlar har bir xalqning ma'naviy merosi bo'lib, ularning avlodlararo aloqadorlikni ta'minlashi va madaniy uzviylikni saqlab qolishdagi o'rni beqiyosdir.

O'zbek xalqining asrlar davomida shakllangan urf-odatlarini va qadriyatlari axloqiy tarbiyaning asosi sifatida xizmat qiladi. Bu qadriyatlar mehr-oqibat, halollik, hurmat, saxiylik, oilaviy birdamlik kabi xususiyatlarni o'z ichiga oladi. 3-4 yoshli bolalar uchun axloqiy tarbiya aynan milliy qadriyatlar bilan uyg'un holda amalga oshirilganda samarali natijalar beradi. Chunki bolalar bu yoshda atrof-muhitdan o'zlashtirgan ko'nikma va qoidalarini bevosita hayotiy faoliyatida qo'llashga urinadilar. Milliy qadriyatlar esa ularning ongida yaxshi va yomon tushunchalari o'rtasidagi farqni shakllantirishga yordam beradi.

Bolalarning axloqiy tarbiyasi jarayonida ota-onalarning roli juda muhimdir. Oilada bolalar o'zining birinchi axloqiy saboqlarini oladilar. Bu esa ota-onalarning har kuni bolalar oldida qanday o'zini tutishidan, ularning xatti-harakatlari va muloqotlaridan bevosita ta'sirlanadi. Agar ota-onalar bolalarga yaxshi namuna bo'lsalar, ular milliy qadriyatlarni o'zlashtirishda osonroq yo'l tutadilar. Masalan, ota-onaning bir-biriga nisbatan hurmat va e'tibor ko'rsatishi, bolalarga mehribonlik bilan muomala qilishi ularda oilaviy birdamlik va g'amxo'rlik kabi tushunchalarni shakllantiradi. Shu bilan birga, oilada bolalarga o'z milliy urf-odatlarini tushuntirib berish, ularni bayram va an'analarga faol jalb etish orqali milliy o'zlikni anglash hissini mustahkamlash mumkin.

Milliy qadriyatlar asosida tarbiyalashning yana bir muhim jihati bu bolalarning ma'naviy rivojlanishini ta'minlashdir. O'zbek xalqining ertaklari, maqollari, qo'shiqlari va o'yinlari bolalarning ma'naviy olamini boyitishda muhim o'rin tutadi. Masalan, ertaklarda yovuzlik va yaxshilik o'rtasidagi kurash, odillik va halollikning ahamiyati kabi mavzular bolalarga axloqiy saboqlar beradi. Maqollar orqali esa qisqa va lo'nda shaklda muhim axloqiy qoidalarini o'rganishlari mumkin. Masalan, "Halollik – eng katta boylik" kabi maqollar bolalarning ongida halollikning qadriyat sifatidagi ahamiyatini shakllantiradi.

O'yinlar ham bolalarni tarbiyalashning samarali vositalaridan biri hisoblanadi. Milliy o'yinlar orqali bolalar nafaqat o'yin qoidalariga rioya qilishni, balki bir-birlariga yordam berish, jamoada ishlash kabi fazilatlarni o'rganadilar. Shuningdek, o'yin jarayonida kattalar tomonidan bolalarga ma'lum bir axloqiy qadriyatlarni tushuntirish osonroq kechadi. Bu jarayonda ota-onalar bolalarni mustaqil qaror qabul qilishga undab, ularning mas'uliyat hissini shakllantiradilar. Milliy qadriyatlar asosida tarbiya berishda diniy tushunchalar ham katta o'rin tutadi. Diniy qadriyatlar bolalarga yaxshi va yomonni farqlash, odob-axloq qoidalariga amal qilishni o'rgatadi. Bu jarayonda ota-onalar bolalarga dinga oid qoidalarini yoshiga mos ravishda tushuntirishlari muhimdir. Masalan, 3-4 yoshli bolalarga

rostgo'ylik, halollik va mehribonlik kabi qadriyatlar haqida gapirish ularning ongida mustahkam poydevor yaratadi.

Shu bilan birga, bolalarga milliy bayramlar va an'analar haqida tushunchalar berish, ularni ushbu tadbirlarga faol jalb etish axloqiy tarbiyaning muhim qismidir. Masalan, Navro'z bayramida bolalarga tabiatni asrash, saxiylik, odamlarga yordam berish kabi qadriyatlarni o'rgatish mumkin. Bu orqali bolalarda o'z milliy madaniyatiga nisbatan hurmat hissi paydo bo'ladi. Bundan tashqari, ota-onalar bolalarning xatti-harakatlarini doimiy ravishda kuzatib borishlari va kerak bo'lganda ularni to'g'ri yo'naltirishlari lozim. Bu jarayonda bolalarga haddan tashqari qattiq choralardan foydalanmaslik, balki tushuntirish va tarbiyaviy o'yinlar orqali ularning xatti-harakatlarini shakllantirish muhimdir. Bolalar tarbiyasida mehr va e'tibor muhim o'rin tutadi. Chunki bolalar o'zlarini qadrlanganini his qilganda, ular ota-onalarining nasihatlariga quloq solishga moyil bo'ladilar.

Milliy qadriyatlar asosida tarbiya olayotgan bolalar kelajakda nafaqat yaxshi axloqli insonlar, balki o'z jamiyatining madaniy va ma'naviy boyliklarini davom ettiruvchi shaxslar bo'lib yetishadilar. Shu sababli, 3-4 yoshli bolalarni oilada milliy qadriyatlar asosida tarbiyalash nafaqat ota-onalar, balki butun jamiyat uchun muhim vazifa hisoblanadi. Tarbiya jarayonida oilaviy qadriyatlar va urf-odatlarining bola rivojlanishiga ta'siri chuqur o'rganilib, bu borada ota-onalarga ko'mak beruvchi metodik qo'llanmalar ishlab chiqilishi lozim. Yuqorida keltirilgan barcha omillarni hisobga olgan holda, milliy qadriyatlar asosida bolalarni tarbiyalashning asosiy maqsadi ularning kelgusidagi hayotida axloqiy va ma'naviy tamoyillarga asoslangan shaxs sifatida shakllanishini ta'minlashdir. Shu bois, bu borada jamiyatning barcha qatlamlari o'z hissasini qo'shishi kerak. Tarbiya jarayonida ota-onalar, tarbiyachilar va pedagoglar birgalikda ishlasalar, milliy qadriyatlar asosida axloqiy tarbiya samaradorligi yanada ortadi.

3-4 yosh bolalarni oilada milliy qadriyatlar asosida axloqiy tarbiyalash muhim tarbiya jarayonlaridan biri bo'lib, uning asosi bolalarda jamiyatdagi asosiy axloqiy tamoyillarni shakllantirishga qaratilgan. Ushbu davr bolalarning ilk hayotiy tajribalarini egallash, atrof-muhit bilan tanishish va o'z xulq-atvoriga asos yaratish bosqichidir. Shu sababli, bu yoshdagi bolalarning tarbiyasida milliy qadriyatlar asosida axloqiy ko'nikmalarni rivojlantirish oilaning eng muhim vazifalaridan biri hisoblanadi. Milliy qadriyatlar – xalqning asrlar davomida shakllangan ma'naviy merosi bo'lib, ular oilaviy birdamlik, mehr-oqibat, hurmat, halollik, saxiylik kabi axloqiy tamoyillarni o'z ichiga oladi.

Axloqiy tarbiyaning muvaffaqiyati asosan ota-onalarning xatti-harakatlariga va ular bolalar bilan qanday muloqot qilishlariga bog'liq. Bolalar ota-onalarining xulq-atvorini kuzatish orqali o'z axloqiy ko'nikmalarini shakllantiradi. Shuningdek, bolalarga milliy qadriyatlarni yoshga mos ravishda tushuntirib berish, ularni milliy bayramlar va an'analarga jalb etish orqali ularning o'z milliy madaniyatiga bo'lgan qiziqishi va hurmatini oshirish mumkin. Bu jarayonda ertaklar, maqollar, xalq o'yinlari kabi milliy ma'naviy meroslardan foydalanish bolalarning axloqiy rivojlanishiga ijobiy ta'sir ko'rsatadi.

Milliy qadriyatlar bolalarning ma'naviy va axloqiy rivojlanishini ta'minlashda muhim omil hisoblanadi. Masalan, ertaklar bolalarga yaxshilik va yomonlikni ajratishni, halollik va odillikning ahamiyatini o'rgatadi. Maqollar orqali qisqa va lo'nda shaklda hayotiy saboqlar beriladi. Shu bilan birga, milliy o'yinlar jamoaviylik, mas'uliyat va o'zaro yordam kabi fazilatlarni rivojlantirishda muhim vosita bo'lib xizmat qiladi. Milliy qadriyatlar asosida tarbiya olish bolalarning kelajakda jamiyatda o'z o'rnini topishi, munosib shaxs bo'lib yetishishi uchun asos yaratadi. Shu bois, ota-onalar, pedagoglar va jamiyat vakillari birgalikda bolalar tarbiyasida milliy qadriyatlarni faol qo'llashlari lozim. Tarbiya jarayonida bolalarga mehr va e'tibor ko'rsatish, ularning xatti-harakatlarini tushuntirish orqali yo'naltirish, ularni haddan tashqari qattiq jazolamaslik muhimdir.

Xulosa qilib aytganda, milliy qadriyatlar asosida axloqiy tarbiya bolaning nafaqat shaxs sifatida shakllanishiga, balki uning oilaviy, ijtimoiy va madaniy muhitga moslashuviga ham xizmat qiladi. O'z milliy qadriyatlarini yaxshi anglagan va ularga amal qilgan shaxs kelajakda o'zining jamiyat oldidagi mas'uliyatini tushunadi va unga sodiq qoladi. Shu sababli, oilada milliy qadriyatlarni asos qilib olib, axloqiy tarbiyani tizimli va izchil yo'lga qo'yish har bir oilaning muhim vazifasidir. Tarbiya jarayonida milliy qadriyatlarning ahamiyatini chuqur anglash va bolalarni ma'naviy boy shaxs sifatida shakllantirish uchun barcha sharoitlarni yaratish kerak.

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ANALYSIS OF THE IMPACT OF FIBER AND YARN ON THE QUALITY INDICATORS OF CARPET PRODUCTS

Annotation: *In this article, we have studied to what extent cotton fiber affects quality indicators in the process of cleaning cotton at the UHK unit with large impurities. At the same time, tables and graphs were formed on the UHK unit to what extent they affect the quality indicators and the fiber quality indicators of these samples were identified in the HVI system, taken for a sample after cleaning raw cotton.*

Keywords: *cotton raw materials, coarse impurities, cleaning, UHK unit, cotton fiber, HVI system, quality indicators, fine impurities.*

In our country, comprehensive measures are being implemented to develop the cotton growing sector, modernize and technically re-equip cotton ginning enterprises, increase the profitability of production and processing of cotton raw materials, as well as the competitiveness of manufactured products, including: Decree of the President of the Republic of Uzbekistan No. PF-60 dated January 28, 2022 “On the Development Strategy of the New Uzbekistan for 2022-2026”, which sets the task of “...Ensuring the stability of the national economy and continuing the industrial policy in the new domestic product, with the aim of increasing the volume of industrial products by 1.4 times, while increasing the volume of textile industry products by 2 times...” In implementing these tasks, including in the process of primary processing of cotton at cotton ginning enterprises, effective cleaning without damaging seeds and fibers is one of the important issues.

In cotton ginning enterprises belonging to cotton textile clusters, fiber damage due to impact forces applied to cotton raw materials and forces generated during friction of cotton is one of the biggest problems in the primary processing of cotton. A lot of work is being done in our country to eliminate these problems, and scientific work is being done by researchers. However, this work is not enough.

Taking these into account, this article investigated the damage to the fiber during cleaning, one of the largest processes that cause fiber damage. In the study, experiments were conducted on the length of the fiber, uniformity in length, ripeness, elongation at break, fiber fineness and ripeness, color and contamination indicators of the cotton raw materials before and after cleaning in the UXK type cotton cleaning unit. The experiments were conducted at the “Turakurgan Cotton Cleaning” enterprise affiliated with “Namangan To'kimachi Cluster” LLC on the

3rd grade 1st grade cotton raw materials with a moisture content of 13.4%, a contamination content of 16.8%, and the selection variety Bukhara-102, and the samples taken before and after cleaning in the UXK unit were determined in the HVI system 9 times and the average results were obtained.

We observed that the light reflectance coefficient (Rd) of the cotton fiber sample tested was the highest at 68.4 and the lowest at 61.8, and the yellowness level (+b) ranged from 6.8 to 9.9. We calculated all of the values listed in Table 1.1 above and took the average value, resulting in the following Table 1.1.

Table 1.1

№	Indicator unit of measurement	Measurement	Permissible systematic error, max.	Mean squared difference, at most
	Micronaire indicator (Mic)	4.2	0.04	1.04
	Relative tensile strength (Str)	34.4	1.41	4.09
	Upper Average Length (Len)	1.20	0.02	1.32
	Uniformity index along the length (Unf)	87.3	0.78	0.90
	Short Fiber Index (SFI)	3.6	1.14	31.56
	Elongation at break (Elg)	6.6	0.29	4.35
	Number of impurities (Cnt)	58	9.73	16.84
	Area of contaminated mixtures (Area)	3.0	0.95	31.75
	Light reflection coefficient (Rd)	65.8	2.36	3.59
	Yellowness level (+b)	8.5	1.04	12.28

In Table 1.1 above, we have obtained the average value of the results (Table 1.1) of 9 tests (Table 1.1) on the HVI system, where the cotton fibers were manually separated from the seeds before being cleaned of impurities in the UXK unit. Then, the same 3rd grade, 1st grade, Bukhara - 102 selection grade cotton that was tested above was cleaned in the UXK unit.

We observed that the light reflection coefficient (Rd) of the cotton fiber sample tested was the highest at 71.4 and the lowest at 65.4, and the yellowness level (+b) was from 6.7 to 10.1. We analyzed Table 1.3 and calculated the average of our 9-fold sampling to form Table 1.2.

Table 1.2

№	Indicator unit of measurement	Measurement	Permissible systematic error, max.	Mean squared difference, at most
	Micronaire indicator (Mic)	4.2	0.07	1.68
	Relative tensile strength (Str)	36.0	1.48	4.10
	Upper Average Length (Len)	1.20	0.02	1.61

	Uniformity index along the length (Unf)	86.6	1.49	1.71
	Short Fiber Index (SFI)	3.8	1.03	27.00
	Elongation at break (Elg)	6.8	0.35	5.12
	Number of impurities (Cnt)	26	4.27	16.55
	Area of contaminated mixtures (Area)	1.4	0.52	36.59
	Light reflection coefficient (Rd)	67.6	2.05	3.03
	Yellowness level (+b)	8.7	0.95	11.00

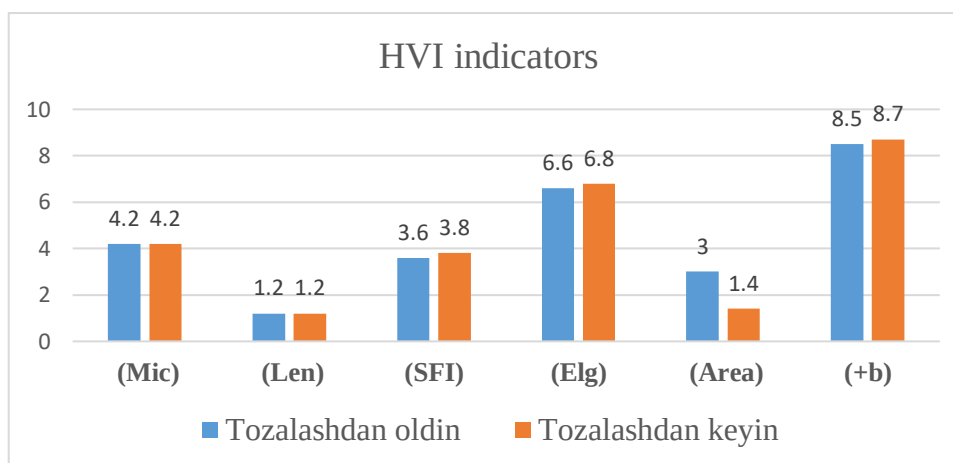


Figure 1. Graph based on results obtained in the HVI system

Figure 1 shows the micronaire index, average length, short fiber index, elongation at break, area of impurities and yellowness levels of cotton before and after cleaning in the HVI system of the UXK aggregate. It can be seen that the micronaire index and average length before and after cleaning did not affect the quality levels. However, we found that the elongation at break and yellowness levels also increased as the short fiber index increased by 0.2 percent after cleaning. As can be seen in the graph, we can see that the specific linear strength increased after cleaning, the linear uniformity index decreased after cleaning, and we found that the number of impurities also decreased and increased.

In conclusion, when examining cotton fiber in the HVI system during the cleaning process of cotton raw materials in the UXK unit, the micronaire index and the high average length did not affect the quality levels. We found that the short fiber index, elongation at break, yellowness level, specific linear strength, and light reflectance coefficient increased. We also saw that the area of impurities, the length uniformity index, and the number of impurities decreased after cleaning in the UXK unit.

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THE SECTORAL AND REGIONAL COMPOSITION OF UZBEKISTAN'S FUEL AND ENERGY COMPLEX

Abstract: *This article provides a scientific analysis of the unique characteristics of Uzbekistan's fuel and energy complex. It highlights the strategic importance of the fuel and energy complex in the national economy, detailing the development status of its key sectors, including oil, gas, coal extraction, and electricity production. Additionally, modern measures aimed at enhancing energy efficiency and utilizing renewable energy sources are proposed.*

Keywords: *sectoral composition, fuel, electric power, oil, gas, coal, consumption, lignite, coke, forecast.*

Introduction: The fuel and energy complex (FEM) is one of the sectors of strategic importance in the economic development and industrial potential of the Republic of Uzbekistan. EEM plays an important role not only in meeting the domestic needs of the country, but also in strengthening foreign trade and international economic relations. The rich reserves of natural resources in the republic, including fuel sources such as oil, gas and coal, create favorable conditions for the sustainable development of this complex.

The network and territorial structure of the fuel and energy complex is a decisive factor in ensuring the stability of the national economy. The territorial location of industrial sectors within the complex and their economic indicators directly affect the economic potential of the country's regions. The regions of Uzbekistan have various reserves of natural resources, and their effective use is important for the development of the local economy.

In particular, the consumption of energy (electricity, gas, coal and oil products) in the territory of the country has been increasing in recent years, as a result, the demand for energy resources has increased. In particular, special attention is being paid to ensuring the sustainable development of the fuel and energy complex in Uzbekistan, using renewable energy sources on a large scale, reducing energy consumption in industrial sectors, and increasing technologies based on alternative energy. A number of decrees and decisions have been adopted by the

President of the Republic of Uzbekistan regarding the development of the network. In particular, the Resolution of August 23, 2024 "On measures to improve the state control system in the fuel and energy sector" to prevent conflicts of interest, save energy, use it rationally, and increase energy efficiency in the process of implementing state control in the energy sector, also serves to ensure effective state control in this area [9].

Methods: The purpose of this article is to clarify the network structure of the fuel and energy complex and analyze its current state. To achieve this goal, the following tasks have been defined:

- research of the current state of the main sectors within the fuel and energy complex - oil, gas, coal production and electricity production sectors.
- analysis of geographical factors of development of fuel and energy complex.
- development of scientifically based proposals for measures and strategic plans aimed at developing the network and territorial structure of the complex.

Results: The fuel - energy complex is considered an interbranch industrial complex, in which the fuel and electric power industries are closely connected. This complex is of great importance in the economy of any country or region [7; p. 41]. This network has an impact on the development of the country's or region's economy, its potential, the location of industries and the creation of a region. In addition, the processes from the needs of the population to the production sectors are directly and indirectly based on the fuel and electricity industry. Also, the fuel and energy complex includes the fuel industry, which is engaged in the extraction, processing and transformation of primary fuel and energy resources, as well as the production, distribution, transformation of electricity (decrease or increase of alternating current) and its delivery to consumers (transmission over a certain distance). includes the electric power industry, which provides and forms the fuel-energy balance (Table 1).

Table 1

Network composition of the fuel and energy complex

Complex type	types of cross-sectoral industries	Industry type sectors	Sections of networks
Fuel - energy	Fuel industry	Extraction	Coal, gas, oil, oil shale, peat, uranium
		Transportation	Pipeline, road, rail and water transport
		Recycling and modification	Oil and gas processing and underground gas generators
	Electric power industry	Electricity generation	TPP, TPC, HPP, NPP and alternative energy sources (QES, SHES, QES, GeoTES and others)
		Delivery to consumers	Main lines, power grids and electrical cables
		Distribution and transformation	Electrical substations, electrical equipment and devices

Comment: This table was revised by the authors based on information from [3; p. 39].

Today, Uzbekistan widely uses fuel and energy resources. In particular, 3 branches of the fuel industry (coal industry, oil and oil refining industry and gas and gas processing industry) and electric power industry have been formed in the country. These industries are classified according to the type of specialization as follows [5; 47- b]:

- electric power industry - electric power generation, transmission, distribution, steam transfer and air conditioning;
- coal industry - coal and lignite¹ mining;
- oil and oil refining industry - extraction of raw oil and natural gas, production of coke² and oil refining products;
- gas and gas processing industry - production³ and distribution of gaseous fuel.

Taking into account the mutual compatibility of the types of specialization of the above industrial sectors, in 2000, the fuel industry made up 15.3% of the republic's industrial sectors, and the electric power industry made up 8.5%. Industry shows that it decreased by 1.7% [5; p. 49]. In 2000, the role of the fuel and energy complex in the production of the republic's industrial sectors was much higher, its share was 23.8%. After two years, this figure was 15.9%. It can be seen that the share of the fuel industry and the electric power industry in the weight of industrial sectors has decreased. The main reason for the decrease of these indicators from year to year is the stable development of other industries. In particular, the increase in the share of ferrous and non-ferrous metallurgy, machine building and metal processing, chemistry and petrochemical, and light industry (development of textile products) in the structure of the gross industrial production of the republic has its influence. However, Uzbekistan can rightfully be called a self-sufficient country based on the extraction of fuel and energy resources, their reserves and the electricity produced. Because the longer the resource reaches, the higher the supply. In particular, in 2022, natural gas reserves will be 1552 billion m³, and extraction will be 44.5 billion m³. The oil reserve found in the country is 100 million tons, and the production is 0.55 million tons. Coal with a reserve of 1.375 million tons will be mined in 2023 at 6.5 million tons, uranium, which is a radioactive metal, used in the creation of nuclear fuel and is expensive, is 111 thousand tons, and the annual production volume is 2.6 thousand tons. In addition, the amount of electricity produced in the country in 2023 will be 78.005 billion kWh, and the total installed capacity of power plants will be 18472.1 MW (Table 2).

Table 2

¹ **Lignite** (Latin 'lignum' wood – tree) is a combustible mineral. It is a poorly coalified wood (mainly coniferous trees) that has preserved the structure of tree tissue within brown coal layers.

² **Coke** (German 'Koks', English 'coke') is a carbon-rich solid residue produced during the process of heating natural fuels (such as coal, oil, peat, etc.) or their processed products to 950–1050°C without the presence of air (carbonization).

³ **Gaseous fuel** is natural gas in its natural form, and generator gas and blast furnace gas in its artificial form.

The current state of Uzbekistan's fuel and energy resources

Total installed capacity at electric power stations (MW)	Electric energy production volume (million kWh)	Type of station	Electric power industry	Fuel – energy complex	Fuel industry	Fuel type	Unit of measurement	Extraction	Reserve volume
18 472,1	78 005,4	TPP, TPC				Gas	billion m ³	44,5	1 522
		HPP				Oil	million t	0,55	100
		SPP				Coal	million t	6,5	1 375
		WPP				Uranium	thousand t	2,6	111

Comment: The table was compiled by the authors based on information from the Statistics Agency under the President of the Republic of Uzbekistan [10] and [4; p. 16].

The reserve of Uzbekistan's fuel and energy resources and the forecast⁴ of their extraction, use and how long they will last show that gas can last for 34 years, oil for 181 years, coal for 416 years, and uranium for 42 years. Also, according to the amount of natural resources per capita of the total population (36,024,900 people) in 2023, gas is 43.08 m³/capita, oil 2.77 t/capita, coal 38.16 t/capita, and uranium 3.08 t/capita corresponds to the person.

Fuel industry. This industry is related to the production of various fuel products based on the extraction and processing (transformation) of resources such as coal, oil, gas, oil shale, uranium ore and firewood (saksavull in the Kizilkum deserts) (Table 1). In addition, the locomotive branch of the economy is one of the main branches of the striking "three".

Gas and gas processing: natural gas is one of the cheapest sources of fuel energy, it is widely used in the process of industrial production and to meet the needs of the population, and it is also an important raw material for the chemical industry. Natural gas is delivered to consumers through pipelines or in liquefied form. Natural gas production in our republic was launched in the second half of the 1950s in the Bukhara region (Uchqir, Gazli gas fields) and in the early 1980s in the Kashkadarya region (Mubarak and Shortan gas fields). Later, a number of large gas fields were opened in the Republic of Karakalpakstan, and they are being put into operation step by step. Several large gas processing enterprises operate under the names of the above mines. For example, in Kashkadarya region - Mubarak gas processing plant, Shortan gas-chemical complex, "Uzbekistan GTL" plant, in Bukhara region - Kandim and Gasli gas processing plants, and in the Republic of Karakalpakstan - Ustyurt gas-chemical complex [5; p. 55]. The volume of extraction of this resource - gas condensate - is decreasing year by year (left side of Table 3). In particular, the volume of mining in 2023 has decreased by 2.8 times compared to

⁴ This **forecast** was developed by the authors using formulas to determine how long the resource will last and to calculate the amount of natural resources per capita.

2000. However, in terms of gas extraction, the republic will take 17th place in the world in 2022 and 21st place in terms of reserves [4; p. 16]. In particular, 155 promising fields of natural gas have been discovered, which are located in the territory of 5 oil and gas rich regions of Uzbekistan. The largest gas fields are located in South-Western Hisar (Dehkhanaabad and Boysun districts), Bukhara-Khiva (mainly in the western and southern parts of the region) and Ustyurt (Orolqum regions of the Republic of Karakalpakstan).

Oil and oil processing: This fuel is called "Black Gold" and is a valuable raw material of the chemical industry, which has an important place in the national economy. As a result of oil refining, many different fuels and chemical products are produced and delivered to consumers. In Uzbekistan, oil is extracted mainly by drilling from among the layers belonging to the Cretaceous period [6; p. 83]. Oil production in our country started in 1876. In particular, in the Southern Fergana hills of the Fergana valley (Kamishboshi village, Fergana district, Fergana region) in the early 80s of the 21st century, businessman D. P. Petrov drilled 2 oil wells up to 25 m deep, and at that time up to 160 kg of oil was obtained from each well per day [2; p. 47].

Initially, the main part of oil was extracted in Fergana and Andijan regions, later oil fields were developed in Surkhandarya, Bukhara, Kashkadarya regions of the Republic of Karakalpakstan and Namangan regions, and now oil is extracted in these regions. It should be noted that the volume of oil extracted in Uzbekistan is decreasing (Table 3). In particular, the volume of extracted oil in 2023 has decreased by 5.3 times compared to 2000. The reason for this is that new oil fields are not being put into operation and the reserves of the old fields that are being used in practice have decreased.

Table 3

In Uzbekistan, oil and gas condensate extraction (left (million tons)) and the dynamics of the production of certain oil products (right (thousand tons))

a)	Fuel t.	2000	2010	2023	b)	Oil products	2000	2010	2023
	Oil	4170,0	2017,9	778,3		Gasoline	1709,4	1413,8	1336,0
	Gas Condensate	3366,0	2019,5	1199,4		Diesel	1972,0	1127,9	1188,7
						Aviation kerosene	394,0	339,0	287,4
	Total	7536,0	4037,4	1977,7		Fuel oil	1709,0	287,2	164,1

Comment: The table was compiled by the authors based on the information from the State Committee on Statistics of the Republic of Uzbekistan [10].

Also, oil refineries in Uzbekistan were built in 1906 in Altiariq district of Fergana region, in 1959 in Fergana city, in 1997 in Karavulbazar district of Bukhara region, in Jarkurgan city of Surkhandarya region and Chinoz city of Tashkent region. [5; p. 56]. The above enterprises mainly produce various fuel products (Table 3). Also, the Bukhara Oil Refinery in the city of Karavulbazar has been a leader in the production of oil products since its launch.

Coal industry: Coal - kaustobiolytic (from Greek - "kausto" - burning, "bio" - life, "litho" - stone) belongs to organic rocks, and the industry of this fuel consists in its extraction and delivery to the consumer. Coal is mainly used in electric power, chemical, ferrous metallurgy industries and for the needs of the population [3; p. 52]. Depending on the carbon content of it, it is divided into several types. For example, Angren lignite mine in Tashkent region (1940) and Shargun coal mine in Surkhandarya region (1950) were formed in Uzbekistan.

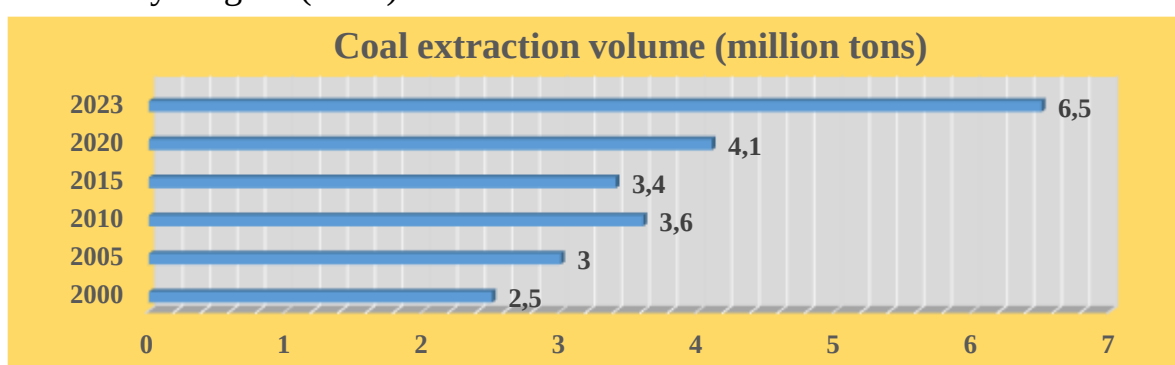


Figure 1. Dynamics of coal extraction in Uzbekistan

Comment: This figure was created by the authors based on information from the State Committee on Statistics of the Republic of Uzbekistan [10].

In 2023, 6,519.6 thousand tons of coal were mined in Uzbekistan, which shows a 2.6 times increase compared to 2000 (Figure 1). Lignite is the main part of the coal mined in the republic. This fuel is mainly mined in the open pit, and the Angren lignite mine in the Tashkent region is the main source of this process. It should be noted that coal gas is turned into gas generators under the Angren lignite mine. In it, coal beds are heated with coke or special reagents, and high-pressure air and water vapor are passed over the coal surface. As a result of this environmentally friendly process, several types of fuels (gas, shale, bitumen and liquid fuels) are obtained with a low heat level. Such a process is mainly carried out in lignite with high moisture content or coal with low heat. This mine produces 1.0 million kroner per day at Yerostigaz, a subsidiary of Australia's "Linc Energy" company. m³ of gas is produced and transferred to Angren GRES [6; p. 82].

Electric power industry. This network is one of the main branches of the industry, which covers the processes of electricity generation, its delivery to consumers (transmission over a certain distance), transformation (decrease or increase of alternating current), distribution and its use in all areas [1; p. 163]. Positive indicators of electricity production are observed in Uzbekistan (Figure 2).

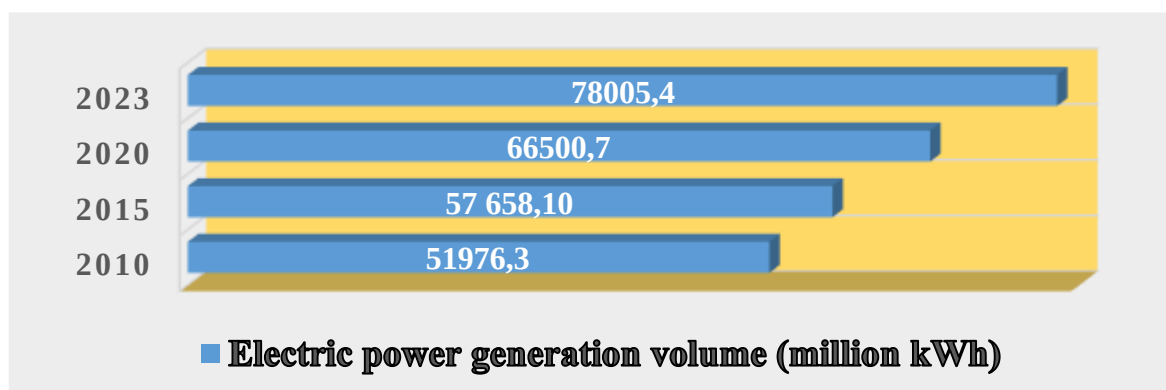


Figure 2. Indicator of electric power production in Uzbekistan

Comment: This figure was created by the authors based on information from the State Committee on Statistics of the Republic of Uzbekistan [10].

In particular, in 2023, 78.005 billion kilowatts of electricity was produced in Uzbekistan, which is 1.5 times more than in 2010. Also, the total installed capacity of Uzbekistan's power plants is 18,472.1 (MW), of which 84.5% are IES and IEM, 12.8% are hydroelectric power plants, and 2.7% are renewable energy sources (QTE/M) (figure-3).

The main sources of generation before independence included the three largest power plants in the republic with a capacity of over 1000 MW – Sirdaryo TPP, Tashkent TPP, and Navoi TPP; the power plant with a capacity of 500-1000 MW – Takhiatash TPP; two power plants with a capacity of 100-500 MW – Angren GRES and Fergana TPC; and two power plants with a capacity of 10-100 MW – Mubarek TPC and Tashkent TPC. After independence, power plants constructed include the Talimarjan TPP with a capacity of over 1000 MW and the To'raqo'rg'on TPP with a capacity of 500-1000 MW. In the last decade, power plants established include the AKVA Power Sirdaryo TPP with a capacity of over 1000 MW, and six power plants with a capacity of 100-500 MW – AKSA Bukhara, AKSA Tashkent-240 MW, Jengiz Tashkent, AKSA Tashkent-230 MW, Jengiz Sirdaryo, and Odash Khorezm TPP (Table 4).

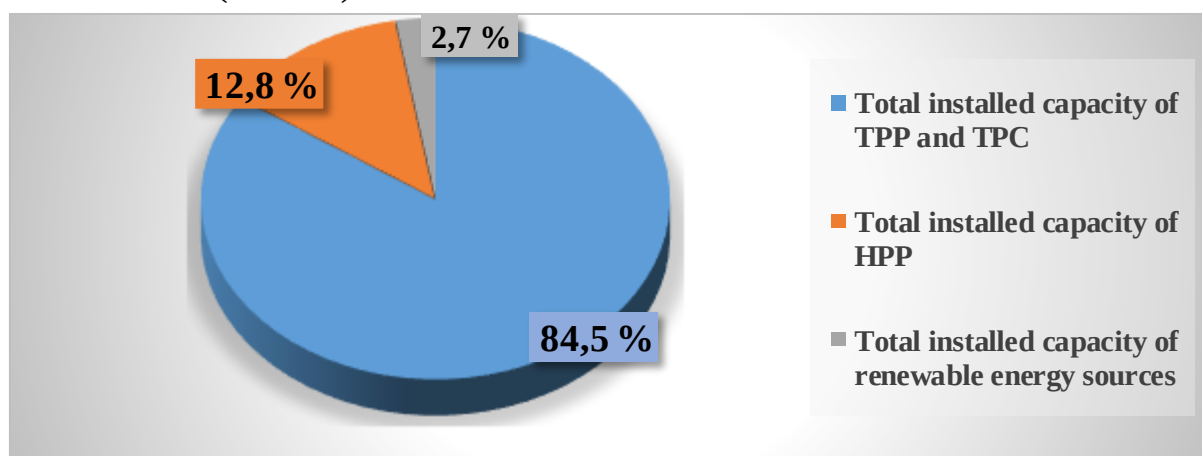


Figure 3. Composition of total installed capacity in power plants of Uzbekistan (%).

Comment: This figure was created by the authors based on information from the State Committee on Statistics of the Republic of Uzbekistan [10].

Table 4

Classification of thermal power plants generating electric power in Uzbekistan

№	Station name	Grouping (MW)	Year of commissioning	Number of energy blocks	Type of fuel	Capacity (MW)
1	Sirdaryo	Above 1000	1972	10	Gas	3 215
2	Tashkent		1963	13	Gas	2 230
3	Navoi		1961	10	Gas	2 068
4	Talimarjan		2004	3	Gas	1 700
5	AKVA Power Sirdaryo		2023	3		1500
6	Takhiatash	From 500 to 1000	1961	4	Gas	980
7	To‘raqorg‘on		2019	2	Gas	900
8	Angren GRES	From 100 to 500	1963	5	Coal	393
9	Fergana TPC		1956	8	Gas	329
10	AKSA Bukhara		2022	30		270
11	AKSA Tashkent-240 MW		2022	5		240
12	Jengiz Tashkent		2022	4		240
13	AKSA Tashkent-230 MW		2022	30		230
14	Jengiz Sirdaryo		2022	26		220
15	Odash Khorezm		2022	12		174
16	Mubarek TPC	From 10 to 100	1985	2	Gas	60
17	Tashkent TPC		1939	2	Gas	57
Total number of energy blocks and capacity at power plants				169		14 806

Comment: The table was compiled by the authors based on the data from [8; 211-b.] and [11].

At the same time, 55 large, small and micro hydropower plants are operating in the rivers, canals and streams of our country. The total capacity of these hydroelectric plants is 2225.4 MW. Chirchik River, Dargom Canal of Zarafshan River and other rivers and canals are distinguished by the largest number of hydroelectric power plants in the republic. In addition, more than 36% of hydroelectric power stations in our country are located in Tashkent region (Table 5).

Table 5

Classification of hydroelectric power plants generating electric power in the water basins of Uzbekistan

№	Water basins	Number of HPPs	Number of generators	Capacity (MW)	Area
1	Chirchiq r.	20 HPPs	51	1289,4	Tashkent
2	To‘palondaryo r.	3 HPPs	8	250,6	Surkhandarya
3	Amudaryo r.	1 HPP	6	150	Khorezm
4	Qoradaryo r.	2 HPPs	6	190	Andijan
5	Sirdaryo r.	1 HPP	4	128,24	Sirdarya
6	Oqsuv r.	1 HPP	2	45	Qashkadarya
7	Zarafshon r. (Darg‘om c.)	10 HPPs (3 micro)	23	63,52	Samarkand
8	Ohangaron r.	1 HPP	4	26,5	Namangan
9	Ohangaron r.	2 HPPs	4	32,4	Tashkent
10	Shahrixonsoy c.	3 HPPs	5	26,15	Andijan
11	Big Fargena c.	2 HPPs	4	12	Namangan
12	So‘x r.	1 HPP	2	5	Fergana
13	South Fargena c.	1 HPP	1	2,2	Andijon
14	Yertoshsoy s.	1 HPP	2	2,032	Tashkent
15	Chortoq s.	1 HPP (micro)	3	0,825	Namangan
16	Right Bank c.	1 HPP (micro)	2	0,65	Andijan
17	New canal c.	1 HPP (micro)	1	0,26	Namangan
18	Isfara collector	1 HPP (micro)	1	0,23	Surkhandarya
19	Ispaysoy s.	1 HPP (micro)	2	0,2	Tashkent
20	Zominsuv s.	1 HPP (micro)	2	0,2	Jizzakh
Total		55	133	2225,4	Uzbekistan

Comment: The table was compiled by the authors based on the data from [8; 211-b.] and [11].

Renewable energy sources accounted for 1.59% of the total electricity production in the country in 2023, with solar power plants producing 1237.3 million kWh and wind power plants producing 7.2 million kWh [10]. Additionally, according to the decree PQ-436 of the President of the Republic of Uzbekistan dated December 2, 2022, "On measures to increase the efficiency of reforms aimed at

transitioning to a green economy in the Republic of Uzbekistan by 2030," it is planned to increase the production capacity of renewable energy sources to 15 GW and to raise their share in total electricity production to more than 30% [12].

Conclusion. For the sustainable development of the fuel and energy complex, it is advisable to consider the approaches available in world practice. In this regard, it is necessary to diversify the sectoral structure of Uzbekistan's fuel and energy complex. It is also important to enhance the sustainable development of social sectors, rational use of fuel resources, maintain ecological balance, transition to alternative energy sources, and conserve traditional energy sources for future generations. The results of this research will help develop scientifically-based proposals to increase the importance of the fuel and energy complex in Uzbekistan's economy and ensure its sustainable development.

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O'ZBEKISTONDA SHASHMAQOMNING SHAKLLANISHI VA RIVOJLANISHI

Annotatsiya: O'zbekistonda shashmaqom san'atining shakllanishi va rivojlanish jarayonlari tahlil qilingan. Shashmaqom o'zbek xalqining milliy merosi sifatida qadimdan buyuk musiqiy an'analarning ramzi bo'lib kelgan. Maqolada shashmaqomning kelib chiqishi, uning tarixiy ildizlari, ijro uslublari va musiqiy tizimi yoritiladi. Shuningdek, shashmaqomning zamonaviy davrdagi ahamiyati, uni saqlab qolish va rivojlantirish borasidagi sa'y - harakatlar, XXI asrda uning madaniy va ijodiy jarayonlaridagi o'rni muhokama etiladi. Ushbu tadqiqot shashmaqomning O'zbekiston madaniyati va san'atidagi beqiyos rolini ta'kidlash bilan birga, yosh avlodni ushbu noyob musiqiy merosga jalb qilishning ahamiyatiga ham e'tibor qaratadi. O'zbekistonda shashmaqom musiqasi O'rta asrlardan boshlab Markaziy Osiyo xalqlarining musiqiy madaniyatida muhim o'rin tutib keladi. Ushbu musiqiy janrning shakllanishi va rivojlanishi haqida quyidagi asosiy ma'lumotlarni keltirish mumkin.

Kalit so'zlar: Maqom, metodika, shakllanish, rivojlanish, shashmaqom, Buxoro amirligi, Salohiyat, natija, tadqiqotlar, festivallar, qadimiy kelib chiqishi, xalqlarning o'ziga xosligi, xonandalar, sozandalar.

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THE FORMATION AND DEVELOPMENT OF SHASHMAQOM IN UZBEKISTAN

Annotation: This work analyzes the formation and development processes of the Shashmaqom art in Uzbekistan. As a national heritage of the Uzbek people, Shashmaqom has long been a symbol of great musical traditions. The article highlights the origins of Shashmaqom, its historical roots, performance styles, and musical system. Additionally, the significance of Shashmaqom in modern times, efforts to preserve and develop it, and its role in cultural and creative processes in the 21st century are discussed. This research emphasizes the unparalleled role of Shashmaqom in Uzbekistan's culture and art while drawing attention to the importance of engaging the younger generation with this unique musical heritage.

Keywords: Status, methodology, formation, development, shashmaqom, Bukhara Emirate, authority, results, researches, festivals, ancient origin, national identity, singers, musicians.

1. Shashmaqomning shakllanishi.

Shashmaqom asosan Buxoro amirligi davrida rivojlangan. Bu janr O'zbekiston va Tojikistonda qadimdan yashagan xalqlarning musiqiy merosi hamda ijodiy salohiyati natijasidir. Shashmaqomning nomi "shash"(oltita) va "maqom" (musiqiy yo'l) so'zlaridan kelib chiqqan bo'lib, u oltita asosiy maqomdan tashkil topadi:

Buzruk Rost Navo Dugoh Segoh Iroq

2. Shashmaqom tarkibi va uslubi:

Shashmaqom ijro san'ati so'z, musiqa va ritmik tuzilmaning birikmasidan tashkil topgan. Bu janrning asosiy xususiyatlari:

Har bir maqom o'ziga xos lad va ritmga ega. Komil ijro uchun kuylash, sozanda va kuychi mahorati talab etiladi. Matnlari odatda tasavvuf she'riyati, lirik va falsafiy mavzulardan iborat.

3. Rivojlanish davrlari:

O'rta asrlar: Shashmaqomning poydevori qo'shiqchilik va cholg'u san'ati ustida qurilgan. Bu davrda tasavvuf ta'siri kuchli bo'lib, musiqa ruhiy tarbiyaning bir qismi edi. XIX asr. Buxoro xonligi davrida shashmaqom saroy san'ati sifatida rivojlangan. Saroy ijrochilari va bastakorlari bu janrni boyitgan. XX asr: Sovet davrida shashmaqomni ommalashtirish maqsadida bir qator sa'y - harakatlar amalga oshirildi. Mashhur bastakorlar va olimlar shashmaqomni ilmiy asosda o'rganib, uni asosan notaga solib ommalashtirishga hissa qo'shganlar.

4. Shashmaqomni saqlash va rivojlantirish. 2003 yilda O'zbekiston va Tojikistonning qo'shma tashabbusi bilan Shashmaqom UNESCO tomonidan insoniyatning nomoddiy madaniy merosiga kiritildi. O'zbekistonda shashmaqomni saqlash va targ'ib qilish uchun maxsus ansambllar va o'quv dasturlari ishlab chiqilgan. Arabcha maqom (o'rin, joy, parda, tovush, daraja va h.k ko'plik shakli maqomot) atamasi o'tmishda turli ma'noda ishlatilib kelingan. Musiqa istilohida esa maqom - musiqa cholg'ularida kuy va ashulalarni tashkil etadigan tovushlarning joylashadigan o'rni, ya'ni pardalardir. Maqom - ma'lum lad asosiga mos keladigan va muayyan pardadan boshlanadigan kuy va ashulalar majmuasidir. Hozirgi kunga qadar maqom kuy va ashula yo'llari turkumi ma'nosini ifodalab keldi. Kasbiy musiqaning yuksak namunalari bo'lgan maqomlar aksariyat musulmon Sharq xalqlari mumtoz musiqa merosining salmoqli qismini tashkil qiladi. Shashmaqomning shakllanishi XII- XVI- asrlarga borib taqaladi. Bu davrda Markaziy Osiyoning madaniy markazlari - Buxoro, Samarqand va Xiva shaharlarida musiqa va adabiyot rivoj topdi. Shashmaqom asosan Buxoro musiqa maktabida o'zining to'liq ko'rinishini Mazkur musiqa janri nafaqat kuy va ashulalarni, balki maqom nazariyasini o'z ichiga oladi. Shashmaqom so'zining o'zi fors tilidan tarjima qilinganda "olti maqom" degan ma'noni anglatadi. Hozirgi kunda Shashmaqom milliy musiqiy merosning asosiy qismi bo'lib, u xalqaro sahnalarda ham ijro

qilinadi. O'zbekistonda shashmaqom festivallari, ilmiy tadqiqotlar va ijodiy anjumanlar o'tkazilib bu janrni yangi avlod orasida targ'ib qilish ishlari davom ettirilmoqda. Maqom san'ati o'zining ko'p asrlik tarixiga ega. Bu tarixni o'zaro farqli ikki yirik davrga ajratish mumkin. Birinchi davr mazmunini maqomlarning makon zamon nuqtai nazaridan juda qadimiy kelib chiqish ildizlari, dastlabki kuy ohang qatlamlarini o'rganish masalalari tashkil etadi. Tabiiyki, bu davrda hozirda ma'lum tom ma'nodagi maqomlar bo'lmagan, albatta. Chunki maqom tizimlarining shakllanish jarayonlari ijtimoiy- madaniy taraqqiyotning ma'lum bosqichi bilan shartlangan. Zotan, tayanch manbalari juda qadim bo'lgan maqomlar " xalqlarning o'ziga xos musiqa boyliklari asosida kasbiy sozanda va xonandalar tomonidan yaratilgan uzoq madaniy - tarixiy taraqqiyot jarayonida mustaqil musiqa janri sifatida yuzaga kelgan. Bunda saroy madaniyati ham zarur obyektiv omil sifatida muhim o'rin tutgan edi. Maqom-ma'lum lad asosiga mos keladigan va muayyan pardadan boshlanadigan kuy va ashulalar majmuasidir. Hozirgi kunga qadar maqom kuy va ashula yo'llari turkumi ma'nosini ifodalab keldi. Kasbiy musiqaning yuksak namunalari bo'lgan maqomlar aksariyat musulmon Sharq xalqlari mumtoz musiqa merosining salmoqli qismini tashkil qiladi. Shashmaqomning shakllanishi XII-XVI- asrlarga borib taqaladi. Bu davrda Markaziy Osiyoning madaniy markazlari - Buxoro, Samarqand va Xiva shaharlarida musiqa va adabiyot rivoj topdi. Shashmaqom asosan Buxoro musiqa maktabida o'zining to'liq ko'rinishini Mazkur musiqa janri nafaqat kuy va ashulalarni, balki maqom nazariyasini o'z ichiga oladi. Shashmaqom so'zining o'zi fors tilidan tarjima qilinganda "olti maqom" degan ma'noni anglatadi. Hozirgi kunda Shashmaqom milliy musiqiy merosning asosiy qismi bo'lib, u xalqaro sahnalarda ham ijro qilinadi. O'zbekistonda shashmaqom festivallari, ilmiy tadqiqotlar va ijodiy anjumanlar o'tkazilib bu janrni yangi avlod orasida targ'ib qilish ishlari davom ettirilmoqda.

Maqom san'ati o'zining ko'p asrlik tarixiga ega. Bu tarixni o'zaro farqli ikki yirik davrga ajratish mumkin. Birinchi davr mazmunini maqomlarning makon zamon nuqtai nazaridan juda qadimiy kelib chiqish ildizlari, dastlabki kuy ohang qatlamlarini o'rganish masalalari tashkil etadi. Tabiiyki, bu davrda hozirda ma'lum tom ma'nodagi maqomlar bo'lmagan, albatta. Chunki maqom tizimlarining shakllanish jarayonlari ijtimoiy- madaniy taraqqiyotning ma'lum bosqichi bilan shartlangan. Zotan, tayanch manbalari juda qadim bo'lgan maqomlar " xalqlarning o'ziga xos musiqa boyliklari asosida kasbiy sozanda va xonandalar tomonidan yaratilgan uzoq madaniy-tarixiy taraqqiyot jarayonida mustaqil musiqa janri yuzga kelgan. O'zbekistonda shashmaqom san'atining shakllanishi va rivojlanish jarayonlari tahlil qilingan. Shashmaqom o'zbek xalqining milliy merosi sifatida qadimdan buyuk musiqiy an'analarning ramzi bo'lib kelgan. Maqolada shashmaqomning kelib chiqishi, uning tarixiy ildizlari, ijro uslublari va musiqiy tizimi yoritiladi. Shuningdek, shashmaqomning zamonaviy davrdagi ahamiyati, uni saqlab qolish va rivojlantirish borasidagi sa'y -harakatlar, XXI asrda uning madaniy va ijodiy jarayonlaridagi o'rni muhokama etiladi. Ushbu tadqiqot shashmaqomning O'zbekiston madaniyati va san'atidagi beqiyos rolini ta'kidlash

bilan birga, yosh avlodni ushbu noyob musiqiy merosga jalb qilishning ahamiyatiga ham e'tibor qaratadi.

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GAT TEXNOLOGIYALARIDA LANDSHAFT KARTALARINI YARATISH METODIKASINI TAKOMILLASHTIRISH

Annotatsiya: Ushbu ilmiy maqolada landshaft kartalarini o'rganish, yo'nalishlar bo'yicha mavzuli qatlamlarni shakllantirishda GAT texnologiyalarini qo'llash, zamonaviy usullar yordamida ma'lumotlarni tezkorlik bilan to'plash hamda landshaft kartalarini yaratish maqsadida alohida metodika ishlab chiqilgan.

Kalit so'zlari: landshaft kartalar, masofadan zondlash, GIS, deshifrovka, geomatica.

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IMPROVEMENT OF THE METHODOLOGY FOR CREATING LANDSCAPE MAPS USING GAT TECHNOLOGIES

Abstract: This scientific article develops a special methodology for studying landscape maps using GIS technologies to form thematic layers by directions, promptly collect data using modern methods and create landscape maps.

Key words: landscape maps, remote sensing, GIS, decoding, geomatics.

O'zbekiston Respublikasining barcha hududlaridagi kabi Jizzax viloyati, Forish tumanida respublikada mavjud bo'lgan landshaft kartalaridan foydalanish kam uchraydi. Ushbu kartalardan foydalanish oqava va ichimlik suvlarini, o'simlik turlarini asrab avaylash va ularning turlarini saqlab qolish yuzasidan viloyatda hamda tumanda bir qancha chora-tadbirlar izchillik bilan amalga oshirilmoqda.

Landshaft xaritasi murakkab geografik xaritalar natijasidir, GISdan foydalangan holda tadqiqotlar yerdan foydalanish va transformatsiyaning amaliy muammolarini hal qilish uchun geoaxborot bazasi hisoblanadi. Landshaft-tipologik xarita asosida yaratilgan GIS (landshaft GIS) ning birinchi bloki landshaft xaritasini shakllantirish algoritmlaridan va landshaft konturlari (fatsiyalar, ularning taksonomik assotsiatsiyalari va o'zgaruvchan) to'riga bog'langan ma'lumotlar bazasidan iborat. davlatlar - biogeotsenozlar).

Mintaqani ijtimoiy-iqtisodiy tomondan qo'llab quvvatlashga yo'naltirilgan masalalarni amalga oshirishda mintaqada amalga oshirilayotgan bunyodkorlik ishlari, o'simlik dunyosining xolati, dehqonchilikda kuzatilayotgan natijalar kabi barcha tafsilotlarni tezkorlik bilan tahlil qilib, zaruriy natijalarni olishda eng samarali tanlov bu o'simlik dunyosi raqamli kartalardan samarali foydalanishdir.

Chunki ushbu kartalar bir vaqtning o'zida asosiy ishlab chiqaruvchi hamda iste'molchi sifatida jamiyat taraqqiyoti uchun hal qiluvchi o'rinni egallaydi.

Forish tumani bo'yicha landshaft kartalari bilan bog'liq bo'lgan raqamli kartalarni loyihalash va tuzishda dastlab hududni kichik mahalliy mintaqalarga ajratib o'rganish maqsadga muvofiqdir. Chunki tanlangan ob'ekt Forish tumani tabiati va reliefi bo'yicha turlicha.

Mazkur kichik mintaqalar o'simlik dunyosi kadastr ma'lumotlarining ishonchliligini oshirishga va iqtisodiy islohotlarni amalga oshirish, iqtisodiy barqarorlikka erishishda o'ziga xos o'ringa ega.



1-rasm. Tumanni kichik mahalliy mintaqalarga ajratilishi.

Kartografik asos va zondlash materiallarini to'plash, kadastr raqamli kartalarini yaratish uchun GAT dasturlarini tanlash hamda yangi raqamli kartografik asosni ishlab chiqish masalalari nazarda tutilgan.

Ushbu bosqichning birinchi kichik gurihi kartografik asos va zondlash materiallarini to'plashda kadastr raqamli kartalarini tuzish va yangilashda masofadan zondlash hamda ilgari nasht etilgan kartalar to'planadi.

Masofadan zondlash materiallarini olishda Google Earth dasturi orqali landsat 8 kosmik kema ma'lumotlari hamda respublika aerogeodeziya tomonidan amalga oshirilgan parvoz, ya'ni uchuvchisiz uchush apparatlari UUA va dronlardan olingan materiallardan foylanildi. Kartalarni tuzish va yangilashda masofadan zondlash materiallari dastlabki manba hisoblanadi.

Dronlarda olingan fotosuratlardagi tasvirlarning shakllanishida atmosfera omilining ta'siri muhim ahamiyat kasb etadi chunki, bulutli havoda ob'ektlarning soyasi bo'lmaydi va ularni hajmli kuzatish imkoniyati yuqori bo'ladi.

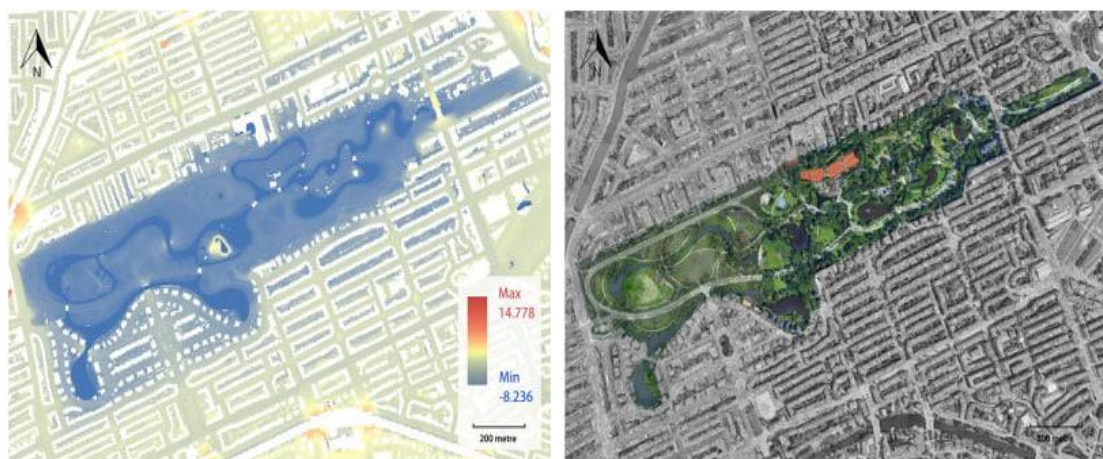
Xaritani yaratishda GIS texnologiyalari optimal tashkil etish imkonini beradi dala tadqiqotlari, o'z ichiga olgan fazoviy ma'lumotlar bazasini yaratish hududning landshaft komplekslarini tavsiflovchi hudud ma'lumotlari va uning asosida

landshaft komplekslarining chegaralarini avtomatlashtirilgan aniqlash va ularni tiplashtirish algoritmlarini shakllantirish va ulardan foydalanish mumkin.

Landshaft kartalarni yangilash jarayoni asosan masofadan zondlash materiallari negizida bajariladi. Masofadan olingan ma'lumotlarni qayta ishlab GAT dasturlariga yuklanadi hamda mavjud karta bilan ustma ust tushirilishi natijasida sodir bo'lgan o'zgarishlar yoqqol ko'zga tashlanadi. Agarda kartada mavjud ob'ektlar suratda yo'q bo'lsa yoki uni aksi bo'lsa, masofadan zondlash materiallariga moslanadi. Shu tariqa o'zgarishlar darajasiga qarab kartalar yangilanib boriladi.

Masofadan zondlash materiallarini landshaft kartalari yaratish maqsadlari uchun mavzuli deshifrovka qilish va geovizuallashtirish, kadastr ma'lumotlarini raqamli kartografik asosga geofazoviy hamda geografik makon bo'yicha tushirish masalalariga ahamiyat qaratilgan.

Suratlarni deshifrovka qilishda bir qancha metodlardan foydalaniladi, jumladan vizual deshifrovkada inson ko'zi ko'rish darajasidagi suratlardan foydalaniladi. Bunda optik diopazonning ko'rinadigan spektrida olingan suratlardan foydalaniladi va ular vizuallashtiriladi va GAT dasturlarida modellashtiriladi 2-rasm.



2-rasm. Ko'rinadigan spektrida olingan kosmik surat.

Kichik tizim ma'lumotlar bazasini shakllantirish ularni qayta ishlash va yangilab borish hamda analitik, sintetik, kartografik ma'lumotlarni olish masalalari o'z aksini topgan. Yig'ilgan axborotlar maxsus kadastr kichik tizim ma'lumotlar bazasida shakllantiriladi. Landshaft kartalari ma'lumotlar bazasi kichik tizimi axborotlarni turkumi bo'yicha va zarur bo'lganda matn, jadval, diagramma va geoikonika tarzida olishga zamin yaratadi.

Olingan geoma'lumotlar bazasining modeli mintaqada landshaft kartalari olish uchun ishlab chiqildi. Hududda ushbu jarayonlarni tadqiq qilish xamda ularni o'rganishning uslubiy asoslari kartografik tadqiqot usullariga asoslanilgan.

Landshaft kartalarini tayyorlashda masshtab tanlash va dizayn ishlari, kadastr karta va sxemalarini yaratish, xisobotlarni tayyorlash hamda nashr qilishni qamrab olgan.

Elektron kartalarni tuzish jarayoni kartografik ma'lumotlarni avtomatik tarzda raqamli shaklga aylantirish, raqamli kartografik axborotlarni va elektron kartalarni avtomatlashtirilgan holda tahrirlanadi.

GAT texnologiyalari maxsus dasturlarida landshaft kartalarini tuzishda tegishli yo'nalishlar bo'yicha to'plangan manbalar asosidagi yaratilgan ma'lumotlar bazalarini raqamli ko'rinishga aylantiriladi. Raqamli kartalar elektron tashish qurilmalari orqali tegishli tashkilotlarga taqdim etiladi va zarur bo'lganda nashr qilinadi.

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THE ASSESSMENT OF THE CAUSES OF POVERTY IN THE TASHKENT REGION AND MEASURES TO REDUCE IT (BASED ON A SOCIOLOGICAL SURVEY)

Abstract: *This article discusses the causes of poverty in the Tashkent region and the assessment of measures to reduce it (based on a sociological survey). The article also analyzes the results of the study based on the answers of respondents who participated in the sociological survey.*

Key words: *Sociological survey, poverty, state program, inflation, employment, entrepreneurship, investment, education system, transport infrastructure, entrepreneurial activity.*

In recent years, important reforms have been implemented in the Tashkent region aimed at reducing poverty in the regions, the territorial characteristics of poverty. In order to study the causes of poverty and ideas on implementing measures to reduce it, as well as to identify problems related to ensuring employment of the population by creating new jobs to reduce poverty in the Tashkent region, their study and analysis, and identification of problems that hinder poverty reduction are defined as the main tasks of the research work.

Sociological surveys are widely used in studying the socio-demographic situation of the population of the region. The fact that questionnaire surveys are comprehensively structured based on a specific purpose is of great importance for the effective conduct of research. It allows for a wide study of the employment, demands and needs of the population in the sectors of the economy. In this case, the researcher must carefully plan the ways of processing and analyzing the results of the questionnaire survey.

Poverty as a social phenomenon has been of interest not only to economists-researchers, but also to geographers. Today, there is a growing interest in analyzing this problem from the perspective of a sociological approach, which allows us to identify the versatility of the approach, justify the feasibility of an integrated approach to analysis, and develop strategic approaches to eliminating poverty in modern conditions.

In the context of modernization and globalization of the economy, socio-economic changes taking place in the lives of the population cannot but affect their living conditions and work to a certain extent. In any developed society, the needs of the population are primary and are closely related to ensuring employment and creating broad opportunities for them. This, in turn, leads to many positive changes in the living conditions of the population. In most scientific studies on poverty and its territorial characteristics, statistical, analytical, and socio-economic survey methods have been widely used to reflect problems and their solutions. In this regard, by observing the territorial characteristics of poverty in the Tashkent region, socio-economic problems and socio-demographic factors affecting them were studied using the socio-survey method.

The results of the survey, conducted in order to assess the causes of poverty and measures to reduce it, collect employment and other socio-demographic data, were selected from 10 neighborhoods of the region's districts and cities on the basis of a social selection in July-August 2023. A total of 250 respondents participated in the sociological survey.

The questionnaire was conducted among residents of Yakkatut, Enbek, YukoriChirchik district, Kangli, Obodon, Surankent, Kokmuyin, OrtaChirchik district, Bozsuv, Nazarbek neighborhoods of Zangiota district, Chirchik, Almalyk cities.

The main purpose of the questionnaire is to substantiate theoretical approaches to the study of poverty from the perspective of a sociological approach and to present the main characteristics and regional differences of poverty as an object of sociological analysis. The presented results are based on empirical data from the author's research, which characterize the perception of poverty by different segments of the population, the main characteristics of the poor, and the regional characteristics of poverty in general. The author substantiates the idea that poverty is a complex multidimensional, multifactorial phenomenon that requires a specific comprehensive strategy to reduce it and ideally eliminate it. The problem of poverty cannot be solved only by economic measures or, conversely, by social measures aimed at supporting various categories of the population. It would also be appropriate to identify the geographical factors that cause this problem and scientifically study their impact.

The results of a sociological survey conducted in the regions in order to determine the formation of the urbanization process in the region, the development of production and social infrastructure, the extent to which the vast opportunities created for the population in the regions are being used, the quality of the economic sectors created for the benefit of the population, and to study the level of poverty in the regions and the factors affecting it were as follows.

It is worth noting that in order to identify and study the main factors causing poverty in the regions of the region, in the course of a sociological study by the author, when asked "Determine the main factor causing poverty in the area where you live," 36% of the survey participants answered natural-geographical factors,

30% economic-socio-geographical factors, 30% economic factors, and 4% other factors (Figure 1.)

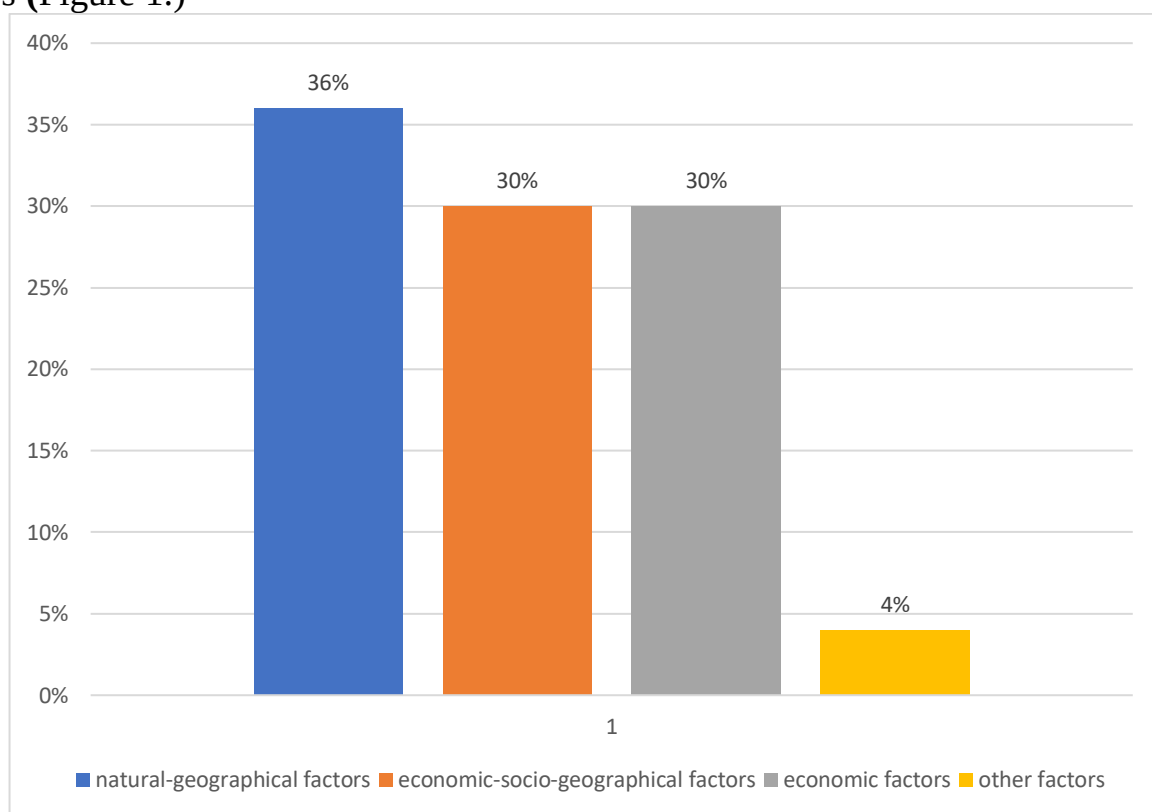


Figure 1. The results of a sociological survey. The factors causing poverty

When asked which natural and geographical factors they consider to be the main cause of poverty in the area where they live, 39% of participants answered water scarcity, 28% soil salinity, 25% climate change, and 8% natural disasters (Figure 2.).

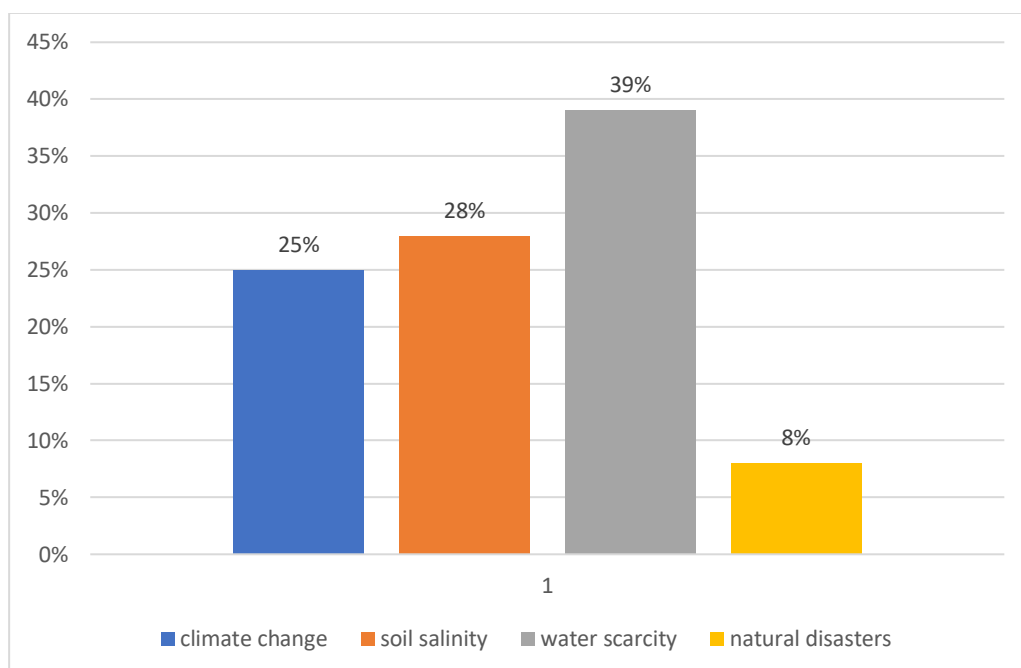


Figure 2. The results of a sociological survey. The natural and geographical factors causing poverty

According to the results of the research, the main reason why the population identifies the natural and geographical factor as the main factor causing poverty in the regions is the changes in nature, water shortage, soil salinization and natural disasters in recent years. In particular, water shortages are mainly due to the inability of the population engaged in agriculture to harvest crops from the lands that are their source of income or a sharp decline in yields, which is reducing their financial capabilities. This, in turn, is observed in these regions as a gradual increase in the level of poverty. When asked which of the economic and geographical factors they consider to be the main cause of poverty in the region where they live, 41% of the participants answered that the absence or lack of industrial enterprises is the main cause of poverty, 21% are poorly developed transport infrastructure, 27% are the lack of agricultural land, and 11% are the presence of natural resources (forests, lakes, rivers, etc.) (Figure 3.).

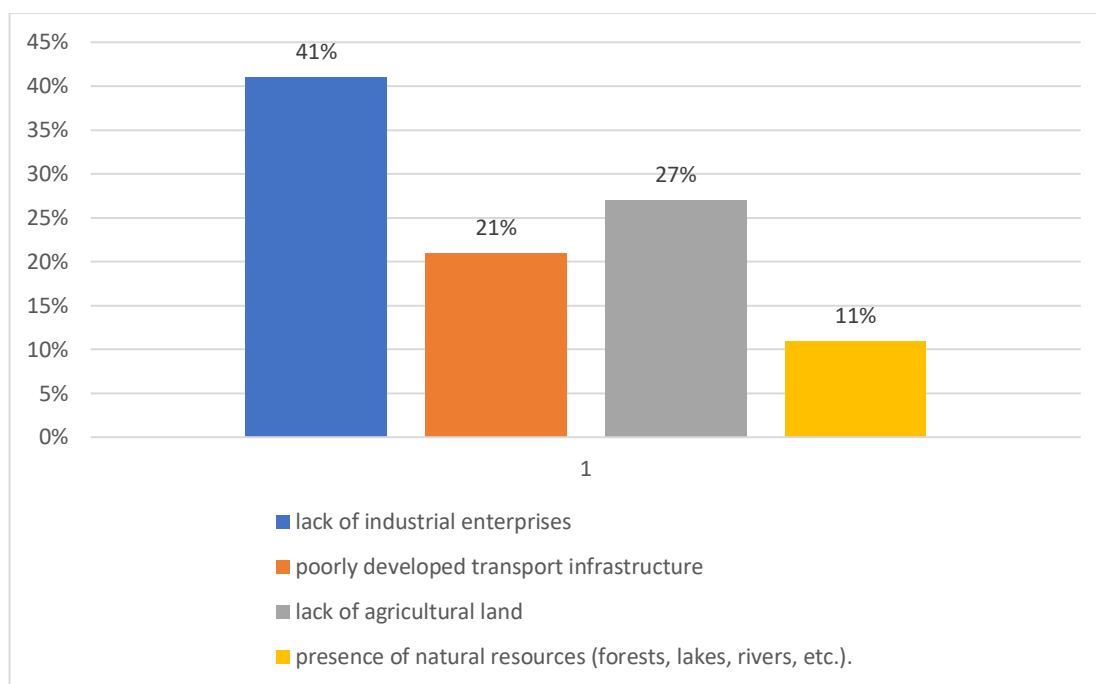


Figure 3. The results of a sociological survey. The economic and geographical factors causing poverty.

The 41% of respondents said that the most important economic and geographical factor causing poverty in their area is the lack or absence of industrial enterprises. They believe that more industrial enterprises should be established in the districts. Because the more enterprises there are, the more people will be provided with jobs, which will increase their income and, in turn, reduce poverty.

Moreover, the poorly developed transport infrastructure of the local population, the lack of even paved roads in some neighborhoods, and the high cost of transportation reduce the ability of residents to commute to enterprises and organizations located far from where they live. In addition, some respondents noted that factors such as the lack of agricultural land and the lack of natural resources (forests, lakes, rivers, etc.) also cause poverty.

When analyzing the economic and geographical factors that cause poverty, the employment rate of the region's population was as follows. The population with a permanent job was 66.5 percent, the employed population with a seasonal job was 24.5 percent, and those with an informal job and working in other regions of our republic and abroad were 9.0 percent. Many problems occurring in the socio-economic life of the region's population and labor resources sometimes occur due to the participation of those with an informal job and working in our republic and abroad. The negative aspects of informal labor migration for the region are primarily manifested in the outflow of qualified labor, and on the other hand, it causes a decrease in the interest of the emerging labor resources in improving certain professional skills.

This, in turn, has a negative impact on the quality indicators of labor resources. According to the results of many years of research, in some districts of

the Tashkent region, the number of people working in foreign countries is significantly higher than in other regions. In particular, the fact that the region borders the neighboring state of Kazakhstan serves as the main reason for this. This, of course, has a positive effect on reducing poverty among the population in the regions. However, the constant work of qualified personnel in other countries creates a personnel problem in the regions.

The results of research conducted on the regional labor market show that local labor resources are often less competitive in terms of their quality. However, the current market relations that are being formed, due to the increasing demand for qualified workers, the rapid obsolescence of the content of professions and qualifications, and the formation of a continuous education system, necessitate regular enrichment of knowledge. This situation indicates the need to increasingly satisfy the needs of the oasis labor resources for knowledge. The current situation in this regard was clearly reflected in the sociological study conducted by our research. According to the analysis of the study, it became clear that the need for education in the region is growing.

As mentioned above, the internal potential of the region is not yet fully utilized in the work to increase the employment of the population and improve their income. To be more precise, the development of some types of entrepreneurship, based on local conditions, is not being paid attention to by the khokimiyats. As a result, those who want to engage in this type of activity face various difficulties, and a feeling of distrust arises towards them. This is observed in those who want to organize farms, conduct business in the fields of local crafts, healthcare, industry and services, and they face certain difficulties in registering with the relevant organizations, obtaining land, buildings and structures, as well as funds from financial sources.

The situation in Tashkent region is also clearly reflected in socio-demographic surveys conducted by the author among the population. For example, according to the results of a survey conducted in 2023, 25.6% of respondents admitted that it is difficult to formalize entrepreneurship, and 39.4% - to obtain funds, while the rest noted the high level of unjustified interference in entrepreneurial activity. The 15.3% of those surveyed were previously engaged in entrepreneurial activity and abandoned it for certain reasons. It is known that in the commercial intermediary (trade - sale) type of entrepreneurship, due to the high turnover of funds, expenses are recouped in a short time. In addition, it is possible to start work at your own pace, without receiving money from the state.

Therefore, in the studied region, as in most regions of the republic, there is a majority of those who want to engage in this type of entrepreneurship.

Based on the natural, socio-economic conditions of the region and the sectoral structure of employment, the majority (32.6%) of those who want to run their own farm. At the same time, relatively few people are interested in doing business in the industrial, household goods production and construction sectors. Since almost half of the region's population lives in cities, they expressed a desire to engage in formal and informal service sectors.

Young people interested in tourism, one of the most profitable industries in many countries of the world, formed the majority. Although, the region has many tourist attractions and recreational tourism destinations with unique natural and climatic conditions, we can see that there are an extremely large number of people who want to engage in this type of entrepreneurship.

The results of the study indicate that in relatively developed regions, the majority of respondents prefer to conduct entrepreneurial activities related to trade and commercial production. These include district centers, as well as cities and towns.

When asked which socio-economic factors they consider to be the main cause of poverty in the region where they live, 44% of the participants answered that the increase in prices was high, 28% said that the unemployment rate was high, 22% said that the level of economic development of the region was low, and 8% said that social problems (alcoholism and drug abuse, crime, social deprivation, public health) were the main causes of poverty in the region (Figure 4.).

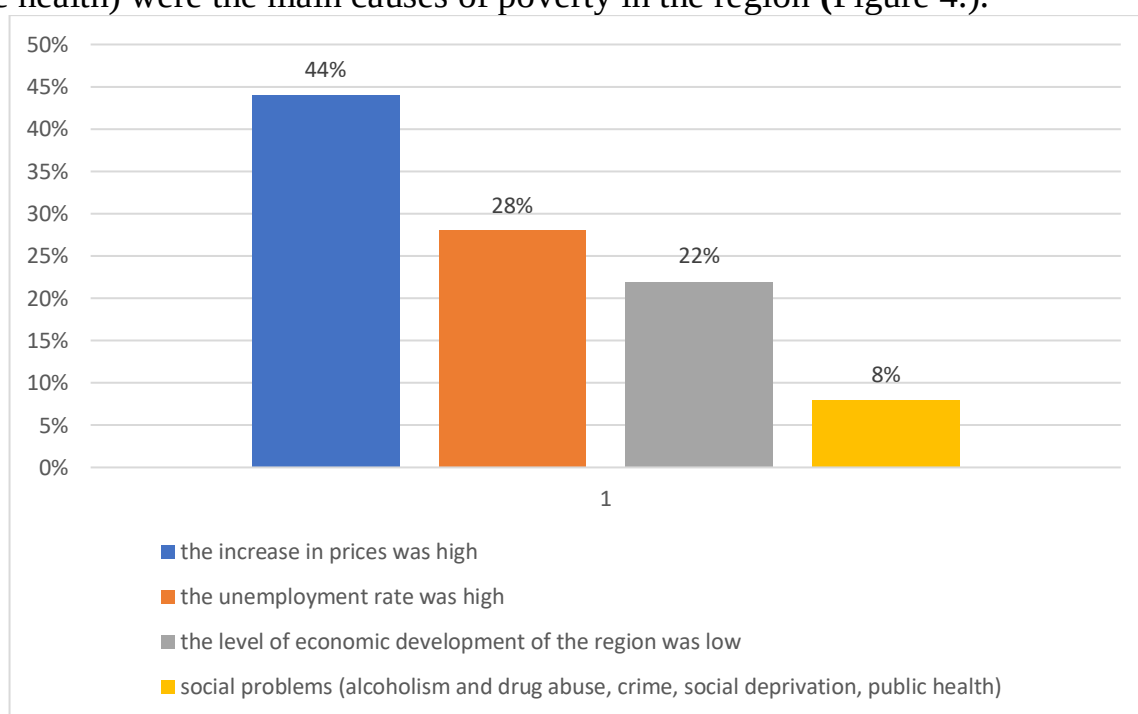


Figure 4. The results of a sociological survey. The socio-economic factors causing poverty

The survey results show that most respondents noted the increase in prices, i.e. high inflation, as the main economic factor of poverty in the regions. The main reasons for this were the following:

- the low level of development of industrial enterprises in the regions;
- the lack of an approach to the location of production and service facilities in rural areas, taking into account population density and service area;
- the poor functioning of mechanisms for increasing the export potential of local enterprises and their stimulation;

- the low volume of agricultural production of local farmers and peasant farms to prevent food price increases;
- the low level of stimulation of small businesses and family entrepreneurship, taking into account their work to reduce the price level;
- the lack of incentives for electricity, gas, water and utility bills, which leads to an increase in the cost of manufactured products, construction work and services;
- the small amount of long-term preferential loans for the construction and repair of enterprises;
- the lack of a rational approach to determining patent fees by tax inspectorates;

We believe that the implementation of the above conclusions and proposals would have made a significant contribution to the development of all sectors of the economy in our republic and the Tashkent region. This would have significantly reduced inflation in the regions and thereby increased the incomes of the population and prevented them from falling into poverty.

To the question “What level of poverty do you consider your family to be?”, 4% answered “bad”, 6% “average”, 87% said our family is free from poverty, and 3% said it was difficult to answer (Figure 4.).

When asked what they would do if their family’s financial situation worsened, the residents of the region indicated that they preferred to use the following constructive strategies:

- we will look for an additional source of income (31.0%);
- we will try to get a higher-paying job (12.0%);
- we will try to earn money in any way (1.8%);
- we will activate a personal subsidiary farm (17.2%);
- we will engage in family entrepreneurship (18.0%);
- we will go to work abroad (10.0%);
- we do not know what to do (10.0%).

Approximately 10 percent of respondents to the survey said they did not know what to do if their family's financial situation worsened.

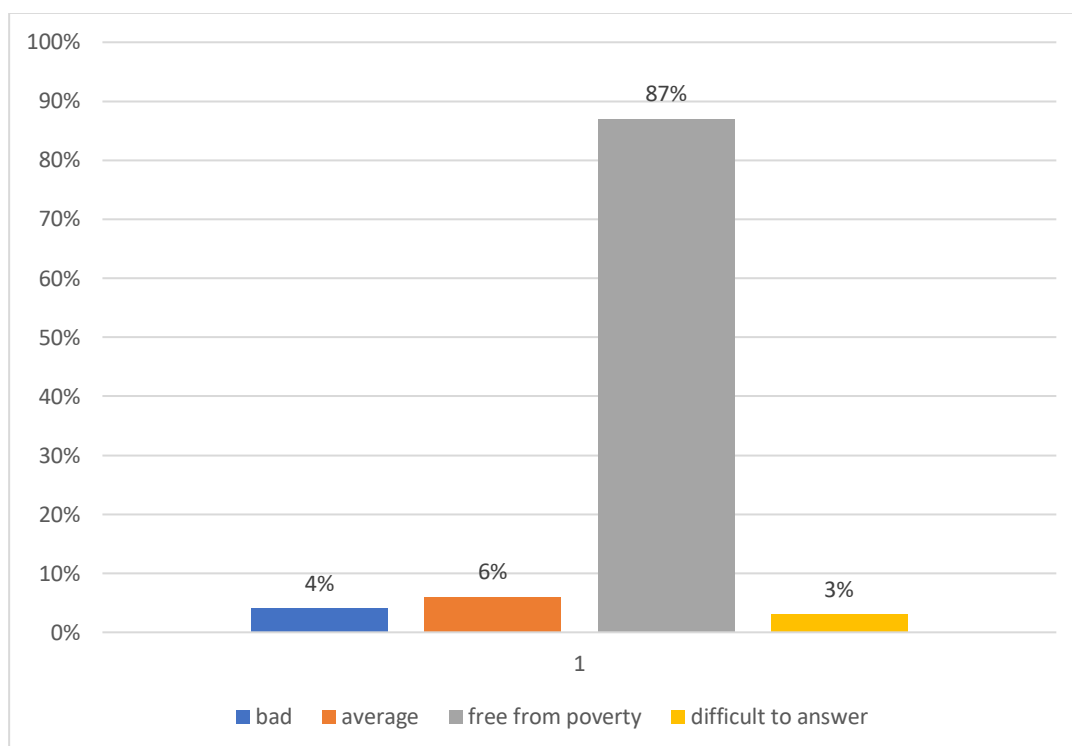


Figure 4. The results of a sociological survey. The level of poverty in the region

According to the results of a quantitative research conducted with the help of local government bodies in the studied area, the absolute majority of respondents (80.3%) recognize the existence of a poverty problem in the settlements where they live.

According to the results of the research, it can be seen that the poverty level in the cities and towns of the region is somewhat lower than in rural settlements. The main reasons for this can be attributed to the large number of economic entities in cities, well-developed infrastructure, and the relatively high cost of real estate (housing stock, land plots).

When asked the question “How do you assess the work aimed at reducing poverty in the area where you live?”, 55% of the survey participants said it was good, 30% average, 10% bad, and 5% of the population said it was difficult to answer this question (Figure 5.).

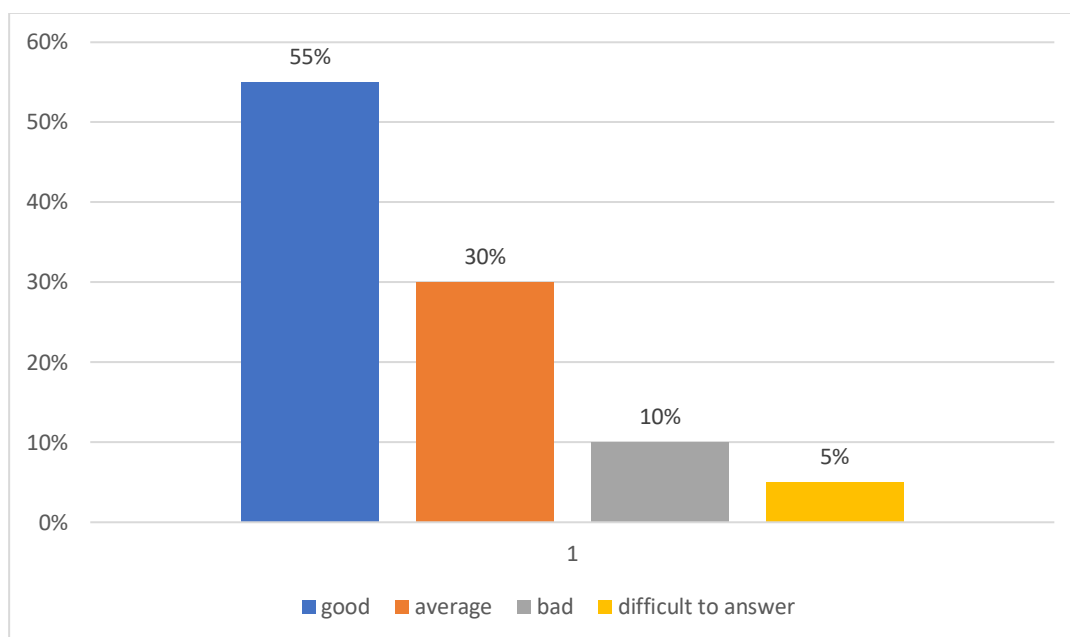


Figure 5. The results of a sociological survey. The work aimed at reducing poverty in the region

The results of the research showed that 10% of respondents note the ineffectiveness of the work being carried out in the regions to reduce poverty. According to the population of the region, measures to eliminate and prevent poverty in the region are also ineffective. However, the subjective assessment of the respondents' presented measures allows us to draw the following conclusions. According to the respondents, the most effective measure is to increase the targeting of material assistance only to those in real need. In second place is an increase in social benefits for all privileged categories of citizens, and in third place is the creation of specialized state charitable funds. They also emphasized the gradual increase in pensions.

The majority of respondents also suggested accelerating the implementation of such measures as the economical use of water resources in agriculture, improving the land reclamation condition, increasing the use of local fertilizers, combating wind and water erosion, and taking into account the level of poverty in the regions when deploying production forces.

Taking everything into consideration, the subjective assessment of the respondents reflects the ineffectiveness of the measures taken to reduce poverty.

In conclusion, it can be said that when the opinions of those who participated in the sociological survey on the state of poverty in the region, the possibilities for its reduction, and the employment of the population were studied, a large part of the population responded negatively to the state of measures aimed at reducing poverty in the regions. This indicates the need for a scientific analysis of poverty in the region and further improvement of the possibilities for reducing the problem of poverty in the regions.

It should be noted that there are many areas where entrepreneurial activity can be carried out in the districts, and at the same time, there are many people who

want to become entrepreneurs. If they are assisted by local governments and relevant organizations, and their initiatives are supported, thousands of new jobs can be created. For example, creating various tax incentives for entrepreneurial activity, supporting it with preferential loans from banks will create new jobs not only in the region but also throughout the republic, thereby reducing unemployment, and ultimately achieving the goals of socio-economic development.

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CLINICAL COURSE OF MEASLES IN ADULTS

Abstract: *This article is devoted to the study of measles infections in adults. Measles is an acute infectious disease characterized by high fever, intoxication, and the appearance of a maculopapular rash. In recent years, there has been an increase in measles cases among adults, which is associated with mass vaccination of children. The study covers 129 patients who sought treatment at the clinical infectious diseases hospital of the Samarkand region in 2023. A retrospective analysis of medical records showed that 25% of those hospitalized were adults, of which 64% were aged 18-59 years. Most patients had concomitant diseases, which affected the course of the disease. The article also discusses the clinical manifestations of measles, including symptoms of neurological disorders and the duration of hospitalization.*

Keywords: *adults, measles infection, serous meningoencephalitis, asthenoneurotic syndrome, severity, course.*

Introduction. Measles infection is an acute infectious disease that occurs with high temperature, severe intoxication, is characterized by the appearance of maculopapular exanthema, asthenovegetative and dyspeptic manifestations, and is also characterized by damage to the central nervous system such as serous meningitis and meningoencephalitis. [2,8]. The causative agent of this infection is a highly contagious virus, the contagious index of which is about 98 percent, has the property of quickly spreading among people, the measles virus is sensitive to various physical and chemical factors [1]. The disease spreads through talking, coughing and sneezing. Measles infection is seasonal and mainly occurs in winter and spring. The disease is more common in children aged 1 to 7 years, in children under 6 months measles is rare, which is due to the transfer of maternal immunity to them, while in children aged 6-9 months, due to the gradual disappearance of maternal immunity, there is a greater chance of getting sick. [3]. In recent years, due to the mass measles immunization of children, adults have increasingly begun to get measles, a distinctive feature of which is severe intoxication and the predominance of symptoms of damage to the central nervous system. At the very onset of the disease, headaches, sleep disturbances, and sometimes vomiting appear [6]. During the rash, these symptoms are most pronounced. Patients are lethargic, adynamic, poorly oriented in the environment, in some cases encephalitis or meningoencephalitis develops [4]. In this regard, measles infection in adults has

become a pressing problem in the context of modern medicine, which served as the reason for this study [7].

Purpose of the study: analysis of the course of measles in adults and neurological changes in serous meningitis and meningoencephalitis (measles etiology) in patients.

Materials and methods of the study. The material for the study is 129 patients who applied to the Regional Clinical Infectious Diseases Hospital of the Samarkand Region in 2023, and their medical histories. The subject of the study is blood, urine, blood serum, patient examination protocols. When examining patients, clinical, epidemiological, laboratory - general blood test, general urine test, general stool test, biochemical, serological, ELISA and statistical methods were used. In combination with standard examination methods, in individual patients, if necessary, an analysis of the prothrombin index, blood coagulation system, protein and protein fractions, determination of the level of alkaline phosphatase, amylase and cholesterol, cerebrospinal fluid were performed. Of the instrumental studies, ECG, CT, and ultrasound examination were performed.

Results and discussion. In 2023, a retrospective analysis of the medical records of 129 patients in the Regional Clinical Hospital with a diagnosis of measles infection was carried out. Adults accounted for 25% of hospitalized patients with a diagnosis of measles infection. When monitoring patients, the main attention was paid to the epidemiological factors of this disease at the present stage, age characteristics and concomitant diseases of patients.

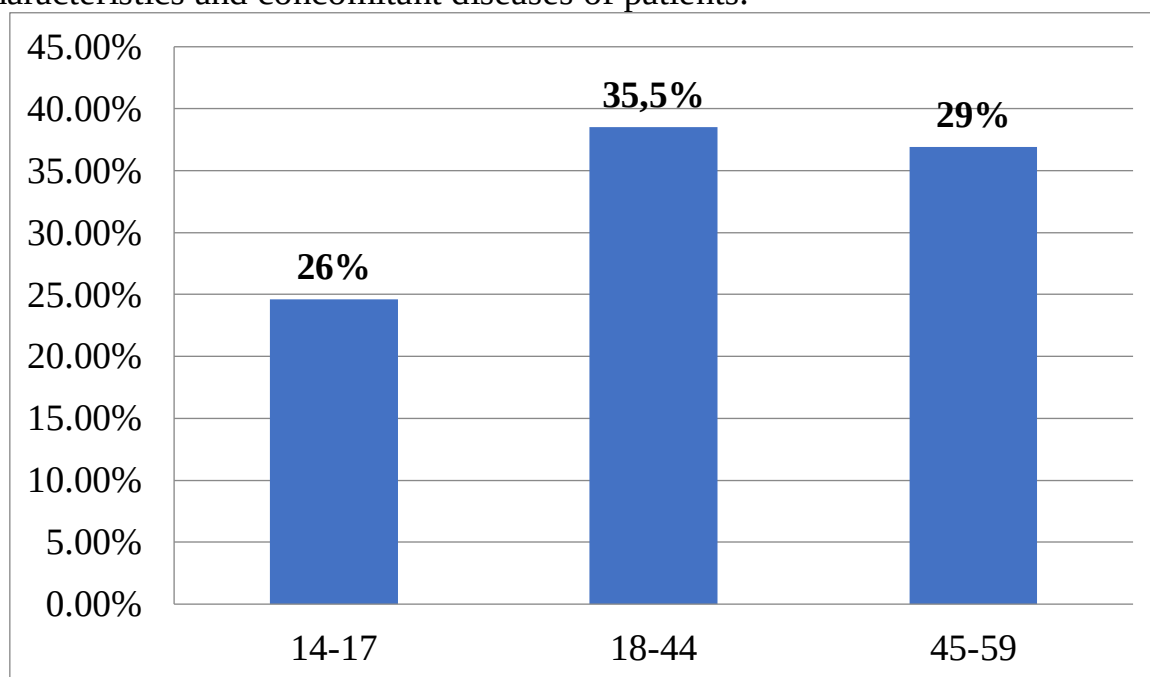


Figure 1. Division of patients by age

According to the results of the analysis, the distribution by age. Measles infection was common among adults in the following age range: 18-59 years (64%). The age range of the remaining patients was up to 17 years - 26% (Fig. 1). Analyzing the age structure of adult patients, it can be noted that this disease is "mature". In the observed adult patients, concomitant diseases were also studied. Thus, 56.7% of

patients had the following concomitant diseases: obesity - 13.4%, arterial hypertension - 3.2%, cholecystitis - 9.8%, chronic viral hepatitis - 3.2%, chronic tonsillitis - 25.3%, chronic colitis - 1.7%, facial nerve neuritis - 4.3%, chronic gastritis - 11.5%, chronic pancreatitis - 8.7%, chronic sinusitis - 7.6%, adnexitis - 11.3% and other diseases. By bed-days of patients up to 5-10 days - 11.3%, up to 10-16 days - 25.2%, up to 16-25 days - 30.5%, up to 25-30 days - 22.4%, more than 30 days - 10.6%. In patients with a combination of concomitant diseases, an increase in bed-days was recorded (32.7%). According to the analysis of the seasonality of the disease, patients were treated: January - 6.8%, February - 12.9%, March - 8.6%, April - 8.6%, May - 5.1%, June - 5.1%, July - 8.6%, August - 13.7%, September - 10.3%, December - 11.2%.

The study revealed that the main place in the seasonality of the disease was occupied by spring and autumn months.

When analyzing the admission of patients, it turned out that 5% of patients were hospitalized on the 1st day of the disease, 43.3% - on the 2nd day, 45.6% - were hospitalized on the 2-3rd day of the disease (88.9%).

According to literary data, it was established that in adults the disease occurs mainly in moderate and severe forms [5]. This statement was also confirmed by our observations. Moderate and severe forms of the disease were observed in 85.7% of cases, mainly in patients aged 18-59 years. A mild form of the disease was observed mainly in 17-18 year olds.

The disease began in an acute form in all patients. The initial signs of the disease were an increase in body temperature (100%) and the appearance of a maculopapular rash, which appeared in stages, the first elements of the rash were noted behind the ears, then the rash covered the patient's face and gradually the rash went down and covered the lower part of the patient's body. The characteristic features of the rash were its bright red color, the rash often merged and appeared against the background of non-hyperemic skin. One of the main symptoms of measles infection is Stimson's symptom - cough, runny nose and conjunctivitis. This symptom appeared on the 1st day of the disease, in 90% of cases. On the 2nd-3rd day of the prodromal period, a pathognomonic symptom of measles appears - Belsky-Filatov-Koplik spots, which are of great diagnostic value. The rash is located on the mucous membrane of the cheeks opposite the premolars in the form of delicate, small, white spots protruding above its level and surrounded by a red rim with irregular borders. It seems as if the mucous membrane of the cheeks is sprinkled with semolina. 7

Patients noted the following symptoms: high body temperature (100%), weakness (100%), conjunctivitis, cough, rhinitis (89.7%), headache (98.7%), maculopapular rash (96.7%), Belsky-Filatov-Koplik symptom (77.5%), measles enanthem (34.5%), abdominal pain (23.4%). Fever peaked within 1–3 days and lasted 4–8 days. Patients had fever lasting up to 3 days (80%), 16% had fever lasting up to 5–6 days, and 4% had fever lasting up to 7–8 days.

The following positive meningeal signs were found in patients: Brudzinski's upper symptom in 67%, rigidity of the occipital muscles in 87.7%, Kernig's

symptom in 65.3%. The remaining meningeal signs are weakly expressed. Pathological reflexes were not noted. Meningeal symptoms appeared on the 7th-10th day of the disease and persisted for 10-15 days. In 70.8% of patients, the disease was severe. In two patients, the disease was in the form of meningoencephalitis. Acute neurological signs of the disease were observed mainly in the form of meningoencephalitis. All patients underwent clinical and neurological observation in the acute period, including assessment of the severity and duration of intoxication symptoms, meningeal, general cerebral, focal and neurological symptoms, as well as lumbar puncture followed by examination of cerebrospinal fluid (pleocytosis and protein). The severity of serous meningitis of measles etiology was assessed by the presence of general cerebral (headache, vomiting) and meningeal symptoms, their duration, the presence or absence of focal neurological symptoms and pleocytosis.

At discharge, 27% of patients still had the following complaints: irritability, sleep disturbance, weakness, loss of appetite, migraine-like headaches. These symptoms are mainly observed in asthenoneurotic syndrome. It is known from the literature that asthenoneurotic, diencephalic and hypertensive syndromes often persist for a long time after measles meningitis.

During observation of patients, various functional and organic disorders of the central nervous system were revealed. Thus, according to our observations, the frequency of asthenoneurotic syndrome was 35.5%, hypertension 12.9%, migraine 9.7%, decreased concentration 3.2%, focal lesions of the central nervous system 6.5%.

Conclusion. In adults, measles infection is quite severe and leaves serious complications. It has been established that the outcomes of measles infection are determined by the timing of convalescence. In the first 3 months, asthenoneurotic, diencephalic and hypertensive syndromes predominate, and from 6 months to 3 years, focal symptoms necessitate dispensary observation for at least 3 years and further rehabilitation. Given the complications and adverse effects in the outcome of measles infection in those who have had the disease, it is necessary to conduct proper educational work among the population on immunization against this infection and in young people (15-20 years).

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O'ZGARUVCHAN TOK ELEKTR YURITMALARINING QUUVVAT KOEFFISIENTINI OSHIRISH

Annotatsiya: Ushbu maqolada asosan elektr yuritmalardagi quvvat koefitsientini oshirish choralari ishlab chiqish va tavsiyalar berish haqida malumot keltirilgan.

Kalit so'zlar: O'zgaruvchan tok, o'zgaruvchan tok elektr yuritmasi, elektr yuritmaning tezligini rostdlash, chastota o'zgartkichlar, elektr yuritmani chastota o'zgartkichlar orqali boshqarish va elektr motorning nominal ish rejimlari.

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INCREASING THE POWER COEFFICIENT OF AC ELECTRICAL SYSTEMS

Abstract: This article mainly provides information on the development and recommendations for measures to increase the power factor in electrical installations.

Keywords: Alternating current, alternating current electric drive, speed control of electric drives, frequency converters, control of electric drives using frequency converters, and nominal operating modes of electric motors.

Hozirgi kunda dunyoda energiya tejamkorlik masalasi global muammoga aylanmoqda. Xar qaysi ishlab chiqarish korxonalarida mavjud o'zgaruvchan tok elektr yuritmalarini tahlili va ularda energiyani tejash choralari muhimligicha qolmoqda. Elektr yuritmalarni quvvat koefitsientini oshirishga qaratilgan mazkur ish ulardagi jarayonlarni o'rganishga va tezlikni rostdlashga qaratilgan barcha choralarni tahlilini talab qiladi.

Bugungi kunda chastotali tezlik rostlagichlarini qo'llash orqali elektr yuritmalarni tezligini roslash va energiya tejmkorligini oshirish imkonini beradi. Ammo ularni ishlatish va rostlash diapozonlarini aniqlash asosiy dolzarb muammolardan biri hisoblanadi. Elektr uskunalari va tarmoqlarning o'ta eskirgani sababli, mavjud elektr yuritma tizimidan maqbul darajada foydalanishning imkoni bo'lmayapti, bu esa elektr yuritma aktiviyatigada ko'plab muammolarni yuzaga keltirmoqda.

Ishlab chiqarishning iste'molidagi elektr energiyaning deyarli 70 foizi ko'p sonli ASM elektr yuritmalari uchun sarflanilishini inobatga olganda ulardagi motorning quvvatini to'g'ri tanlash juda katta ahamiyatga ega. Chunki motorni sotib olish uchun kerakli birlamchi mablag' va foydalanish jarayonidagi xizmatlar uchun sarflar motorning quvvatini to'g'ri tanlash bilan bog'liq. Quvvati kam bo'lgan motor tanlangan holda mexanizm talab etuvchi ish jarayoni buzilishiga, samaradorligi kamayishiga, avariya holatlari yuzaga kelishiga va umuman motor tez ishdan chiqishiga olib keladi. O'z navbatida quvvati ko'p bo'lgan motor tanlanganida esa mexanizmning iqtisodiy ko'rsatkichlari pasayishiga, uni qimmat bo'lishiga va energiyaning ko'p sarf bo'lishiga olib keladi. Bu holatda elektr yuritmalarning birlamchi narxi ko'payishiga, motorning FIK kamayishi oqibatida energiya ko'p sarflanishiga va bundan tashqari o'zgaruvchan tokli moslamalarda quvvat koeffitsiyenti yomonlashishiga sabab bo'ladi.

Motor quvvatini tanlashda elektr yuritmaladan talab etiladigan ish rejimi bajarilishi bilan birga kerakli issiqlik rejimi va kerakli mexanik yuklamasini ta'minlovchi quvvat tanlab olinadi. Shuningdek, motor quvvatini tanlashda elektr yuritma yuklanmasini turg'un va o'tkinchi rejimlarida hisoblash kerak bo'ladi. Buning uchun yuklanma diagrammalari quriladi. Yuklanma diagrammalari deb motorning aylanish momenti, quvvati va tokining vaqt bo'yicha o'zgarish grafiklari tushiniladi:

$$M = f_1(t); \quad P = f_2(t); \quad I = f_3(t)$$

Bunda berilgan yuklanma diagrammasi asosida tanlangan motor to'la yuklanilgan bo'lib, chegaraviy qizish miqdoridan oshmasdan ishlashi kerak. Bundan tashqari tanlangan motor ishga tushish vaqtini ta'minlash uchun yetarli bo'lgan ishga tushirish momentiga ega va vaqtinchali o'ta yuklanishlarda ham talab etiladigan ish rejimini ta'minlashi kerak. Aksariyat holatlarda motor quvvati avval qizish bo'yicha tanlanib, so'ng o'ta yuklanishlar bo'yicha tekshiriladi.

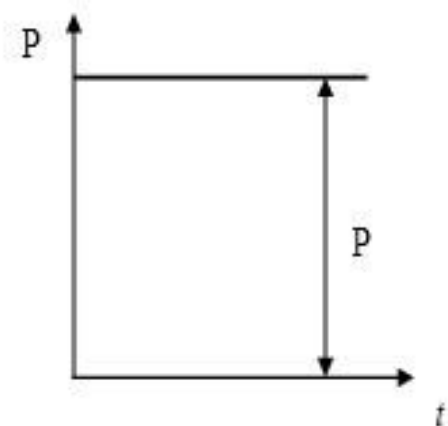
Motorning qizishi elektr energiyaning mexanik energiyaga o'zgartirish jarayonida vujudga keladigan quvvat isroflari tufayli hosil bo'ladi. Po'latdagi, misdagi energiya isroflari va ishqalanish bilan bog'liq bo'lgan isroflar motorning har xil qismlarini qizishiga olib keladi.

ASM motor quvvatini qizish bo'yicha tanlash uch xil ish rejimi uchun amalga oshiriladi.

1. Uzoq davom etadigan ish rejimi

Bu rejimda ish davri juda uzoq bo'lib, motor harorati o'zining turg'un qiymatigacha o'shib boradi. Bunday rejimda ventilyator va nasoslar motorlari ishlaydi.

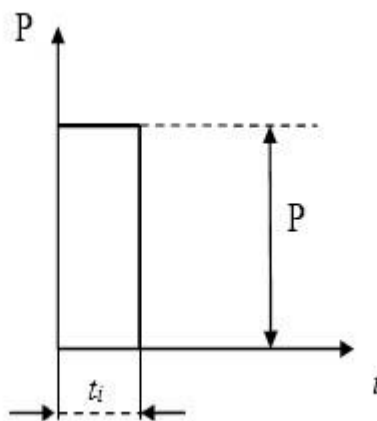
Ularning ish davri soatlab, kunlab davom etadi. Ushbu rejimning soddalashtirilgan ish grafigi quyidagicha bo'ladi.



1.1-rasm. Uzoq davom etadigan ish rejimining grafigi.

2. Qisqa muddatli ish rejimi.

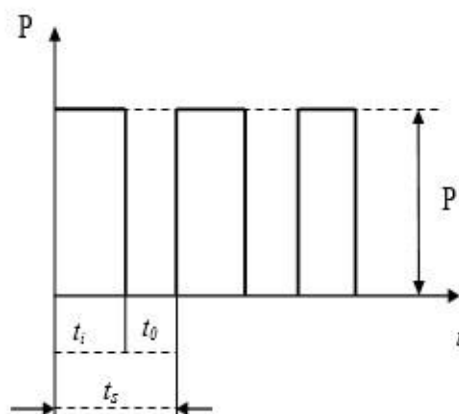
Bu rejimda motorning harorati turg'un haroratigacha etmaydi va to'xtab ishlamaydigan davri uzoq bo'lib, motor harorati atrof muhit haroratigacha tushadi. Bunday rejim shlyuzlar, ochilib-yopiladigan ko'priklarda uchraydi. Bu moslamalarda ish davri ishlamaydigan davrdan ancha kam bo'ladi. Ushbu rejimning soddalashtirilgan ish grafigi quyidagicha bo'ladi.



1.2-rasm. Qisqa muddatli ish rejimining grafigi

3. Qisqa muddatli-qaytariluvchi (siklik) ish rejimi.

Bu rejimda motorning harorati turg'un haroratiga etmaydi va to'xtab ishlamaydigan davri qisqa bo'lib, motorharorati atrof muhit haroratigacha tushmaydi. Bunday rejimda kranlar, liftlar, metall kesuvchi stanoklar ishlaydi. Bu rejimning soddalashtirilgan ish grafigi quyidagicha bo'ladi.

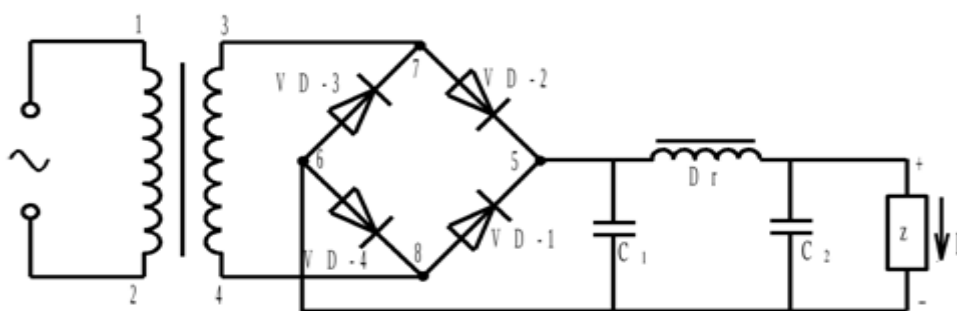


1.3-rasm. Qisqa muddatli-qaytariluvchi (siklik) ish rejimining grafigi.

Uch fazali o'zgarmas toklar, o'zgarmas tok dvigatellari uchun asosiy elektr manbasi bo'lib xizmat qiladi. Barcha elektr energiya ishlab chiqarish korxonalari uch fazali o'zgaruvchan tok elektr energiyasi ishlab chiqaradi va ular maxsus qurilmalar yordamida iste'molchilarga yuboriladi. Sanoatning shunday sohalari borki, o'zgaruvchi tokni to'g'ridan-to'g'ri qabul qilmaydi, ularga o'zgarmas tok kerak, shunga muvofiq ularni ehtiyojini qondirish uchun uch fazali to'g'rilagichlar yordamida o'zgarmas tok olinib yetkazib beriladi. Kimyo sanoati, qora va rangli metall ishlab chiqarish korxonalari, transpotr va aloqa soxasining ozuqasi bo'lmish uch fazali o'zgarmas tok elektr energiyasi bo'lmasa elektr energiyasi bo'lmasa, bu soxalarda ish to'xtab qoladi.

O'zgarmas tok energiyasini olish uchun tok o'zgartirgichlar (preobrazovatellar) va to'g'rilagichlar (выпрямителлар) kerak. Bu qurilmalarda yarim o'tkazgichli diodlar va o'zgartirgich moslamalar qo'llaniladi.

O'zgarmas tok olish usulida eng ko'p ko'prik usulidagi kombinasiyalashgan elektr ko'prik chizmalar ishlatiladi. Ko'pchilik xollarda yarim o'tkazgichli to'g'rilagichlar ko'prik chizmasi bo'yicha yig'iladi. Ularni chizmasi quyidagi rasmda berilgan.



1.4-rasm. Boshqarilmaydigan to'g'rilagich sxemasi.

Transformatorlar cho'lg'amining 3-nuqtasida birinchi yarim davrda musbat potensial, 4-nuqtasida manfiy potensial bo'lsin deb faraz qilaylik. Bu vaqtda elektr toki 3-nuqtadan 7-nuqtada VD₂-to'g'rilagich, 5-nuqtadan iste'molchiga, 6-nuqtadan va VD₄-to'g'rilagich orqali ikkilamchi cho'lg'amning 4-nuqtaga boradi.

Ikkinchi yarim davrda transformatorning ikkilamchi cho'lg'amining 3-nuqta va 4-nuqtalarida potensial ishorasi (qutbi) o'zgaradi: 3- nuqtada manfiy potensial, 4-nuqtada musbat potensial bo'ladi. U vaqtda tok 4-nuqtadan 8-nuqta VD₁-

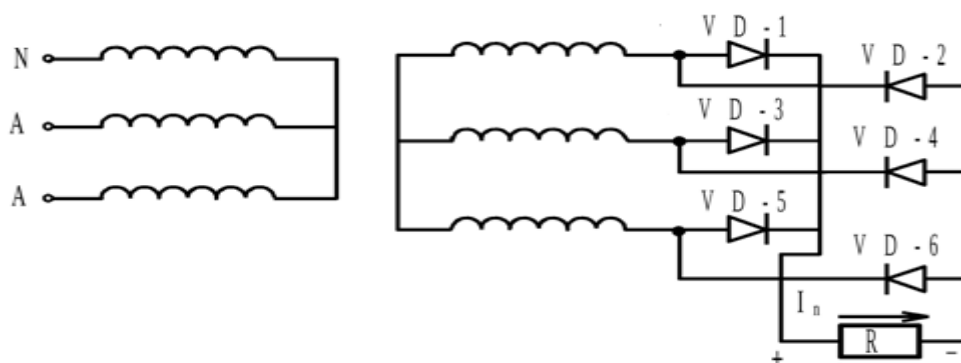
to'g'rilagich, 5-nuqtadan esa iste'molchi (birinchi yarim davr davomidagi yo'nalishda) 6-nuqta VD₃-to'g'rilagich va 7-nuqta orqali 3-nuqtaga o'tadi. Har bir yarim davr davomida iste'molchi orqali ayni bir yo'nalishdagi tok o'tib turadi. Ko'priqli chizmaning o'zgaruvchan tokni ikki yarim davrli odatdagi to'g'rilagich chizmasiga nisbatan afzal tomonlari haqida chuqur tushuncha berish kerak.

Uch fazali tokni ikkita yarim davrli to'g'rilash chizmasi va to'g'rilangan tokni jadvali 9-rasmda keltirilgan. Ayrim fazalardagi tok va kuchlanishlarni to'g'rilash quyidagicha amalga oshiriladi. Transformatorning ikkilamchi

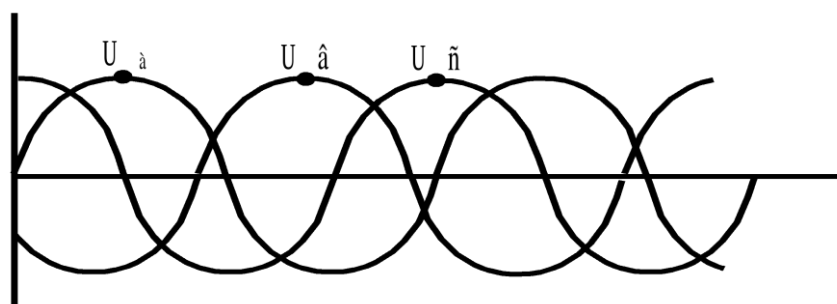
cho'lg'amidagi faza kuchlanishlari bir-biriga nisbatan $\frac{2\pi}{3}$ burchakka siljigan.

$$U_a = U_m \sin \omega t; \quad U_b = U_m \sin \left(\omega t - \frac{2\pi}{3} \right);$$

$$U_c = U_m \sin \left(\omega t + \frac{2\pi}{3} \right);$$



1.5-rasm. Uch fazali to'g'rilagich sxemasi



1.6-rasmdagi sinusoidallar musbat yarim to'liqlardagi maksimumlar davrning uchdan bir qismida almashib turishi.

$$U_{\text{ypm}} = U_{\text{m\ddot{y}z}} = \frac{1}{T/3} \int_{i_1}^{t_2} U dt$$

$$U_{\text{ypm}} = \frac{3}{T} \int_{T/12}^{5\pi/12} U dt = \frac{3}{\omega T} \int_{\pi/6}^{5\pi/6} U_m \sin \omega t d\omega t = \frac{3\sqrt{3}U_m}{2\pi} = \frac{3\sqrt{6}U}{6,28} = 1,17U$$

$$I_{\text{m\ddot{y}zpu}} = \frac{U_{\text{m\ddot{y}z}}}{R_u} = \frac{1,17U}{R_u};$$

Har bir diod davrdan uchdan bir qismida uzluksiz ishlaydi, boshqa vaqt esa yopiq holatda bo‘ladi.

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TALABALARNING AXBOROT MADANIYATINI SHAKLLANTIRISH

Annotatsiya: Axborot texnologiyalari rivojlanishi bilan zamonaviy jamiyatda axborot madaniyatini shakllantirish tobora dolzarb masalaga aylanmoqda. Ayniqsa, talabalarning axborot madaniyatini rivojlantirish ularning ta'lim jarayonida, ilmiy izlanishlarda va kundalik hayotda axborotdan samarali va xavfsiz foydalanish qobiliyatini shakllantirish uchun muhim ahamiyatga ega. Axborot madaniyati nafaqat texnik bilimlarni egallash, balki axborotni tahlil qilish, baholash va undan mas'uliyat bilan foydalanish ko'nikmalarini ham o'z ichiga oladi.

Ushbu maqolada talabalarning axborot madaniyatini shakllantirish jarayoni, uning asosiy tarkibiy qismlari va ahamiyati tahlil qilinadi. Shuningdek, axborot madaniyatining ta'lim jarayonidagi roli, uning o'quvchilarning tafakkurini rivojlantirishga ta'siri va zamonaviy texnologiyalar yordamida qanday shakllantirilishi masalalari ko'rib chiqiladi. Talabalarning raqamli xavfsizlik va axborot etikasiga rioya qilish bo'yicha bilim va ko'nikmalarini mustahkamlash yo'llari ham tadqiq etiladi.

Kalit so'zlar: axborot madaniyati, raqamli savodxonlik, axborot xavfsizligi, axborot etikasi, talabalarning texnologik kompetensiyasi, axborot manbalaridan foydalanish, raqamli texnologiyalar, media savodxonlik

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FORMATION AND DEVELOPMENT OF STUDENTS' INFORMATION CULTURE

Annotation: With the development of information technologies, the formation of information culture in modern society is becoming an increasingly urgent issue. In particular, the development of students' information culture is important for forming their ability to effectively and safely use information in the educational

process, in scientific research and in everyday life. Information culture includes not only the acquisition of technical knowledge, but also the skills of analyzing, evaluating and responsibly using information.

This article analyzes the process of forming students' information culture, its main components and significance. It also considers the role of information culture in the educational process, its impact on the development of students' thinking, and how it can be formed using modern technologies. Ways to strengthen students' knowledge and skills in digital security and information ethics are also explored.

Keywords: *information culture, digital literacy, information security, information ethics, students' technological competence, use of information resources, digital technologies, media literacy.*

Bugungi kunda axborot texnologiyalari hayotning barcha sohalariga chuqur kirib kelmoqda. Raqamli texnologiyalar taraqqiyoti natijasida axborotga kirish imkoniyatlari kengaymoqda va insonlar oldida katta hajmdagi ma'lumotlar bilan ishlash zarurati paydo bo'lmoqda. Shu sababli, talabalarning axborot madaniyatini shakllantirish masalasi dolzarb ahamiyat kasb etmoqda. Axborot madaniyati nafaqat texnologik bilimlarni egallash, balki axborotni tahlil qilish, saralash, undan samarali foydalanish va axborot xavfsizligini ta'minlash ko'nikmalarini ham o'z ichiga oladi.

O'zbekistonda axborot-kommunikatsiya texnologiyalarining ta'lim jarayoniga integratsiyalashuvi davlat siyosatining ustuvor yo'nalishlaridan biri bo'lib, talabalar uchun axborot madaniyatini rivojlantirish yo'nalishida bir qator chora-tadbirlar amalga oshirilmoqda. Oliy ta'lim muassasalarida raqamli ta'lim platformalarining joriy etilishi, elektron kutubxonalar va onlayn resurslardan foydalanish imkoniyatlari talabalarni zamonaviy texnologiyalar bilan tanishtirishga, ulardan to'g'ri foydalanish qobiliyatlarini shakllantirishga xizmat qilmoqda.

Axborot madaniyatiga ega bo'lish bugungi kunda talabalarning nafaqat o'quv jarayonida, balki kasbiy faoliyatida ham muhim ahamiyatga ega. Raqamli vositalardan samarali foydalanish, ishonchli axborot manbalarini tanlash, ma'lumotlarni qayta ishlash va ularni tahlil qilish qobiliyatlari talabaning ilmiy izlanishlar olib borishida va o'z bilimini mustaqil rivojlantirishida katta rol o'ynaydi. Shuningdek, axborot xavfsizligi va axborot etikasi masalalarini tushunish talabalarning internet muhitida mas'uliyatli harakat qilishiga yordam beradi.

Talabalarning axborot madaniyatini rivojlantirishda o'quv jarayoniga innovatsion texnologiyalarni joriy etish muhim ahamiyatga ega. Elektron darsliklar, multimediya ta'lim resurslari, virtual laboratoriyalar va raqamli platformalar yordamida ta'lim jarayonining samaradorligini oshirish mumkin. Shuningdek, talabalar uchun media savodxonlik va raqamli xavfsizlik bo'yicha maxsus seminarlar, amaliy mashg'ulotlar va treninglar tashkil etish axborot madaniyatining shakllanishiga ijobiy ta'sir ko'rsatadi.

Shunga qaramay, O'zbekistonda talabalarning axborot madaniyatini shakllantirish jarayonida hali ham qator muammolar mavjud. Jumladan, ba'zi o'quv muassasalarida zamonaviy texnologiyalarning yetishmovchiligi, o'qituvchilarning

raqamli texnologiyalar bo'yicha yetarli bilim va malakaga ega emasligi, shuningdek, talabalar orasida ishonchli va soxta axborotni farqlash bo'yicha yetarli ko'nikmalarning shakllanmagani kabi muammolar uchraydi.

Ushbu maqolada talabalarning axborot madaniyatini shakllantirish jarayoni, uning tarkibiy qismlari, zamonaviy texnologiyalar bilan bog'liq yondashuvlar hamda mavjud muammolar va ularni bartaraf etish yo'llari tahlil qilinadi.

Talabalarning axborot madaniyatini shakllantirish zamonaviy ta'lim jarayonining ajralmas qismi hisoblanadi. Bu jarayon o'z ichiga axborotni izlash, saralash, tahlil qilish, undan samarali foydalanish hamda axborot xavfsizligini ta'minlash kabi muhim jihatlarni oladi. Axborot madaniyatiga ega bo'lgan talaba raqamli muhitda mustaqil faoliyat yurita oladi, ilmiy izlanishlarni olib borish, taqdimot va yozma ishlarni tayyorlashda ishonchli manbalardan foydalanish hamda internet tarmog'ida xavfsiz ishlash qobiliyatiga ega bo'ladi.

Axborot madaniyatining asosiy tarkibiy qismlaridan biri bu raqamli savodxonlik bo'lib, u talabalarni zamonaviy texnologiyalardan to'g'ri foydalanishga o'rgatadi. Raqamli savodxonlik talabalar uchun nafaqat texnologiyalarni bilish, balki ularni ta'lim va ilmiy faoliyatda samarali qo'llashni ham anglatadi. Masalan, talabalar turli onlayn kutubxonalar, ilmiy ma'lumotlar bazalari, elektron darsliklar va akademik maqolalar bilan ishlash ko'nikmalarini rivojlantirishlari kerak.



Bundan tashqari, axborot madaniyatining muhim jihatlaridan yana biri axborot xavfsizligi hisoblanadi. Internetda faoliyat yuritayotgan har bir talaba o'z shaxsiy ma'lumotlarini himoya qilish, kiberxavfsizlik qoidalariga rioya qilish va

zararli dasturlar hamda soxta axborot manbalaridan ehtiyot bo'lishi lozim. Ayniqsa, ijtimoiy tarmoqlar va turli veb-saytlardan foydalanganda, ma'lumotlarni ishonchli manbalardan olish, kiberxavfsizlik choralari ko'rish muhim ahamiyatga ega.

Axborot madaniyati tushunchasining yana bir muhim tarkibiy qismi axborot etikasi hisoblanadi. Bu tushuncha internet muhitida odob-axloq qoidalariga rioya qilish, mualliflik huquqlarini buzmaslik, plagiatga yo'l qo'ymaslik va axborotdan to'g'ri foydalanishni o'z ichiga oladi. Bugungi kunda talabalar ilmiy ishlarda boshqa mualliflarning fikrlarini o'zlashtirishdan qochishlari va barcha ilmiy manbalarni to'g'ri ko'rsatishlari muhim hisoblanadi.



Shuningdek, axborot madaniyatini shakllantirishda zamonaviy texnologiyalardan foydalanish muhim rol o'ynaydi. O'quv jarayonida sun'iy intellekt, onlayn platformalar, multimediya resurslari va raqamli vositalardan foydalanish talabalarning axborotni o'zlashtirish darajasini oshiradi. Masalan, Google Scholar, ResearchGate kabi platformalar orqali ilmiy maqolalarni izlash, Grammarly va Turnitin kabi xizmatlardan foydalanib ilmiy ishlardagi grammatik va plagiat xatolarini tekshirish axborot madaniyatining shakllanishiga ijobiy ta'sir ko'rsatadi.

O'zbekiston ta'lim tizimida talabalarning axborot madaniyatini shakllantirish bo'yicha amalga oshirilayotgan chora-tadbirlar quyidagilardan iborat:

- Oliy ta'lim muassasalarida raqamli texnologiyalar bo'yicha maxsus o'quv kurslarini joriy etish.
- Ilmiy va ta'limiy onlayn platformalardan foydalanish bo'yicha seminarlar va treninglar tashkil etish.
- Talabalar o'rtasida axborot xavfsizligi va axborot etikasi bo'yicha tushuntirish ishlarini olib borish.
- Raqamli ta'lim resurslaridan foydalanish madaniyatini rivojlantirish.

Biroq, ushbu jarayonda ayrim qiyinchiliklar ham mavjud. Jumladan, ba'zi oliy ta'lim muassasalarida texnologik infratuzilmaning yetarli darajada rivojlanmagani, talabalar orasida axborot madaniyatiga oid tushunchalarning yetarlicha shakllanmagani va internetdan foydalanishning nazoratsizligi kabi muammolar kuzatilmoqda. Shu sababli, ushbu sohada ta'lim tizimining har tomonlama rivojlanishi uchun qo'shimcha tadbirlar amalga oshirilishi talab etiladi.

Shunday qilib, talabalarining axborot madaniyatini shakllantirish ta'lim jarayonining muhim yo'nalishlaridan biri bo'lib, uning rivojlanishi nafaqat talabalar bilim darajasini oshirish, balki ularning texnologik imkoniyatlardan to'g'ri foydalanish qobiliyatlarini ham shakllantirishga xizmat qiladi.

Talabalarining axborot madaniyatini shakllantirish zamonaviy ta'lim tizimining dolzarb yo'nalishlaridan biri bo'lib, uning rivojlanishi o'quv jarayonining sifatini oshirishga hamda talabalarni raqamli muhitga moslashtirishga xizmat qiladi. O'tkazilgan tadqiqotlar shuni ko'rsatmoqdaki, axborot madaniyati rivojlangan talabalar nafaqat o'qish jarayonida, balki kundalik hayotda ham axborot texnologiyalaridan samarali foydalanish qobiliyatiga ega bo'ladilar.

Axborot madaniyatini rivojlantirish bo'yicha amalga oshirilgan tajribalar shuni isbotlaydiki, talabalar raqamli texnologiyalar va onlayn platformalardan foydalanishni yaxshi o'zlashtirsalar, ularning ilmiy izlanish va axborotni saralash ko'nikmalari ancha rivojlanadi. Ayniqsa, ilmiy izlanishlar olib borishda raqamli vositalardan foydalanish talabalar uchun katta yengillik yaratadi. Masalan, Google Scholar, Scopus, ResearchGate kabi platformalar orqali ilmiy maqolalarni topish va ularni tahlil qilish talabalar bilim doirasini kengaytiradi.

Shuningdek, axborot xavfsizligi bo'yicha o'tkazilgan treninglar natijalari shuni ko'rsatdiki, talabalar shaxsiy ma'lumotlarni himoya qilish, xavfsiz parollar yaratish va internet tarmog'idagi tahdidlardan saqlanish bo'yicha aniq bilimlarga ega bo'lishadi. Bu esa ularning raqamli muhitda o'zini himoya qilish qobiliyatini oshiradi.

Talabalar o'rtasida axborot etikasi va plagiatning oldini olish bo'yicha o'tkazilgan tadqiqotlar shuni ko'rsatdiki, raqamli ta'lim resurslaridan to'g'ri foydalanish bo'yicha tushunchalarga ega bo'lgan talabalar ilmiy ishlarda mualliflik huquqlarini hurmat qilish va ishonchli manbalarga tayanish qobiliyatlarini shakllantiradilar. Biroq, ba'zi talabalar hali ham internet manbalaridan foydalanishda mualliflik huquqlariga yetarlicha e'tibor qaratmaydi. Shu sababli, universitetlar va ta'lim muassasalarida axborot etikasi bo'yicha qo'shimcha seminar va kurslarni joriy etish lozimligi aniqlangan.

Bundan tashqari, axborot madaniyatini rivojlantirishda zamonaviy texnologiyalarni qo'llash natijalari ham ijobiy ta'sir ko'rsatmoqda. Masalan, interaktiv ta'lim platformalaridan foydalangan talabalar an'anaviy ta'limga nisbatan bilimlarni tezroq o'zlashtirish imkoniyatiga ega bo'lishmoqda. Elektron kutubxonalar, virtual laboratoriyalar va multimedia resurslaridan foydalanish orqali talabalarining darsga bo'lgan qiziqishi oshgan.

Shunga qaramay, o'tkazilgan tahlillar shuni ko'rsatdiki, axborot madaniyatini shakllantirish bo'yicha hali ham ba'zi qiyinchiliklar mavjud. Jumladan:

1. Texnologik infratuzilmaning yetarli emasligi – ayrim ta'lim muassasalarida zamonaviy kompyuterlar, internet tarmog'i va raqamli resurslar yetishmovchiligi mavjud.

2. Pedagoglarning yetarli tayyorgarlikka ega emasligi – ba'zi o'qituvchilar zamonaviy texnologiyalarni o'quv jarayoniga to'liq integratsiyalashda qiyinchiliklarga duch kelmoqdalar.

3. Talabalar orasida ishonchli va noto'g'ri axborotni farqlash bo'yicha bilimlarning yetarli emasligi – ba'zi talabalar soxta ma'lumotlarga ishonishlari yoki noto'g'ri axborotdan foydalanishlari mumkin.

Natijalar shuni ko'rsatadiki, talabalar uchun axborot madaniyatini rivojlantirish bo'yicha qo'shimcha chora-tadbirlar ko'rish lozim. Jumladan:

- Axborot madaniyatini rivojlantirish bo'yicha maxsus dasturlar ishlab chiqish – talabalarga raqamli texnologiyalardan samarali foydalanish bo'yicha kurslar tashkil etish.

- O'qituvchilar malakasini oshirish – axborot texnologiyalaridan foydalanish bo'yicha pedagoglar uchun treninglar o'tkazish.

- Talabalar uchun media savodxonlik va axborot xavfsizligi bo'yicha seminarlar tashkil etish – internetdan xavfsiz foydalanish, ishonchli axborotni tanlash va axborot etikasi bo'yicha ta'lim berish.

Ushbu chora-tadbirlar amalga oshirilsa, talabalarning axborot madaniyati yanada rivojlanib, ularning raqamli muhitda samarali faoliyat yuritish qobiliyati oshadi.

XULOSA

Axborot texnologiyalarining jadal rivojlanishi sharoitida talabalarning axborot madaniyatini shakllantirish muhim ahamiyat kasb etmoqda. Raqamli muhitda samarali ishlash, axborotni tahlil qilish, ishonchli manbalarni tanlash, axborot xavfsizligi qoidalariga rioya qilish va axborot etikasi tamoyillarini o'zlashtirish bugungi kun talabasi uchun zarur kompetensiyalardan biridir. Shu sababli, O'zbekiston ta'lim tizimida axborot madaniyatini rivojlantirish masalasi dolzarb yo'nalishlardan biri sifatida qaralmoqda.

O'tkazilgan tadqiqotlar shuni ko'rsatdiki, axborot madaniyatiga ega bo'lgan talabalar internet va raqamli texnologiyalardan samarali foydalana oladilar, ilmiy izlanishlar olib borishda innovatsion texnologiyalarni qo'llashga moyil bo'ladilar hamda axborotni mustaqil ravishda saralash va tahlil qilish qobiliyatiga ega bo'ladilar. Biroq, axborot madaniyatini shakllantirish jarayonida hali ham bir qator muammolar mavjud. Jumladan, ba'zi ta'lim muassasalarida texnologik infratuzilmaning yetishmovchiligi, pedagoglarning raqamli texnologiyalar bo'yicha yetarli malakaga ega emasligi va talabalar orasida soxta axborotni ishonchli ma'lumotdan farqlash qiyinchiliklari kuzatilmoqda.

Shu sababli, talabalarning axborot madaniyatini rivojlantirish uchun quyidagi chora-tadbirlarni amalga oshirish lozim:

1. Axborot texnologiyalari bo'yicha maxsus kurslar va treninglar tashkil etish – talabalar uchun media savodxonlik, axborot xavfsizligi va axborot etikasi bo'yicha amaliy mashg'ulotlarni yo'lga qo'yish.

2. Pedagoglarning malakasini oshirish – o‘qituvchilarga axborot texnologiyalaridan samarali foydalanish bo‘yicha treninglar o‘tkazish va ularni innovatsion ta’lim usullari bilan tanishtirish.

3. Texnologik infratuzilmani rivojlantirish – universitetlar va oliy ta’lim muassasalarini zamonaviy kompyuter texnologiyalari, elektron kutubxonalar va internet resurslari bilan ta’minlash.

4. Axborot xavfsizligi bo‘yicha targ‘ibot va tushuntirish ishlarini olib borish – talabalarni shaxsiy ma’lumotlarni himoya qilish, zararli dasturlardan saqlanish va internetdan xavfsiz foydalanish qoidalari bo‘yicha xabardor qilish.

Umuman olganda, axborot madaniyatini rivojlantirish talabalarining raqamli dunyoda muvaffaqiyatli faoliyat yuritishlari uchun muhim shartdir. Zamonaviy texnologiyalarni samarali qo‘llash, axborotdan ongli ravishda foydalanish va raqamli xavfsizlik qoidalariga rioya qilish orqali talabalar o‘z bilimlarini mustahkamlash, ilmiy faoliyat bilan shug‘ullanish va mehnat bozorida raqobatbardosh mutaxassis sifatida shakllanish imkoniyatiga ega bo‘ladilar. Shu bois, ta’lim tizimida axborot madaniyatini yanada rivojlantirish yo‘nalishida tizimli chora-tadbirlarni amalga oshirish dolzarb ahamiyat kasb etadi.

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BOSHLANG'ICH TA'LIM TALABALARINING KREATIV KOMPETENTLIGINI RIVOJLANTIRISH

Annotatsiya: Zamonaviy ta'lim jarayonida boshlang'ich ta'lim talabalari uchun kreativ kompetentligini rivojlantirish muhim ahamiyat kasb etmoqda. Kreativ tafakkur nafaqat ijodiy fikrlash qobiliyatini shakllantirish, balki muammolarni hal qilish, yangicha yechimlar topish va mustaqil qaror qabul qilish ko'nikmalarini rivojlantirish imkonini beradi. Boshlang'ich ta'lim yo'nalishida o'qiyotgan talabalar uchun kreativ kompetentlik ularning kelajakdagi pedagogik faoliyatining muhim jihati bo'lib, ta'lim jarayonini qiziqarli va samarali tashkil etish imkoniyatini yaratadi.

Ushbu maqolada kreativ kompetentligini rivojlantirishning nazariy asoslari, uning boshlang'ich ta'lim talabalari uchun ahamiyati va zamonaviy ta'lim jarayonidagi o'rni tahlil qilinadi. Shuningdek, kreativ kompetentlikni shakllantirishga xizmat qiluvchi pedagogik texnologiyalar, innovatsion yondashuvlar va zamonaviy metodlar ko'rib chiqiladi. Maqolada boshlang'ich ta'lim talabalarining ijodiy tafakkurini rivojlantirishda muhim bo'lgan omillar hamda duch kelinadigan muammolar va ularni bartaraf etish yo'llari yoritiladi.

Kalit so'zlar: kreativ kompetentlik, ijodiy tafakkur, innovatsion pedagogika, boshlang'ich ta'lim, zamonaviy ta'lim metodlari, muammolarni hal qilish, mustaqil fikrlash, interaktiv o'qitish.

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DEVELOPMENT OF CREATIVE COMPETENCE OF PRIMARY EDUCATION STUDENTS

Annotation: In the modern educational process, the development of creative competence for primary education students is of great importance. Creative thinking allows not only to form the ability to think creatively, but also to develop

the skills of solving problems, finding new solutions and making independent decisions. For students studying in the field of primary education, creative competence is an important aspect of their future pedagogical activity, creating the opportunity to organize the educational process in an interesting and effective way.

This article analyzes the theoretical foundations of the development of creative competence, its importance for primary education students and its role in the modern educational process. Also, pedagogical technologies, innovative approaches and modern methods that serve to form creative competence are considered. The article highlights the important factors in the development of creative thinking of primary school students, as well as the problems encountered and ways to overcome them.

Keywords: *creative competence, creative thinking, innovative pedagogy, primary education, modern educational methods, problem solving, independent thinking, interactive teaching.*

Bugungi kunda ta'lim tizimi oldida turgan eng muhim vazifalardan biri talabalarning kreativ kompetentligini rivojlantirishdir. Zamonaviy jamiyatda texnologik taraqqiyot va globallashuv jarayonlari natijasida insonlardan yangicha fikrlash, ijodiy yondashish va noan'anaviy muammolarni hal qilish qobiliyatlari talab etilmoqda. Ayniqsa, boshlang'ich ta'lim yo'nalishida tahsil olayotgan talabalar uchun kreativ kompetentlik kelajakda innovatsion pedagogik yondashuvlarni qo'llash, o'quvchilarning ijodiy tafakkurini rivojlantirish va o'quv jarayonini qiziqarli tashkil etish imkonini beradi.

Kreativ kompetentlik bu nafaqat talabalarning ijodiy qobiliyatlarini shakllantirish, balki ularning mustaqil fikrlash, analitik tafakkur qilish, yangi g'oyalarni ilgari surish va pedagogik faoliyatda innovatsion texnologiyalardan foydalanish qobiliyatlarini rivojlantirishdir. Shuningdek, bu tushuncha talabaning o'z-o'zini rivojlantirish, ilmiy izlanishlar olib borish va ta'lim jarayonida yangi metodlarni joriy etish ko'nikmalarini o'z ichiga oladi.

O'zbekiston ta'lim tizimida kreativ kompetentlikni rivojlantirishga alohida e'tibor qaratilmoqda. Pedagogik universitetlarda zamonaviy ta'lim texnologiyalaridan foydalanish, interaktiv o'qitish metodlarini tatbiq etish, loyiha asosida ta'lim berish va ijodiy fikrlashni rag'batlantiruvchi muhit yaratish kabi yo'nalishlar bu borada muhim ahamiyat kasb etadi. Kreativ kompetentligini shakllantirish talabalarning kelajakdagi kasbiy faoliyatiga bevosita ta'sir qiladi va ularning pedagog sifatida innovatsion yechimlarni taklif qilishiga yordam beradi.

Talabalarning kreativ kompetentligini rivojlantirish jarayonida bir qator muammolar mavjud. Jumladan, an'anaviy o'qitish usullari ijodiy tafakkurni rivojlantirishga yetarlicha imkon bermaydi, ba'zi pedagoglar innovatsion texnologiyalardan foydalanishga to'liq tayyor emas, shuningdek, kreativ yondashuvlarni qo'llash uchun maxsus metodik materiallarning yetishmovchiligi ham muammolardan biri hisoblanadi. Shu sababli, kreativ kompetentlikni rivojlantirishda yangi pedagogik strategiyalar, texnologiyalar va metodlarni tadbiq etish zarurati mavjud.

Ushbu maqolada kreativ kompetentligining nazariy asoslari, uni rivojlantirishga xizmat qiluvchi metod va texnologiyalar, shuningdek, O'zbekistonda boshlang'ich ta'lim talabalarining kreativ tafakkurini shakllantirish yo'nalishidagi muammolar va ularni bartaraf etish yo'llari tahlil qilinadi.

Boshlang'ich ta'lim talabalarining kreativ kompetentligini rivojlantirish zamonaviy pedagogikaning asosiy yo'nalishlaridan biri hisoblanadi. Kreativ tafakkur talabalar uchun nafaqat pedagog sifatida o'z kasbiy faoliyatlarini samarali tashkil etish, balki ta'lim jarayonida yangi innovatsion yondashuvlarni tatbiq etish imkonini beradi. Kreativ kompetentligini rivojlantirish jarayonida ta'lim muhitining ochiqligi, talabalarni ijodiy fikrlashga rag'batlantirish va ularga mustaqil qaror qabul qilish imkoniyatini yaratish muhim ahamiyat kasb etadi.

Kreativ kompetentligini rivojlantirishning asosiy yo'nalishlaridan biri bu ijodiy tafakkur va muammolarni hal qilish qobiliyatini shakllantirishdir. Bu jarayon talabalarining yangi g'oyalarni ilgari surish, turli muammolarga noan'anaviy yondashish va mustaqil tahlil qilish qobiliyatlarini rivojlantirishga qaratilgan. Shu sababli, pedagogik ta'lim jarayonida ijodiy fikrlash mashqlari, muammoli vaziyatlar tahlili, ochiq savollar orqali tafakkurni rag'batlantirish kabi metodlardan foydalanish talab etiladi.

Innovatsion pedagogik texnologiyalarni tatbiq etish ham kreativ kompetentlikni rivojlantirishning muhim jihatlaridan biridir. Bugungi kunda interaktiv o'qitish metodlari, loyiha asosida ta'lim berish, STEAM ta'lim texnologiyalari va dizayn fikrlash usullari talabalar ijodiy tafakkurini shakllantirishda muhim ahamiyat kasb etadi. Masalan, loyiha asosida ta'lim berish metodida talabalar real hayotiy muammolarni tahlil qiladi, jamoaviy muhokamalar orqali yangi yechimlar ishlab chiqadi va o'z ijodiy yondashuvlarini sinovdan o'tkazadilar.

Bundan tashqari, kreativ kompetentligini rivojlantirishda raqamli texnologiyalarning o'рни ham muhim sanaladi. Zamonaviy ta'lim jarayonida talabalar uchun turli innovatsion vositalardan foydalanish imkoniyati mavjud. Masalan, sun'iy intellekt asosidagi ta'lim platformalari, interaktiv multimediya darsliklar, virtual laboratoriyalar va raqamli dizayn vositalari ijodiy tafakkurni rivojlantirishga xizmat qiladi. Bu texnologiyalar talabalar uchun ta'lim jarayonini yanada qiziqarli, samarali va interaktiv qiladi.

Kreativ kompetentlikni rivojlantirishning yana bir muhim omili muvofiq o'quv muhiti yaratish hisoblanadi. Ijodiy fikrlashni rag'batlantirish uchun ta'lim muhitining ochiq, talabalarni qo'llab-quvvatlovchi, xatolardan qo'rqmasdan yangi g'oyalarni ilgari surish imkoniyatini beruvchi shaklda bo'lishi muhimdir. Shuningdek, talabalarni o'zaro hamkorlikka, muhokama va jamoaviy ishlarga jalb qilish orqali ularda yangi fikrlarni baholash va tahlil qilish qobiliyatlarini shakllantirish mumkin.

O'zbekiston ta'lim tizimida kreativ kompetentlikni rivojlantirish bo'yicha amalga oshirilayotgan chora-tadbirlar quyidagilardan iborat:

Pedagoglar uchun maxsus trening va seminarlar tashkil etish – bu o'qituvchilarni kreativ yondashuvlarni qo'llashga o'rgatish imkonini beradi.

Интерактив та'лим методларини кенг жорий етиш – talabalar o'rtasida ijodiy tafakkur va innovatsion yondashuvlarni rivojlantirish uchun.

Talabalar uchun kreativ loyiha va amaliy ishlarni tashkil etish – amaliy mashg'ulotlar orqali ijodiy tafakkurni rivojlantirish.

Raqamli texnologiyalar va multimedia vositalaridan foydalanish – interaktiv darsliklar, vizual materiallar va raqamli o'yinlar orqali ta'lim samaradorligini oshirish.

Biroq, bu yo'nalishda hali ham ayrim muammolar mavjud. Jumladan, an'anaviy ta'lim usullarining ustunligi, kreativ yondashuvlarni qo'llash uchun yetarli sharoitlarning mavjud emasligi va o'qituvchilarning innovatsion pedagogik metodlardan foydalanish ko'nikmalarining yetarli emasligi.

Shunday qilib, kreativ kompetentligini rivojlantirish nafaqat ta'lim tizimining sifati uchun, balki talabalarni kelajakda ijodiy pedagog sifatida shakllantirish uchun ham muhim ahamiyatga ega. Ushbu jarayonda innovatsion texnologiyalar, yangi pedagogik yondashuvlar va ijodiy o'quv muhiti muhim o'rin tutadi.

Boshlang'ich ta'lim talabalarining kreativ kompetentligini rivojlantirish bo'yicha olib borilgan tadqiqotlar shuni ko'rsatdiki, zamonaviy pedagogik yondashuvlar va innovatsion texnologiyalarni qo'llash talabalarining ijodiy tafakkurini shakllantirishda muhim rol o'ynaydi. Talabalar orasida kreativ kompetentlikni rivojlantirish uchun mustaqil fikrlash, muammolarni hal qilish qobiliyati va yangi g'oyalarni ilgari surish ko'nikmalarining ahamiyati ortib bormoqda. An'anaviy ta'lim metodlari bilan solishtirilganda, interaktiv va innovatsion usullar qo'llanilganda talabalarining ijodiy faoliyati sezilarli darajada faollashgan.

Pedagogik tadqiqotlar natijalariga ko'ra, kreativ kompetentlikni shakllantirishga qaratilgan maxsus metodlar qo'llanilganda talabalar mustaqil qaror qabul qilish va yangicha yondashuvlarni ishlab chiqish qobiliyatlarini rivojlantirish imkoniyatiga ega bo'ladilar. Interaktiv dars metodlari, loyiha asosida ta'lim berish va muammoli ta'lim texnologiyalaridan foydalanish talabalar orasida ijodiy fikrlash va analitik tafakkur darajasini oshirishga xizmat qilgan. Innovatsion pedagogik texnologiyalarning qo'llanilishi natijasida o'quv jarayoni yanada qiziqarli va samarali bo'lishi kuzatilgan.

Raqamli texnologiyalarning kreativ kompetentlikni shakllantirishdagi o'рни muhim ahamiyat kasb etadi. Elektron ta'lim platformalaridan foydalanish, multimedia resurslarini joriy etish va sun'iy intellekt vositalari yordamida o'quv jarayonini diversifikatsiya qilish talabalarining kreativ fikrlash qobiliyatlarini kuchaytirishga xizmat qilgan. Virtual laboratoriyalar va interaktiv darsliklar talabalar uchun ta'lim jarayonini vizual jihatdan tushunarli va qiziqarli qilish imkonini yaratgan. O'tkazilgan tahlillar shuni ko'rsatadiki, zamonaviy texnologiyalarni qo'llagan talabalar yangi g'oyalar ishlab chiqish va muammolarga noan'anaviy yechim topish qobiliyatlariga ega bo'lgan.

O'quv jarayonida kreativ kompetentligini shakllantirishning muhim jihatlaridan biri muvofiq ta'lim muhiti yaratishdir. Ochiq va ijodiy fikrlashni rag'batlantiruvchi muhit talabalarni yangi yondashuvlarni sinab ko'rishga undaydi.

O‘zaro hamkorlik, guruhli muhokamalar va muammoli vaziyatlarni tahlil qilish kabi usullar qo‘llanganda talabalarning kreativ tafakkur ko‘nikmalari tezroq shakllangan. Shu bilan birga, ta‘lim jarayonida loyiha asosida o‘qitish metodidan foydalanish talabalarni real hayotiy muammolarni hal qilish bo‘yicha amaliy ko‘nikmalarga ega bo‘lishga undagan.

Tadqiqot natijalari shuni ko‘rsatadiki, kreativ kompetentlikni rivojlantirishda muayyan muammolar ham mavjud. Ba‘zi o‘qituvchilarning innovatsion pedagogik yondashuvlardan foydalanish bo‘yicha yetarlicha tayyor emasligi, texnologik infratuzilmaning yetishmovchiligi va talabalar orasida ijodiy fikrlash ko‘nikmalarining yetarli darajada rivojlanmagani ushbu jarayonga to‘sqinlik qiluvchi omillar hisoblanadi. Bunday muammolarni bartaraf etish maqsadida o‘qituvchilar uchun malaka oshirish dasturlarini kengaytirish, texnologik resurslardan foydalanish imkoniyatlarini oshirish va ta‘lim tizimida ijodiy tafakkurni rivojlantiruvchi metodikalarni joriy etish talab etiladi.

Talabalar orasida kreativ kompetentlikni rivojlantirish uchun samarali ta‘lim usullarini qo‘llash, zamonaviy texnologiyalarni integratsiyalash va pedagogik yondashuvlarni takomillashtirish muhim ahamiyatga ega. Innovatsion ta‘lim metodlarining tizimli ravishda qo‘llanilishi orqali kelajak pedagoglari o‘z faoliyatida kreativ yondashuvlardan samarali foydalana olishlari va ta‘lim jarayonini yanada qiziqarli va natijaviy tashkil etishlari mumkin.

Boshlang‘ich ta‘lim talabalarining kreativ kompetentligini rivojlantirish zamonaviy pedagogik jarayonning muhim yo‘nalishlaridan biri hisoblanadi. Kreativ kompetentlik nafaqat ijodiy tafakkur va mustaqil fikrlash qobiliyatini shakllantirish, balki muammolarni hal qilish, yangicha yechimlar ishlab chiqish va innovatsion texnologiyalarni ta‘lim jarayoniga tatbiq etish imkonini beradi. Ushbu kompetentlik kelajak pedagoglari uchun zaruriy bo‘lib, ta‘lim sifatini oshirish va o‘quvchilarni interaktiv hamda qiziqarli dars jarayoni bilan ta‘minlash imkonini yaratadi.

Tahlillar shuni ko‘rsatadiki, kreativ kompetentligini rivojlantirish uchun interaktiv ta‘lim metodlari, loyiha asosida ta‘lim berish, muammoli ta‘lim, dizayn fikrlash va zamonaviy texnologiyalarni qo‘llash muhim ahamiyatga ega. Bu usullar talabalar orasida ijodiy tafakkurni shakllantirishga, muammolarga yangicha yondashish qobiliyatini rivojlantirishga hamda ta‘lim jarayoniga faol ishtirok etishga undaydi. Xususan, raqamli texnologiyalarning o‘quv jarayoniga joriy etilishi, sun‘iy intellekt asosida ishlab chiqilgan o‘quv platformalaridan foydalanish va interaktiv dars usullarini qo‘llash talabalar uchun yangi bilimlarni samarali o‘zlashtirish imkonini beradi.

Shu bilan birga, kreativ kompetentligini rivojlantirish jarayonida ba‘zi qiyinchiliklar ham mavjud. Jumladan, o‘qituvchilarning innovatsion metodlarni qo‘llash bo‘yicha yetarlicha tayyor emasligi, texnologik infratuzilmaning barcha ta‘lim muassasalarida to‘liq shakllanmagani va talabalar orasida ijodiy tafakkur ko‘nikmalarining yetarlicha rivojlanmagani ushbu jarayonda muammolarni yuzaga keltiradi. Bu muammolarni hal qilish uchun pedagoglar malakasini oshirish,

texnologik bazani mustahkamlash va kreativ kompetentlikni rivojlantirishga qaratilgan maxsus dasturlarni ishlab chiqish talab etiladi.

Kreativ kompetentlikni rivojlantirish bo'yicha amalga oshirilishi lozim bo'lgan chora-tadbirlar qatoriga innovatsion pedagogik metodlarni keng joriy etish, talabalarni mustaqil va ijodiy ishlarga yo'naltirish, zamonaviy texnologiyalardan foydalanish madaniyatini shakllantirish hamda o'qituvchilar uchun malaka oshirish dasturlarini ishlab chiqish kiradi. Agar ushbu yo'nalishda tizimli islohotlar amalga oshirilsa, boshlang'ich ta'lim talabalarining kreativ kompetentligini yanada rivojlantirish mumkin bo'ladi.

Umuman olganda, kreativ kompetentlikning rivojlanishi kelajak pedagoglarining kasbiy tayyorgarligini oshirish bilan birga, ularning ta'lim jarayonini zamonaviy talablar asosida tashkil etish qobiliyatini ham shakllantiradi. Shunday qilib, innovatsion metodlar va ijodiy yondashuvlar orqali ta'lim jarayoni yanada samarali, interaktiv va natijaviy bo'lishiga erishish mumkin.

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BOSHLANG'ICH TA'LIMDA INFORMATIKA VA AXBOROT TEXNOLOGIYALARINING O'RNI, AHAMIYATI VA TAMOIYILLARI

Annotatsiya: Zamonaviy ta'lim tizimida informatika va axborot texnologiyalarining o'rni tobora ortib bormoqda. Xususan, boshlang'ich ta'lim bosqichida ushbu fanlarni o'qitish nafaqat texnik bilimlarni shakllantirish, balki o'quvchilarning ijodiy tafakkuri, muammolarni hal qilish qobiliyati va raqamli savodxonligini oshirishga xizmat qiladi. Informatika va axborot texnologiyalaridan foydalanish orqali ta'lim jarayonini yanada samarali tashkil etish, interaktiv va innovatsion yondashuvlarni qo'llash imkoniyati yaratiladi. Ushbu maqolada boshlang'ich ta'limda informatika va axborot texnologiyalarining o'rni va ahamiyati, shuningdek, ularning o'quv jarayoniga ta'siri tahlil qilinadi. Shuningdek, texnologiyalarni samarali qo'llash usullari, duch kelinadigan qiyinchiliklar va ularni bartaraf etish yo'llari ham ko'rib chiqiladi.

Kalit so'zlar: boshlang'ich ta'lim, informatika, axborot texnologiyalari, raqamli savodxonlik, innovatsion pedagogika, interaktiv ta'lim, zamonaviy ta'lim metodlari, o'quv jarayoni

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THE ROLE, IMPORTANCE AND PRINCIPLES OF INFORMATICS AND INFORMATION TECHNOLOGIES IN PRIMARY EDUCATION

Annotation: The role of informatics and information technologies in the modern education system is increasingly increasing. In particular, teaching these subjects at the primary education stage serves not only to form technical knowledge, but also to improve students' creative thinking, problem-solving skills and digital literacy. The use of informatics and information technologies creates the opportunity to organize the educational process more effectively, apply interactive and innovative approaches. This article analyzes the role and importance of informatics and information technologies in primary education, as well as their

impact on the educational process. It also considers methods for the effective use of technologies, difficulties encountered and ways to overcome them.

Keywords: *primary education, informatics, information technologies, digital literacy, innovative pedagogy, interactive education, modern teaching methods, educational process*

Kirish

Bugungi kunda texnologik taraqqiyot ta'lim tizimiga ham jadal sur'atda kirib kelmoqda. Axborot texnologiyalari nafaqat yuqori ta'lim, balki boshlang'ich ta'lim bosqichida ham muhim ahamiyat kasb etmoqda. Informatika va axborot texnologiyalarining boshlang'ich sinflardan boshlab o'qitilishi o'quvchilarning zamonaviy bilim va ko'nikmalarga ega bo'lishi, ularning tafakkurini rivojlantirish hamda raqamli savodxonlikni oshirishga xizmat qiladi. O'zbekistonda ham informatika va axborot texnologiyalarini ta'lim tizimiga joriy etish bo'yicha qator islohotlar amalga oshirilmoqda.

Boshlang'ich sinf o'quvchilari hali yosh bo'lishiga qaramay, ularning texnologiyalar bilan tanishligi yuqori bo'lishi kerak. Chunki hozirgi zamonaviy dunyoda texnologik savodxonlik har qanday kasb egasi uchun asosiy talablardan biriga aylanib bormoqda. Shu sababli, informatika va axborot texnologiyalarining boshlang'ich ta'limda o'qitilishi muhim ilmiy-amaliy masalalardan biridir. Ushbu jarayon o'quvchilarning texnologik vositalardan to'g'ri va samarali foydalanish qobiliyatini shakllantirishga imkon beradi.

Informatika va axborot texnologiyalarining o'quv jarayoniga integratsiyalashuvi o'quvchilarning darsga bo'lgan qiziqishini oshirish, mustaqil ta'lim olish imkoniyatlarini kengaytirish hamda o'qitish samaradorligini oshirishga xizmat qiladi. Elektron darsliklar, multimediya resurslari, onlayn platformalar va interaktiv dasturlar orqali o'quvchilarning fanga bo'lgan qiziqishi ortadi, ularda mustaqil fikrlash va muammolarni hal qilish ko'nikmalari shakllanadi.

Shu bilan birga, boshlang'ich ta'limda informatika va axborot texnologiyalarini joriy etishda bir qator muammolar ham mavjud. Jumladan, barcha maktablarda yetarli texnik jihozlarning mavjud emasligi, o'qituvchilarning axborot texnologiyalaridan samarali foydalanish bo'yicha yetarli bilim va malakaga ega emasligi kabi omillar bu jarayonning samaradorligiga ta'sir ko'rsatishi mumkin. Shuning uchun informatika o'qitish metodikasini takomillashtirish, pedagoglarni maxsus tayyorgarlikdan o'tkazish va texnik bazani mustahkamlash muhim ahamiyat kasb etadi.

Ushbu maqolada informatika va axborot texnologiyalarining boshlang'ich ta'limdagi o'rni, ularning o'quvchilarga ta'siri va ta'lim jarayonidagi afzalliklari tahlil qilinadi. Shuningdek, texnologik yondashuvlarni samarali qo'llash usullari va mavjud muammolarni bartaraf etish yo'llari ko'rib chiqiladi.

Boshlang'ich ta'lim bosqichida informatika va axborot texnologiyalarining joriy etilishi ta'lim jarayonining samaradorligini oshirishda muhim rol o'ynaydi. Ushbu fan o'quvchilarning dastlabki texnologik ko'nikmalarini shakllantirish,

ularning tafakkurini rivojlantirish va muammolarni hal qilish qobiliyatlarini oshirish uchun xizmat qiladi. Informatika darslari orqali o'quvchilar dasturiy ta'minot bilan ishlash, kompyuter savodxonligini rivojlantirish, axborot xavfsizligi tamoyillarini tushunish va innovatsion texnologiyalarni o'zlashtirish imkoniyatiga ega bo'ladilar.

Boshlang'ich sinflarda informatika va axborot texnologiyalarining joriy etilishi o'quvchilarning fanga bo'lgan qiziqishini oshirish bilan birga, ularning mantiqiy fikrlash qobiliyatini ham rivojlantiradi. Interaktiv dars usullari yordamida o'quvchilarga mustaqil bilim olish, berilgan topshiriqlarni ijodiy yondashuv bilan bajarish va zamonaviy texnologiyalarni amaliyotda qo'llash imkoniyati yaratiladi. Bu esa o'quvchilarning kelajakda har qanday kasb sohasida muvaffaqiyatga erishishiga zamin hozirlaydi.

Axborot texnologiyalarini ta'lim jarayoniga integratsiya qilish bir necha asosiy yo'nalishlar bo'yicha amalga oshiriladi. Birinchidan, zamonaviy ta'lim platformalari va onlayn resurslardan foydalanish orqali o'quvchilarning mustaqil o'rganish imkoniyatlari kengaytiriladi. Masalan, elektron darsliklar, interaktiv o'quv dasturlari va o'yinlar orqali o'quvchilar fanni qiziqarli tarzda o'zlashtirishlari mumkin. Ikkinchidan, multimedia texnologiyalaridan foydalangan holda taqdimotlar, animatsiyalar va videodarslar orqali o'quvchilarning bilim olish jarayoni yanada tushunarli va samarali bo'ladi.

Bundan tashqari, boshlang'ich ta'limda informatika darslarini tashkil etishda o'quvchilarning yosh xususiyatlarini hisobga olish muhimdir. Kichik yoshdagi bolalar uchun kompyuter va raqamli texnologiyalar bilan ishlash nafaqat qiziqarli, balki o'rganish jarayonining ajralmas qismi ham bo'lishi kerak. Shu sababli, informatika darslarida interaktiv o'yinlar, vizual materiallar va tajriba asosidagi topshiriqlardan foydalanish samarali natijalar beradi.

Shu bilan birga, boshlang'ich ta'limda informatika va axborot texnologiyalarining qo'llanilishi pedagoglarning ham yangi ko'nikmalarga ega bo'lishini talab etadi. O'qituvchilar zamonaviy texnologiyalardan foydalana olish, raqamli resurslar bilan ishlash va innovatsion yondashuvlarni tatbiq eta olishlari lozim. Shu sababli, pedagoglar uchun maxsus seminarlar, kurslar va malaka oshirish dasturlarini yo'lga qo'yish muhim ahamiyatga ega.

Ta'lim jarayonida axborot texnologiyalaridan foydalanishning yana bir muhim jihati – bu o'quvchilarning axborot xavfsizligini ta'minlashdir. Internetdan foydalanish imkoniyati kengaygan sari o'quvchilarga axborot xavfsizligi, shaxsiy ma'lumotlarni himoya qilish va zararli kontentdan saqlanish bo'yicha ko'nikmalarni shakllantirish zarur. Bu esa faqatgina informatika darslarida emas, balki barcha fanlarda axborot texnologiyalarining to'g'ri qo'llanilishiga e'tibor qaratish muhimligini ko'rsatadi.

Shunday qilib, informatika va axborot texnologiyalarining boshlang'ich ta'lim tizimiga joriy etilishi zamonaviy o'quvchilarning kelajakdagi kasbiy faoliyatiga tayyorlanishiga xizmat qiladi. Ushbu metodika o'quvchilarning mustaqil ta'lim olish qobiliyatini rivojlantirish, ularning kreativ fikrlash ko'nikmalarini oshirish va raqamli dunyoda samarali faoliyat yuritishiga yordam beradi.

Boshlang'ich ta'lim tizimida informatika va axborot texnologiyalarining qo'llanilishi o'quvchilarning o'quv jarayoniga bo'lgan munosabatini tubdan o'zgartiradi. Tadqiqotlar shuni ko'rsatmoqdaki, texnologiyalardan foydalanish dars jarayonining interaktivligini oshirish bilan birga, o'quvchilarning mustaqil ta'lim olishga bo'lgan qiziqishini ham kuchaytiradi. Shu bilan birga, axborot texnologiyalaridan foydalanish o'quvchilarning analitik tafakkurini rivojlantirish, muammolarni hal qilish qobiliyatini oshirish va jamoaviy ishlash ko'nikmalarini shakllantirishga xizmat qiladi.

Dars jarayonida elektron ta'lim resurslaridan foydalanish o'quvchilarning bilim olish samaradorligini sezilarli darajada oshiradi. Interaktiv darsliklar, virtual laboratoriyalar va o'yinli ta'lim dasturlari orqali o'quvchilar mavzularni chuqurroq o'rganish imkoniyatiga ega bo'ladilar. Bu esa an'anaviy ta'lim usullari bilan solishtirganda darsning yanada samarali va qiziqarli o'tishini ta'minlaydi. Masalan, informatika darslarida multimedia vositalari yordamida grafik interfeyslar, dasturlash asoslari va internet xavfsizligi bo'yicha tushunchalar berilishi o'quvchilarning fanni tezroq o'zlashtirishiga yordam beradi.

Bundan tashqari, axborot texnologiyalaridan foydalangan holda amalga oshirilgan tajribalar shuni ko'rsatmoqdaki, o'quvchilarning texnologiyalar bilan ishlashga bo'lgan moyilligi yuqori bo'lib, ular ushbu vositalardan nafaqat o'yin-kulgi uchun, balki bilim olish va muammolarni hal qilish uchun ham foydalanishga intiladilar. Bu esa o'quvchilarning mustaqil fikrlash, muammolarga yechim topish va yangi bilimlarni izlash kabi ko'nikmalarini rivojlantirishga xizmat qiladi.

O'quvchilar orasida o'tkazilgan so'rovnomalar shuni ko'rsatdiki, informatika va axborot texnologiyalaridan foydalanilgan darslar an'anaviy darslarga nisbatan qiziqarliroq bo'lib, o'quvchilarning ishtiroki va motivatsiyasini oshirishga yordam beradi. Ayniqsa, raqamli ta'lim platformalaridan foydalanish, jamoaviy loyiha ishlarini tashkil etish va interaktiv mashg'ulotlarni o'tkazish o'quvchilar orasida texnologik tafakkurni rivojlantirishga xizmat qilgan.

Biroq, informatika va axborot texnologiyalarini boshlang'ich ta'limga joriy etish jarayonida muayyan muammolar ham kuzatilmoqda. Masalan, ba'zi ta'lim muassasalarida texnik jihozlarning yetishmovchiligi, o'qituvchilarning zamonaviy texnologiyalardan foydalanish bo'yicha yetarli tajribaga ega emasligi va o'quv dasturlarining zamonaviy talablar bilan to'liq mos kelmasligi kabi muammolar mavjud. Bu esa ta'lim tizimida axborot texnologiyalarining samarali joriy etilishiga to'sqinlik qilmoqda.

Shu sababli, boshlang'ich ta'limda informatika va axborot texnologiyalarini joriy etish bo'yicha quyidagi tavsiyalar ishlab chiqildi:

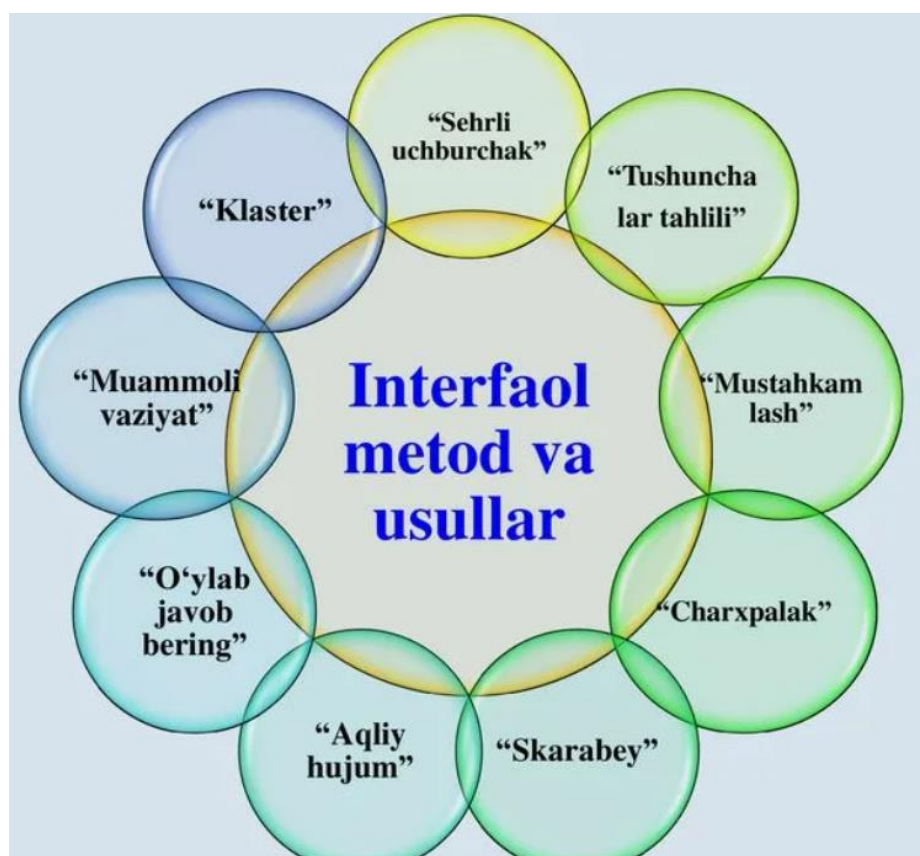
1. O'qituvchilar malakasini oshirish – pedagoglar uchun maxsus seminarlar va treninglar tashkil etish zarur.



2. Texnik bazani mustahkamlash – maktablarda zamonaviy kompyuter va boshqa axborot texnologiyalarining yetarli darajada mavjudligini ta'minlash lozim.



3. Interaktiv dars metodlarini keng joriy etish – o'quvchilarning faolligini oshirish uchun texnologik yondashuvlardan samarali foydalanish kerak.



4. **Axborot xavfsizligi bo'yicha maxsus darslar o'tkazish** – o'quvchilarga internet xavfsizligi, shaxsiy ma'lumotlarni himoya qilish va raqamli madaniyat asoslarini o'rgatish lozim.



Ushbu chora-tadbirlar amalga oshirilsa, boshlang'ich ta'lim tizimida informatika va axborot texnologiyalarining o'rni yanada mustahkamlanib, o'quvchilarning texnologik savodxonligi oshishiga xizmat qiladi.

Boshlang'ich ta'lim tizimida informatika va axborot texnologiyalarining roli tobora ortib bormoqda. Ushbu fan nafaqat o'quvchilarning texnologik savodxonligini oshirishga xizmat qiladi, balki ularning mustaqil fikrlash, muammolarni hal qilish va innovatsion yondashuvlarni qo'llash ko'nikmalarini

ham rivojlantiradi. Informatika va axborot texnologiyalaridan foydalanish ta'lim jarayonini yanada interaktiv va samarali qilishga imkon yaratadi.

Tadqiqot natijalari shuni ko'rsatmoqdaki, boshlang'ich ta'limda axborot texnologiyalaridan foydalanish o'quvchilarning darsga bo'lgan qiziqishini oshiradi, ularning mantiqiy tafakkurini rivojlantirishga yordam beradi va mustaqil o'rganish qobiliyatlarini shakllantiradi. Biroq, bu jarayonda pedagoglarning malakasini oshirish, maktablarning texnik bazasini mustahkamlash va zamonaviy o'quv dasturlarini ishlab chiqish kabi masalalar dolzarb bo'lib qolmoqda.

Informatika darslari orqali o'quvchilarga zamonaviy texnologiyalar bilan ishlash ko'nikmalari berilishi, ularning ijodiy qobiliyatlari rivojlanishiga xizmat qiladi. Shuningdek, texnologiyalardan foydalanish orqali o'quv jarayonining sifatini oshirish va o'quvchilarga yangi bilimlarni yanada samarali yetkazish mumkin. Shu sababli, informatika va axborot texnologiyalarining boshlang'ich ta'limdagi o'rnini yanada mustahkamlash maqsadida quyidagi chora-tadbirlarni amalga oshirish muhimdir:

1. O'qituvchilar malakasini oshirish – pedagoglarga axborot texnologiyalaridan foydalanish bo'yicha maxsus kurslar va seminarlar tashkil etish lozim.

2. Maktablarning texnik bazasini mustahkamlash – zamonaviy kompyuter texnologiyalari bilan jihozlash ta'lim jarayonining sifatini oshirishga yordam beradi.

3. Axborot texnologiyalarini o'qitish metodikasini takomillashtirish – o'quv dasturlarini zamonaviy talablar asosida qayta ko'rib chiqish va innovatsion yondashuvlarni keng joriy etish lozim.

4. Axborot xavfsizligi bo'yicha ta'lim berish – o'quvchilarga internet xavfsizligi va shaxsiy ma'lumotlarni himoya qilish tamoyillarini o'rgatish zarur.

Umuman olganda, informatika va axborot texnologiyalarining boshlang'ich ta'lim tizimiga joriy etilishi kelajak avlodning raqamli savodxonligini oshirish, ularning zamonaviy texnologiyalar bilan ishlash qobiliyatini rivojlantirish va ta'lim jarayonining sifatini yaxshilashga xizmat qiladi. Agar bu yo'nalishda tizimli chora-tadbirlar amalga oshirilsa, O'zbekiston ta'lim tizimi raqamli transformatsiya jarayoniga samarali moslasha oladi.

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ASSESSING STUDENTS' KNOWLEDGE IN THE ESP CLASSROOM

Annotation: *In the article, teachers, learners, language teacher educators, and other language professionals cover the essential knowledge and abilities in language evaluation for English for Specific Purposes (ESP). In addition to presenting and evaluating assessment as a component of the teaching and learning process, this paper will provide examples of several effective assessment techniques. The first section addresses a number of topics pertaining to the learning process and how assessment functions as an integral component. Furthermore, it particularizes and analyzes evaluation, paying specific attention to assessment techniques. A case study comparing classic and novel assessment methods forms the basis of the paper's second, applicable section.*

Keywords: *assessing, criteria, authentic, test, rubric*

INTRODUCTION

The differences between ESP and "general English," ESP and general English courses, and ESP and general English assessments have long been discussed. Although there has historically been a separation between the two, this distinction has blurred in light of recent publications (Bachman and Palmer, 1996). Regarding validity and impact, the majority of language evaluation experts currently concur on the same measurement concepts (Douglas, 2010).

Through a procedure called assessment, which is closely linked to learning just like teaching, teachers can observe how well their students are learning. Assessment is the process of gathering data about student learning via the use of instruments and methods. To put it another way, assessment is how educators see their students' learning (Gareis, 2015). A crucial step in the learning-teaching process is assessment. In a communicative and engaging curriculum, it is constant. A student can receive feedback, motivation, and authenticity from tests, which are the primary evaluation instruments. In this context, we ought to consider a few fundamental ideas. For example, teachers can track pupils' progress and boost their motivation by using regular exams.

Assessment is an ongoing process that assists teachers in determining the learning challenges and issues of their pupils. It also allows them to keep an eye on their progress and provide them with the feedback they need. Additionally, by adapting teaching strategies to various learning styles, requirements, and interests, the evaluation results can assist teachers in improving both their teaching methods and their students' learning.

Criteria of Assessing

Most of the time, students are anxious about assessments. Before the test, a lot of people experience anxiety. They are more at ease when they are not required

to take an exam as part of the evaluation process. Examining students without the use of tests is a more appealing method. Students undergo several assessments in various formats throughout their academic careers. Informal evaluation can take several forms, beginning with brief inquiries or answers followed by remarks and criticism. Many teachers evaluate their pupils by having them write the proper form of a word, offer comments, or have them participate in a speaking exercise in class or on their notebooks. Test-free assessment methods include free-form answers to real-world problems, ongoing, long-term evaluation, or innovative answers (Butler and McMunn, 2006). Experts have recommended in recent years that teachers should move beyond the conventional paper-and-pencil tests because more contemporary and successful teaching and learning strategies should also prompt alternative forms of assessment, which include problem-solving, debates, practical exercises, and the writing of essays or reports. In particular, the word “alternative assessment” is frequently used interchangeably with other terms in the literature, including “authentic assessment”, “performance assessment”, “performance-based assessment” and “productive assessment” (Brady and Kennedy, 2005; Berry, 2008).

It has been suggested that the field of ESP assessment is a discrete and independent subset of a broader movement in English language assessment that measures particular English language usage among designated populations. Additionally, ESP evaluation has been considered within the larger framework of the educational process. As a result, evaluation plays a significant role in the ESP process and provides an ESP instructor with a multitude of data regarding the calibre and efficacy of instruction and learning (Dudley-Evans and St. John, 1998).

First off, we will be evaluating “the ability to perform appropriate communicative operations requiring specified language skills and insights in specified subject areas” (Carroll, 1980), not students’ mastery of a general language or their knowledge of particular disciplines. We are supporting the use of global integrated assessments since we haven’t covered each language skill separately in our class work. This way, we may be able to correlate language “usage” more closely with the students’ real-world experiences than with language “usage”.

Hutchinson and Waters contend that the criteria used to create an achievement test should be comparable to those used to create any test to address the shift we are attempting to make from theory to practice. Importantly, the right response to any question on an ESP test “should not depend on specialist subject knowledge outside the material used in the test” (Hutchinson and Waters, 1987). That would unjustly provide some of the better knowledgeable students access to the test’s topic information, but it would also prevent bias in the assessment.

Both the receptive and producing components of linguistic communication should be represented in the evaluation’s central section (Widdowson, 1978). This is accomplished by using tools like Wh-questions, truth assessments, multiple-choice, topic discussions, summaries, and so forth to read a text in a variety of ways, not just in its linguistic, lexical, or grammatical items but also in its extralinguistic and situational context. We will quickly discover that when the materials chosen, the kinds of activities done in class, and the kinds of assessments mirror

communicative usage, demands, and interests that mimic real-world language use, students are more motivated.

This initial and primary section of the test may be regarded as an adequate and reasonably trustworthy method of evaluating what we might reasonably think pupils know. However, based on the readings utilized for this section of the test, we will also evaluate the characteristics of language as a means to an end rather than as an end in and of themselves.

Authentic assessment in ESP teaching

The goal of authentic assessment is not to imply that you must choose between using more authentic evaluation techniques and more conventional ones, such as testing. Its purpose is to highlight the benefits of real evaluations, which have gained popularity among English teachers in recent years.

The four steps of authentic assessment suggested by Jan Mueller's Authentic Assessment Toolbox are as follows (Kraľovičová Denisa, 2016):

1. *Standards*: Standards, aims, and objectives outline the knowledge and skills that students should possess;
2. *Authentic task*: a task assigned to pupils that evaluates their capacity to apply information and skills derived from standards to real-world problems;
3. *Criteria*: signs of successful completion of a task;
4. *Rubric*: a grading system that evaluates student achievement based on a set of criteria unique to a certain task.

The following system illustrates below the key distinctions between authentic and traditional assessment in terms of their distinguishing characteristics.

Table 1. Characteristic of authentic task by Kraľovičová Denisa

Traditional	Authentic
Selecting a Response	Performing a Task
Contrived	Real-life
Recall/Recognition	Construction/Application
Teacher-structured	Student-structured
Indirect Evidence	Direct Evidence

The validity of ESP assessments and their application in teaching real-world English must be emphasized, in general. Standards, authentic task, criteria, and rubric are the four steps that must be followed and put into practice when it comes to authentic assessment in order to increase the quality of the course. Devaluing conventional assessment techniques was not the aim of this article. Emphasizing authentic assessment as a useful instrument to raise the standard of English language instruction was the goal.

CONCLUSION

The process of assessment involves measurement, and testing is one official way to measure. To determine whether and to what extent the teaching of ESP has been successful, an assessment is necessary. At some point when organizing, creating, carrying out, and analyzing activities, teachers must teach several methods of evaluating students' success. Instructors must encourage students to participate in the teaching and learning process and use critical thinking. Even if learning happens on an individual basis, teachers' approaches and care might improve it. Gaining proficiency in a language highlights the results of lifetime learning and improves both career and personal fulfilment. Thus, methods of developing abilities that motivate and empower students to respond to many everyday events and react appropriately in unique scenarios should receive particular attention in ESP instruction. Accordingly, the foundation of ESP assessment should be the direct evaluation of language proficiency in communication acts (reading, speaking, writing, and listening) as well as the assessment of topic knowledge in scenarios and exercises that are as realistic and interesting as feasible for students. From this vantage point, educators should design assignments that help students understand the relationship between language usage needed for assessments and language usage in everyday situations.

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THE IMPACT OF NOSOCOMIAL INFECTION ON PATIENTS

Annotation: Nosocomial infections, also known as hospital-acquired infections, pose a significant threat to patient health and healthcare systems worldwide. This study examines the multifaceted impact of nosocomial infections on patients, encompassing physical, psychological, and economic consequences. The analysis highlights the primary sources and risk factors contributing to the prevalence of such infections, including inadequate sterilization protocols, antibiotic resistance, and overcrowded healthcare facilities.

Key words: Nosocomial infection, Hospital-acquired infections (HAIs), Patient outcomes, Healthcare-associated infections (HCAIs), Infection control, Antibiotic resistance, Patient morbidity, Patient mortality, Healthcare costs.

Nosocomial (from the Latin "nosocomium" - hospital and the Greek "nosokomeo" - to care for a patient) infections are any clinically detectable infectious disease that develops in a patient when seeking medical care in a hospital or during a stay there, as well as any infectious disease that develops in a hospital employee as a result of his work in this institution [1]. Nosocomial infections include infections that were not in the incubation period and did not manifest clinically at the time of the patient's admission to the hospital and developed no earlier than 48 hours after hospitalization, as well as infections that arose as a result of previous hospitalization [2]. Nosocomial infections are important factors in morbidity and mortality. They lead to an increase in the duration of hospitalization and additional treatment costs. Thus, in the United States in 1995, the cost of treating nosocomial infections was \$ 4.5 billion, they became the direct or indirect cause of 88 thousand deaths [3]. In the UK, nosocomial infections cause 5,000 deaths annually and contribute to an additional 15,000 fatal outcomes [4].

Epidemiology of nosocomial infections

In 90% of cases, nosocomial infections are caused by bacteria, much less often by viruses, fungi or protozoa. Along with obligate pathogens, nosocomial infections are also caused by opportunistic microorganisms with relatively low pathogenicity, especially in patients with a severe course of the underlying and/or concomitant diseases. Thus, in connection with the spread of HIV infection over the past decade, the etiologic role of fungi, *Mycobacterium tuberculosis* and *Mycobacterium avium*, and the herpes simplex virus has increased. The intensive use of broad-spectrum antibiotics has led to an increase in urinary tract infections caused by *Candida* spp. Nosocomial fungal infections also develop relatively frequently in patients who have undergone major surgical interventions, especially

organ transplants, and who receive chemotherapeutic agents for the treatment of oncological diseases.

Large studies in the USA and Europe have shown that over the past two decades there have been changes in the frequency, localization, and distribution of etiologic factors of nosocomial infections. The emergence of new pathogens of opportunistic infections has led to the emergence of new problems of antibiotic resistance.

In the early 70s of the last century, according to the SENIC (Study of Efficacy of Nosocomial Infection Control) study, the first place among nosocomial infections was occupied by urinary tract infections (42%) and surgical wound infections (24%). Respiratory tract infections accounted for approximately 11%.

In the early 90s, The incidence of nosocomial pneumonia increased to 15–17%, exceeded 30% in 1995, and the latest European studies have obtained even higher figures – 46.9%. Thus, nosocomial pneumonia is the most common nosocomial infection in Europe.

In contrast, the incidence of urinary tract infections has declined in the 1990s, apparently due to improved monitoring and prevention, as well as more careful care of urinary catheters. However, urinary tract infections, along with pneumonia, still occupy a leading place among nosocomial infections and are a source of severe secondary bacteremia. For example, in the United States, they account for about 40% of all nosocomial infections and lead to 7,500 deaths annually. Over the past 15–20 years, an increase in the incidence of angioinfectious infections has been observed. In particular, in the United States, the incidence of primary and secondary bacteremia increased by 2.4 times between 1979 and 1987. Depending on the size of the medical institution, the contingent of patients, and the length of hospital stay, it is 1.3–14.5 per 1,000 hospitalized patients. The increase in secondary bacteremia is associated with the widespread use of invasive procedures, antitumor chemotherapy, and immunotherapy, which contribute to the development of sepsis and septic shock. However, secondary bacteremia most often develops in patients with nosocomial pneumonia. The incidence of primary bacteremia remains relatively stable and is at 15%.

Bacteremia, along with pneumonia, is one of the most severe nosocomial infections, often leading to death, and over the past 40 years, an exponential increase in the incidence of deaths due to bacteremia has been noted.

Wound infection is also a common nosocomial infection. Thus, according to a multicenter study that included 231 hospitals in the United States, in the period from October 1986 to April 1996, wound infection ranked second among all microbiologically confirmed nosocomial infections (17.4%), second in frequency only to urinary tract infections (34.5%). According to other studies, the incidence of nosocomial wound infection and skin and soft tissue infection in surgical departments and burn centers averages 8–15%.

Rarer infections include secondary nosocomial meningitis and gastroenteritis. Patients with risk factors may develop pseudomembranous enterocolitis caused by

Clostridium difficile. In recent years, an increase in the incidence of nosocomial tuberculosis has been observed in North America and Europe.

The frequency of isolation of various pathogens depending on the localization of infection is presented in Table 1. Gram-negative microorganisms predominate among the causative agents of burn wound infection, while gram-positive microorganisms are the leading cause of bacteremia. In patients with nosocomial pneumonia, according to the EPIIC study, the most common pathogens are *P. aeruginosa* and *S. aureus*, which are isolated with approximately the same frequency. It is believed that about half of nosocomial infections are currently caused by antibiotic-resistant microorganisms.

Important preventive measures include maintaining cleanliness in the healthcare facility, aseptic technique during invasive procedures, and thorough sterilization of medical instruments [3]. Particular attention is paid to washing and wiping hands with alcohol solutions before and after contact with the patient.

Recommendations for the prevention of nosocomial infections include three main approaches:

- measures aimed at controlling sources of nosocomial pathogens and preventing transmission of infection from patient to patient or from medical personnel to patient — adequate disinfection and care of catheters, ventilator equipment, humidifiers, endotracheal tubes, and dialysis systems;
- measures aimed at preventing contamination in patients with burns and surgical wounds and in patients on mechanical ventilation - antibiotic prophylaxis, local application of antibiotics or antiseptics; for the prevention of pneumonia caused by *P. aeruginosa* and *Acinetobacter*, which often lead to death, the use of polymyxin aerosol and/or endotracheal administration of aminoglycosides is recommended.

For local chemoprophylaxis, poorly absorbed antibiotics are used: polymyxin E, tobramycin (or norfloxacin) and amphotericin B (to prevent fungal colonization). In most studies, injectable cefotaxime was used simultaneously with local prophylaxis. Antibiotic combinations can be applied to the oral mucosa in the form of sticky pastes or administered through a nasogastric tube. Thus, nosocomial infections continue to be a serious threat to health and life, especially in patients with risk factors. To reduce the incidence of morbidity and mortality caused by nosocomial infections, it is necessary to improve infection control and patient care, improve diagnostic methods and introduce new antimicrobial agents into clinical practice.

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INGLIZ TILI GISTOLOGIK TERMINOLOGIYASINING SHAKLLANISHI VA XUSUSIYATLARI

Annotatsiya: Maqolada ingliz va o'zbek tillarida gistologik terminologiyasining shakllanishi va xususiyatlari talqinlangan. Ingliz tilida mavjud bo'lgan gistologik terminlarni hosil qilishda salmoqli foydalaniladigan prefikslarni ko'rib chiqildi. Gistologik terminlarni shakllantirishda prefiksatsiya usuli tibbiyot sohasini chuqur o'zlashtirmoqchi bo'lgan talabalar uchun asosiy dolzarb aniqlangan.

Kalitso'zlar: gistologik, terminologiya, ensiklopedik, pnevmoniya, atama, lotin tilida.

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FORMATION AND FEATURES OF ENGLISH HISTOLOGICAL TERMINOLOGY

Annotation: The article analyzes the formation and features of histological terminology in English and Uzbek. The prefixes that are widely used in the formation of histological terms in English are considered. The method of prefixation in the formation of histological terms is identified as the main issue for students who want to deeply master the field of medicine.

Keywords: histological, terminology, encyclopedic, pneumonia, term, in Latin.

Ma'lumki, zamonaviy tibbiyotda gistologiya sohasi vakillari uchun lotin tilni bilish ahamiyatlidir, negaki hozirgi fan va texnikaning jadal rivojlanishi va hamda texnologiyalarning nomlanishlari, xar bitta tibbiyotdagi qo'llaniladigan terminlarimiz lotin tilidan kirib kelishi mukammal va puxta bilimni talabetadi. Barchamizga ma'lumki, xozirgi kunda pedagogik ta'lim berish usul va vositalari keskin o'zgarib bormoqda, ya'ni tibbiyot instituti talabalariga lotin tillarni o'qitish jarayonida o'qituvchilar zamonaviy pedagogik texnologiya hamda axborot vositalaridan samarali foydalanish zarurligini bugungi kun hayoti taqozo etmoqda.

Xozirgi kunda ta'lim berishning faqat an'naviy usullarini qo'llash bilan samarali natijalarga erishib bo'lmaydi⁵.

Jamiyat taraqqiyotini ilm-fan rivojisiz tasavvur qilib bo'lmaydi. Chunki ilm-fan ishlab chiqarish, uning moddiy asosini yaratish, texnologik rivojlantirish va eng asosiysi-kadrlar bilan ta'minlash vazifalarini o'z zimmasiga oladi. Bundan bir necha yil oldin biron - bir lotin tilidagi ma'lumotlarni tarjima qilish uchun mutaxassislar murojat etilar edi. Bugun esa har bir tibbiyot oliy o'quv yurtida puhta bilimga ega, malakali lotin tili o'qituvchilari faoliyat yuritib kelmoqda. Bundan tashqari o'qituvchilari orasida malaka oshirish kurslari, seminar va tajriba almashish darslari tashkil qilinmoqda. Shuningdek, har bir oliygohda, shuningdek Tibbiyot institutlarida ham o'z ehtiyojlaridan kelib chiqqan xolda o'qituvchilar uchun ta'til davomida lotin tillarni o'rganish kurslari tashkil qilinmoqda. Ko'plab ta'limotlar: fizika, kimyo, astronomiya va xususan anatomiya, botanika hamda butun tibbiyot terminlari uchun yunon tili juda zarur.

Lotin tili va tibbiy terminlar asosi biz uchun juda muhim fan. Shuning uchun avvalambor biz uni o'rganishdan qanday maqsad borligini, umumiy ko'rinishda uning hajmi va tarkibini, gistologiyada bir necha yuz yilliklar mobaynida nega aynan lotin tili qo'llanilayotganini yoritib olishimiz lozim. Gistologik termin, ilmiy tushuncha, fan, texnika va sanoat sohasida muvaffaqiyatli ish olib borayotgan mutaxassis uchun terminlar mohiyatini maxsus leksika, yoki boshqacha aytganda terminologiyani to'g'ri tushunishi hamda undan aniq foydalanishi zarur. Terminning asosiy vazifasi ilmiy tushunchani faqat o'ziga xos ifodalashdan iborat. Gistologik termin sifatida alohida yakka so'z (organizm, hujayra, organ, gen, kasallik, appenditsit, fluorografiya) bilan bir qatorda so'z birikmasi (ko'k rak qafasi, yensa suyagi, gipertonik kasallik, sanitar ishlov berish, radiatsion gigiyena) ham bo'lishi mumkin. Kundalik hayotda ishlatiladigan adabiy tilning ommabop so'zlaridan farqli o'laroq terminlarda ilmiy va ilmiy-texnik tushunchalar ifodalanadi⁶.

Maxsus (terminologik), ensiklopedik lug'atlarda terminlar ta'riflar bilan boyitilgan, misol uchun: Pnevmoniya mustaqil kasallik sifatida yoki biron-bir kasallik asorati sifatida hosil bo'luvchi o'pka to'qimalarining yallig'lanish jarayoni. Mutaxassis ham, mutaxassis bo'lmagan shaxs ham umumadabiy til so'zlari va so'z birikmalaridan teng foydalansada, mutaxassis bo'lmagan shaxsdan farqli ravishda mutaxassis definitsiyaga ko'ra baho berish mumkin bo'lgan ilmiy tushuncha mohiyatini biladi, misol uchun: pnevmoniya, sil, skleroz, kardiogramma, stress va boshqalar. Ilmiy tushuncha mohiyatini bilish ushbu tushuncha (termin) ni boshqalariga bog'lash, fanning tushunchalar tizimidan ma'lum bir o'rin ajratish demakdir. Definitsiyada faqat ma'lum bir bosqichdagina ushbu bog'liqlik va o'rin namoyon bo'ladi.

⁵ Нормуродова Н., Уралова Ч., Олимзода П. Роль дополнительных занятий в обучении иностранному языку //Общество и инновации. – 2021. – Т. 2. – №. 5/С. – С. 12-16

⁶ Social-cultural characteristics of Uzbek and English medical speech YorovaSayoraKarimovna, An English Teacher of the Department Languages, Samarkand State Medical Institute, International Journal on Integrated Education, eISSN : 26203502 p-ISSN : 26153785

Mazkur ishining maqsadlaridan biri - gistologik terminlar soʻz yasallishining baʼzi umumiy tushunchalarini, gistologik terminlarning tarkibiy qismlarini, prefikslarni gistologik terminlar yasallishidagi oʻrnini koʻrsatishni va klinik atamalar shakllantirishda prefikslarni ishlatilishini oʻqitishda foydalaniladigan samarali metodlar va materiallarni taqdim etishdan iborat. Gistologik terminlarni shakllantirishda prefiksatsiya usuli tibbiyot sohasini chuqur oʻzlashtirmoqchi boʻlgan talabalar uchun asosiy dolzarb masalalaridan biri boʻlib, oʻquv jarayonida talabalarni tibbiy atamalarni toʻgʻri tarjima qilish va kasbga tayyorlash, talabalarda yuksak darajadagi kasbiy bilimdonlik fazilatlarni shakllantirish, taʼlim sifati va samaradorligiga erishishda pedagog-talaba munosabatlarini muvofiqlashtirish va taʼlim jarayoni natijaviyligini taʼminlashning nazariy va amaliy masalalari toʻliq ochib berishda yordam beradi⁷.

Hozirgi zamon gistologik terminlari – keng qamrovli va murakkab atamalardan deb hisoblash mumkin. Bunda bir necha ming yillik soʻzlar va birikmalar mujassamlashgan. Tibbiy va biologik atamalarda koʻp asrlik anʼanalarni lotin tilining ishlatilishida alohida ahamiyatga ega. Lotin tilini oʻqitish tibbiy atamalarining asosini oʻqitishdan boshlanadi. Lotin tili oʻlik tilga aylangan boʻlsa-da, hozirgi kungacha oʻz ahamiyatini yoʻqotgani yoʻq. Ayni paytda tibbiyot, tarix, huquqshunoslik, filologiya va biologiya fanlari sohasida lotin tilidan keng foydalaniladi. Bu, ayniqsa, tibbiyotda aniq koʻzga tashlanadi, chunki anatomik va davolashga oid atamalar hamda dorilarning nomi lotin tilidadir. Retsept varaqasida hamisha dori nomlari va dorixona xodimiga shifokor tomonidan dori tayyorlash haqidagi koʻrsatmalar lotin tilida yoziladi. Prefikslardan misol kelitardigan bulsak, masalan, peri- prefiksi aʼzo nomi bilan birga ushbu aʼzoni qoplab turgan tashqi qobiq, gʻilof, toʻqima, qorin pardani bildiradi: peri-metrium - bachadon seroz (qorin pardaga oid) pardasi; peri-osteum - suyak usti pardasi; peri-bronchitis - bronxni oʻrab turuvchi toʻqima yalligʻlanishi; para-nephritis- buyrak fibroz gʻilofining yalligʻlanishi. Para-prefiksi ichki aʼzo nomi bilan birga ushbu aʼzoni atrofidagi kletchatka (siyrak tolali biriktiruvchi toʻqima) ni anglatadi: para-nephritis - buyrak atrofi kletchatkasi yalligʻlanishi. Para- prefiksi “normadan ogʻish”, “berilgan soʻz yasovchi negizdan farqlanuvchi” ikkilamchi maʼnolariga ham ega: par-acusis-eshitish taassurotlarini notoʻgʻri yoki oʻzgargan idrok qilish; para-struma-qalqon oldi bezlarining boʻqoqni eslatuvchi gipertrofiyasi⁸. Prefiksatsiya klinik atamalarni shakllantirish usullari boʻyicha pedagogik, uslubiy adabiyotlarni oʻrganish va talabalarni klinik atamalarni shakllantirishda prefikslarning oʻrni bilan tanishtirish, prefikslarning turlari va tibbiyot atamalarini yasashdagi eng koʻp ishlatiladigan prefikslar haqida maʼlumot berish, “Tibbiy atamalarni shakllantirish usullari” mavzusini oʻqitilishi va yoritilishi, texnikasini koʻrsatish, dars davomida qoʻllanilgan usullar va metodlardan namuna keltirish tibbiyot talabalarining shu mavzu xakida yetarli maʼlumotlarga ega bulishlari uchun maqsadga muvofiqdir.

⁷ Karimovna , Y. S. . (2022). THE LINGUISTIC ENVIRONMENT IN THE FIELD OF MEDICAL COMMUNICATIONS. Eurasian Journal of Academic Research, 2(2), 143–147.

⁸ Ilhomjonovna S. K., Parvina O. Structural-Morphological Characteristics of Binary Tautologisms //International Journal on Orange Technologies. – 2020. – T. 2. – №. 12. – C. 23-28.

Quyida ingliz tilida mavjud bo'lgan gistologik terminlarni bir nechtasini hosil qilish salmoqli foydalaniladigan prefikslarni ko'rib chiqamiz.

- a – Gr.a or an-, prefix meaning without, not. (agnatha, anapsid)
- ab – L.ab-, prefix meaning away from. (Abduction)
- abdom – L.abdomen, abdomen (probably from abdo, to cancel). (Abdomen, Abdominal)
- acanth – Gr. Akantha, spine, thorn, (Acanthodii)
- acetabul – L.acetabulum, vinegar cup (from acetum, vinegar). (Acetabulum)
- acro – Gr.akros, topmost, extreme. (Acromion)
- actin – Gr.aktin, ray (Actinopterygii)
- ad, af – L.ad- (may be changed to af- before certain words), prefix meaning motion toward. (Adduction, afferent)
- af – See ad. al – L.ala, wing. (Aliform, alisphenoid bone)

Guvohi bo'lganimizdek, ingliz tilida gistologik terminlar ham uzoq vaqtdan buyon o'rganilib kelinmoqda. Gistologik terminlarning strukturasi va yasalihi xuddi qolgan tibbiy terminlar singari lotin tiligan kelib chiqqanligini misollar orqalib ko'rib chiqdik.

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DETERMINE THE SPEED OF THE VEHICLE

Annotation. In this paper, Vehicle speed detection and estimation is an important task for many traffic control and safety systems. In this study, we propose a new computer vision-based method for real-time vehicle speed estimation and detection. To detect cars and determine their speed, our system first analyzes video images of moving vehicles using image processing algorithms. On a dataset of real traffic scenarios, we test the proposed algorithm and the results show that it performs very well in terms of accuracy.

Keywords. OpenCV software, time identifier, model window, optical flow, PPM (pixels per meter), radar, Supabase and MongoDB database, video data, cascade classifier, real-time mode.

Introduction. Over the past few years, the number of road accidents has significantly increased due to the rise in the number of vehicles on the road. Monitoring and controlling vehicle speed in specific areas or zones is crucial. Road traffic safety. Although methods for measuring speed using radar are regularly employed for this purpose, they may have some limitations, such as identifying smaller vehicles with weak radar reflections or errors in detecting vehicles that change speed very quickly or frequently. As a result, there is a growing demand for more precise and effective systems to calculate the speed of moving vehicles.

The algorithm for calculating vehicle speed is performed in the following sequence:

1. Import the necessary libraries: Supabase, Os, Cv2, Dlib, time, Math, Dotenv.
2. Establish connection to the Supabase database using the provided URL.
3. Load the cascade classifier for vehicle detection.
4. Open the video file for processing.
5. Set the width and height for processing the video frames.
6. Define the "Estimatespeed" function to calculate the speed based on the location of the vehicle along the trajectory.

The model for detecting and classifying vehicles' location and speed is implemented using the HAAR CASCADE program. The system for calculating

vehicle speed utilizes image pixel manipulation and processing through OpenCV. By leveraging computer software from OpenCV, we have developed a system to determine vehicle speed in this research. The technology captures vehicle speeds in video images, allowing for real-time speed detection and monitoring. Various methods for image processing, such as image resizing, contour identification, and evaluating vehicle location, are available.

Method: The research results showed that the proposed vehicle speed detection system using OpenCV effectively demonstrated high accuracy in real-time detection and monitoring of vehicle speeds, proving its capabilities in accurately identifying vehicles under various road conditions and lighting environments.

Results: In conclusion, the vehicle speed detection system developed using OpenCV demonstrates promising results in real-life applications, offering valuable tools for traffic management and law enforcement. Future research and development could help optimize this system and expand its application in various transportation conditions and environments.

This article presents a unique method for quickly and accurately assessing the speed of moving vehicles without the use of expensive sensors like radars. The proposed solution integrates into a video stream of moving cars and filters the data to calculate their speed. The process is divided into four main categories, which can be grouped based on the necessary components to accomplish the task:

1. Defining the area of interest through video: This involves identifying the specific area in the video where vehicle detection will occur.
2. Detecting vehicle objects from video frames: In this step, computer vision techniques are employed to recognize and track vehicles within the video frames.
3. Using the PPM (pixels per meter) algorithm to evaluate the speed of moving objects: This algorithm is crucial for determining the speed of vehicles by analyzing the distance covered over time in the video frames.
4. Creating a precise file image to record the vehicle's speed and the image of the vehicle moving at that speed: This final stage involves saving both the detected speed and the corresponding image of the vehicle in a single file for further analysis.

In **conclusion**, road traffic management and law enforcement agencies can greatly benefit from the implementation of an automated vehicle speed detection system. The system can accurately detect and monitor vehicle speeds in real-time. Utilizing computer vision methods like OpenCV, and potentially incorporating more sophisticated tracking algorithms by analyzing vehicle flow and adding complexity, allows for increased speed detection accuracy, identification of violations, provides valuable data for traffic analysis, and contributes to improved overall road safety.

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DETERMINATION OF MN ION USING AN IMMOBILIZED ORGANIC REAGENT

Abstract: *The pollutants emitted by factories, including toxic and carcinogenic heavy metals, are hazardous to living organisms, and their impact on the environment exacerbates the situation. Organic reagents immobilized on fiber sorbents were used to detect manganese (II) ions in wastewater. The monitoring showed that the concentration of manganese ions in wastewater varies depending on the season, with higher levels observed during the rainy season when precipitation is more abundant.*

Keywords: *sorption-spectroscopy, immobilization, nitroso-R-dye, organic reagents, PPF fiber.*

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IMMOBILIZATSIYALANGAN ORGANIK REAGENT YORDAMIDA MN IONINI ANIQLASH

Annotatsiya: *Zavodlardan chiqariladigan ifloslovchi moddalarning, jumladan zaharli va kanserogen og'ir metallarning tirik organizmlar uchun xavfli ekanligi, ularning atrof-muhitga ta'sirini yanada kuchaytiradi. Oqova suvlar tarkibidan marganes (II) ionini aniqlash uchun tolali sorbentlarga immobillangan organik reagentlardan foydalanildi. Monitoring shuni ko'rsatdiki oqova suvlar tarkibidagi marganes ionlarining miqdori fasillarga bog'liq holda o'zgarib turishi va yog'ingarchilik yuqori bo'lgan fasllarda oqova suvlar tarkibida marganes ionlarining miqdori oshganligi aniqlandi.*

Kalit soʻzlar: sorbsion-spektroskopiya, immobillash, nitrozo-R-tuzi, organik reagenrlar, PPF tola.

Introduction. Currently, environmental pollution and the growing demand for clean drinking water are among the global challenges, and the continuous increase in the degree of pollution of the environment and water bodies is causing concern within the international community [1]. Manganese (Mn) is a major redox element in marine sediments and plays a key role in the biogeochemical cycles of carbon, nitrogen, phosphorus, and trace elements. The Mn(II) ion performs vital functions in living organisms, and its concentration, either above or below the permissible level, can have a negative impact on the organism. Manganese deficiency can lead to various neurological diseases, including Parkinson's disease [2-5].

Methodology. Manganese in drinking water, including water from bottled sources as well as groundwater and surface water, has been studied using various methods such as photometric [6-8], extraction photometric [9], extraction-spectrophotometric [10], sorption-spectrophotometric, potentiometric titration, and voltammetric techniques.

Results and Discussion. The method developed in this study helps to achieve the goal of both reducing the emission of pollutants and increasing the detection rate in the analysis of concentration in the electrolytic manganese industry. The Nitroso-R-sol reagent is first immobilized on PPF fibers, and then, the Mn(II) ions in the wastewater are concentrated and detected by forming a complex with the immobilized organic reagent.

The presence of the complex formed by immobilized PPF fibers and Mn(II) ions can be explained by the signal characteristic of manganese ions observed in the diffractograms of the scanning electron microscope (SEM) analysis.

Based on these obtained results, wastewater analysis was conducted. Protecting the environment from pollution and ensuring the sustainable use of natural resources are among the most important ecological issues today. Due to the impact of industrial enterprises, especially metallurgy plants, soil contamination with heavy metals, the effect of waste on plants, and the negative impact of heavy metals on humans and plants, environmental problems are intensifying. These issues remain urgent. Detecting and mitigating negative ecological changes in ecosystems and restoring the balance between nature and society are among the main directions of ecological restoration.

It is known that metallurgy plants are among the leading industrial sectors in terms of their level of harmfulness. The concentration of manganese metals in the wastewater of Almalyk MMC was monitored. The results of the study are presented in Table 1.

Table 1.

Concentration of Heavy Metals in the Wastewater of Almalyk MMC

Heavy Metal	Seasons				Permitted Maximum Limit
	Winter	Spring	Summer	Autumn	
	Average Concentration in Almalyk MMC Water, mg/l				
Marganes	0,340	0,715	0,465	0,680	0,03

Based on the table, the analysis of manganese concentrations revealed the following: in winter, the manganese concentration was 0.340 mg/l, in spring it increased to 0.715 mg/l, in summer it decreased to 0.465 mg/l, and in autumn, it was 0.680 mg/l. It was observed that the manganese concentration significantly increased during the spring season. In the summer, the concentration decreased compared to spring, but in autumn, it was higher than in summer.

Overall, the concentration of manganese in the wastewater of Almalyk MMC varied across the seasons. However, the manganese concentration remained at 0.55 mg/l throughout all seasons.

Conclusion. It can be concluded that heavy metals have toxic properties that negatively affect the health of living organisms, and therefore, continuous ecological monitoring is required. Additionally, constant monitoring of the wastewater and waste compositions of industrial enterprises and other industrial facilities is essential. The need for developing new, modern analytical methods for detecting heavy metals in wastewater and waste has been demonstrated. The method developed in this study helps to achieve the goal of both reducing the emission of pollutants and increasing the detection rate in the analysis of concentration in the electrolytic manganese industry.

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IMPROVING THE FLOOD MONITORING SYSTEM: SCIENTIFIC FOUNDATIONS AND PRACTICAL APPROACHES

Abstract: *The article presents the views and observations of scientists on improving the flood monitoring system, monitoring water resources and identifying flooded areas, placing water level and precipitation sensors at key points of water catchments, collecting real-time data.*

Keywords: *Floods and floods, modern technologies, rapid reporting, hydrometeorological stations, agrometeorological posts, hydrological posts, modeling, Global Runoff Data Center.*

Introduction: Floods and mudslides are among the most devastating natural phenomena that have a significant impact on ecosystems, economies, and societies. An effective flood monitoring system plays a key role in minimizing damage and preventing human loss. This text reviews the scientific basis of flood monitoring, modern technologies, and prospects for their improvement.

Floods are complex hydrological processes that occur as a result of heavy rainfall, snowmelt, dam failure, and other factors. According to the World Meteorological Organization (WMO), floods cause billions of dollars in damage and affect millions of people every year. Effective monitoring allows for:

- Timely identification of flood risks.
- Prompt notification of the population.
- Support decision-making to prevent and mitigate the impacts of flash floods.

Methods: The scientific basis of flood monitoring is based on hydrological, meteorological and geoinformation studies. The main scientific approaches include:

Hydrological modeling. Modern models such as HEC-RAS and SWAT allow for the prediction of river flow and water levels depending on meteorological conditions.

Meteorological data. The use of data on the amount, intensity and distribution of rainfall helps to assess the likelihood of flooding. In this regard, we can see that with an area of 7900 km², Namangan region has 3 hydrometeorological stations, 3 agrometeorological posts, and 6 hydrological posts, which is very few for the region.[1] In this situation, we can see that it is not possible to obtain accurate data on the amount, intensity and distribution of rainfall in the territory of Namangan region.

Geographic information systems (GIS). GIS technologies allow combining spatial data on land, soil and aquifers to assess the vulnerability of areas. We see that it is appropriate to use geographic information systems to analyze spatial data and model flood zones.

It is necessary to develop algorithms for automatic analysis of big data and high-precision flood forecasting..

Results: One of the main issues today is the creation of applications for monitoring water resources and detecting flooded areas using satellite imagery and remote sensing data to provide rapid notification of hazards to the population.

Modern technologies significantly expand the capabilities of flood monitoring and forecasting:

Remote sensing. Satellite systems such as Sentinel and Landsat allow for regular monitoring of changes in water levels, vegetation conditions, and soil moisture.

Placing water level and precipitation sensors at key points in water catchment areas allows for real-time data collection. However, the fact that the catchment area of rivers and streams flowing through Namangan region overlaps with the territory of neighboring countries limits the possibility of placing water level and precipitation sensors.

From the above data, we can see that modern monitoring systems face a number of problems:

Lack of data. In some regions, the density of meteorological and hydrological stations is insufficient.

Forecast accuracy. Model complexity and input data uncertainty can reduce forecast accuracy.

Infrastructure constraints. Equipment obsolescence and lack of investment are slowing down the introduction of new technologies.

Ways to improve monitoring systems. To increase the effectiveness of flood monitoring, the following are necessary:

Expand the observation network. Increase the number of weather stations, hydroposts and sensors for data collection.

Data integration. Combine data from multiple sources, such as satellites, ground stations and crowdsourcing.

Development of digital platforms. Creation of cloud systems for data storage, processing and visualization.

Increasing the accuracy of models. Taking into account climate change and local characteristics in modeling.

Training of specialists. Training personnel capable of working with modern technologies and analyzing data.

European Flood Forecasting System (EFAS). EFAS combines data from various weather stations and satellites to produce regional forecasts.

FFGS (Flash Flood Guidance System) project. Implemented by WMO, FFGS provides rapid flood warnings in developing countries.

National Monitoring System of India. Uses radar, satellite and sensor data to manage flood risks.

Conclusions: The future of flood and mudflow monitoring systems lies in the development of data processing technologies, increasing the availability of satellite data and the use of artificial intelligence. Implementing an integrated approach that includes data integration, model accuracy and strong international cooperation will significantly reduce the impact of floods.

Improving flood monitoring systems requires an interdisciplinary approach that brings together scientists, engineers and policymakers. Investments in research, infrastructure and technology are key to achieving this goal.

Weather stations, hydrometric posts and sensors should be installed at key points in water catchment areas. Use mobile technologies. Develop and deploy mobile measuring stations or devices with alternative energy networks to provide remote data transmission for monitoring in remote and inaccessible areas.

To receive and transmit data, it is necessary to connect to international platforms such as the Global Runoff Data Center (GRDC).

Develop a digital platform for centralized collection, analysis and visualization of data from various sources.

Ensure data compatibility. Standardize data formats to simplify integration with other systems.

Improve existing models taking into account regional characteristics, climate change and high-resolution data.

Develop scenarios. Create scenarios to assess the impact of various factors (rainfall intensity, landscape changes, etc.) on the probability of flooding.

Training models. Regularly update data to increase forecast accuracy. Organize seminars, publish information materials and conduct training sessions to increase the preparedness of the local population for emergency situations.

Create early warning systems. Develop automatic notification systems via SMS, mobile applications and alarm sounds.

Improve cooperation with government agencies. Regular consultations with local authorities to exchange information and work together.

Establish bilateral and multilateral agreements to work together on flood and flood monitoring projects.

Organize conferences and symposia to share scientific achievements. Regularly analyze the performance of the system, assess its accuracy, response speed and user satisfaction. Test new technologies and approaches in selected areas before widespread implementation.

Continuously update the system to take into account new climatic, technological and social realities.

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OLIY TA'LIM TIZIMIDAGI XOTIN-QIZLARNING FAOLLIGI

Anotatsiya: *O'zbekiston Respublikasi oliy ta'lim tizimidagi xotin-qizlarning faolligi so'nggi o'n yillikda sezilarli yutuqlarga erishdi, ayniqsa, gumanitar, ijtimoiy fanlar va tibbiyot kabi yo'nalishlarda xotin-qizlarning o'qishga kirishi ortdi. Biroq, gender tafovutlari, ayniqsa STEM sohalarida va akademik etakchilik rollarida saqlanib qolmoqda. Ushbu maqola ayollarning oliy ta'limga jalb etilishining hozirgi holatini, ular duch kelayotgan yutuqlar va muammolarni o'rganadi. Tahlil statistik ma'lumotlarni, ijtimoiy-madaniy va iqtisodiy to'siqlarni hamda ta'lim sohasida gender tengligini ta'minlovchi hukumat siyosatining ta'sirini o'z ichiga oladi. Bundan tashqari, u akademiyada ayollarning kelajak avlodlari uchun yo'l ochib bergan muvaffaqiyat hikoyalari va namunalarini ta'kidlaydi. Maqola xotin-qizlarning oliy ta'limdagi ishtirokini kuchaytirish bo'yicha tavsiyalar bilan yakunlanadi, siyosatni davom ettirish, stipendiya imkoniyatlarini kengaytirish va madaniy stereotiplarni yo'q qilish zarurligini ta'kidlaydi. Ushbu sa'y-harakatlar orqali O'zbekiston ayollarning imkoniyatlarini kengaytirishga yordam beradigan va mamlakatning umumiy rivojlanishiga hissa qo'shadigan yanada inklyuziv va adolatli akademik muhitni yaratishi mumkin.*

Kalit so'zlar: *oliy ta'lim muassasalaridagi ayollar, gender tengligi, genderga nisbatan sezgir siyosat, akademiyada ayollar yetakchiligi, stem ta'limi, ayollarning imkoniyatlarini kengaytirish, O'zbekistonda ta'lim islohoti, ijtimoiy-madaniy to'siqlar, gender nomutanosibligi, ayollarning ta'limdagi ishtiroki, ayollar uchun stipendiyalar, qishloq va shahar ta'limi, ta'limdagi namunalar, oliy ta'lim olish imkoniyati, gender tengligi tashabbuslari, akademik muvaffaqiyat hikoyalari, stem sohalarida ayollar, ayollar uchun etakchilik treningi, ayollar uchun ta'lim imkoniyatlari, inklyuziv akademik muhit*

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ACTIVITY OF WOMEN IN HIGHER EDUCATION SYSTEM

Abstract: *The activity of women in the higher education system of the Republic of Uzbekistan has made significant progress in the last decade, especially the enrollment of women in fields such as humanities, social sciences and medicine has increased. However, gender gaps persist, particularly in STEM fields and in academic leadership roles. This article examines the current state of women's involvement in higher education, examining the achievements and challenges they face. The analysis includes statistical data, socio-cultural and economic barriers, and the impact of government policies on gender equality in education. In addition,*

it highlights the success stories and role models that have paved the way for future generations of women in academia. The article concludes with recommendations for increasing women's participation in higher education, emphasizing the need for continued policy, expanded scholarship opportunities, and the elimination of cultural stereotypes. Through these efforts, Uzbekistan can create a more inclusive and equitable academic environment that will help empower women and contribute to the country's overall development.

Key words: *women in higher education institutions, gender equality, gender-sensitive policy, women's leadership in academia, stem education, women's empowerment, education reform in Uzbekistan, socio-cultural barriers, gender imbalance, women's participation in education, scholarships for women, rural and urban education, role models in education, access to higher education, gender equality initiatives, academic success stories, in stem fields women, leadership training for women, educational opportunities for women, inclusive academic environment*

Kirish

Ayollarning oliy ta'limdagi o'рни mamlakatning ijtimoiy-iqtisodiy rivojlanishi va gender tengligiga intilishining muhim ko'rsatkichidir. Islohotlar jadal olib borilayotgan O'zbekiston Respublikasida xotin-qizlarning oliy ta'lim tizimidagi ishtiroki ham milliy siyosatning, ham jamiyatdagi o'zgarishlarning markaziy nuqtasiga aylandi. Xotin-qizlarning imkoniyatlarini kengaytirish va barqaror rivojlanishni rag'batlantirishda ta'limning muhim ahamiyatini e'tirof etgan holda, O'zbekiston xotin-qizlarning oliy ta'lim olish imkoniyatlarini oshirishda muhim yutuqlarga erishdi.

Tarixiy jihatdan an'anaviy gender rollari va ijtimoiy-madaniy me'yorlar ayollarning o'rta ta'limdan tashqari ta'limdagi ishtiroki uchun to'siqlarni keltirib chiqardi. Biroq so'nggi yillarda bu muammolarga bir qator keng qamrovli siyosat islohotlari, jumladan, Birlashgan Millatlar Tashkilotining Barqaror Taraqqiyot Maqsadlari (BRM) kabi global majburiyatlarga mos keladigan O'zbekistonda gender tengligi bo'yicha strategiya (2020–2030) amalga oshirildi. Ushbu tashabbuslar ayollarning talabalar, o'qituvchilar va rahbarlar sifatida akademiya-dagi vakilligini oshirish, shu bilan birga kirish, resurslarni taqsimlash va qaror qabul qilish imkoniyatlaridagi doimiy tengsizliklarni bartaraf etishga qaratilgan.

O'lchanadigan yutuqlarga qaramay, ayollar ma'lum sohalar-da, xususan, fan, texnologiya, muhandislik va matematika (STEM) va oliy ta'lim muassasalarida etakchilik rollarida kam vakillik darajasida qolmoqda. Ijtimoiy munosabatlar, iqtisodiy to'siqlar va institutsional qarama-qarshiliklar ayollarning ta'lim tajribasini shakllantirishda davom etmoqda va bu muammolarni bartaraf etish uchun ko'p qirrali yondashuvni talab qiladi.

Ushbu maqola O'zbekiston oliy ta'lim tizimidagi ayollar faolligini ularning ishtiroki ko'rsatkichlari, ta'lim yo'nalishlari hamda akademik va ma'muriy rahbarlikdagi rollarini tahlil qilish orqali o'rganadi. Shuningdek, u gender tengligini ta'minlashga qaratilgan siyosat va tashabbuslarni ko'rib chiqadi, shu bilan birga

yanada inklyuziv va adolatli akademik landshaftni ta'minlash uchun qo'shimcha e'tibor talab qiladigan sohalarni ta'kidlaydi. Ushbu dinamikani tushunish oliy ta'lim muassasalarida xotin-qizlarning salohiyatini maksimal darajada oshirish bo'yicha strategiyalarni ishlab chiqishda muhim ahamiyatga ega, bu esa o'z navbatida O'zbekistonning yanada kengroq rivojlanish maqsadlariga xizmat qilishi mumkin.

37 milliondan ortiq aholiga ega O'zbekistonda muhim ijtimoiy-iqtisodiy o'zgarishlar amalga oshirilmoqda. Tarixiy jihatdan ayollarning oliy ta'lim olishlari an'anaviy gender rollari va ijtimoiy-madaniy to'siqlar bilan cheklangan. Biroq, mustaqillikdan keyingi davrda boshlangan islohotlar, ayniqsa, so'nggi o'n yillikda bu tendentsiyalarni qaytarishga harakat qildi.

O'zbekiston hukumati oliy ta'limda gender tengligini ta'minlashga qaratilgan turli siyosatlarni joriy qildi, jumladan:

- O'zbekistonda gender tengligi strategiyasi (2020-2030), uning maqsadi barcha sohalarda ayollar ishtirokini oshirish;

- STEM (Fan, Texnologiya, Muhandislik va Matematika) yo'nalishlarida o'qiyotgan ayollar uchun stipendiyalar va moddiy rag'batlantirish;

- oliy ta'lim muassasalariga inklyuziv amaliyotni joriy etish bo'yicha vakolatlar.

O'zbekistonda xotin-qizlarning oliy ta'limdagi ishtiroki so'nggi o'n yil ichida sezilarli yaxshilanishni ko'rsatdi, bu hukumatning gender tengligi va ta'lim islohotiga qaratilayotgan e'tiborini aks ettiradi. Statistik tendentsiyalar ayollarning talabalar, professor-o'qituvchilar va akademik sektorda etakchilar sifatida namoyon bo'lishi haqida tushuncha beradi, bu esa doimiy nomutanosibliklarni aniqlashda taraqqiyotni ta'kidlaydi. So'nggi ma'lumotlarga ko'ra:

- oliy o'quv yurtlarida tahsil olayotgan talabalarning qariyb 40 foizini ayollar tashkil etadi;

- professor-o'qituvchilarning 38 foizini ayol professor-o'qituvchilar tashkil etadi, dekanlar va rektorlar kabi yuqori lavozimlarda kamroq ulush;

- muhandislik va IT kabi an'anaviy ravishda erkaklar hukmron bo'lgan sohalarda ro'yxatdan o'tishning kamtarona o'sishi kuzatildi, bu jamiyat tushunchalarining o'zgarishini ko'rsatadi.

Statistik tahlil O'zbekiston oliy ta'lim muassasalarida xotin-qizlar faoliyatidagi yutuqlar bilan birga, muammolar ham ochib berilgan. Ro'yxatga olish ko'rsatkichlari yaxshilangan va siyosatlar ijobiy ta'sir ko'rsatgan bo'lsa-da, ayniqsa STEM sohalorida va etakchilik rollarida sezilarli tafovut saqlanib qolmoqda. Ushbu kamchiliklarni bartaraf etish oliy ta'lim tizimini chinakam qamrab olish uchun maqsadli siyosatga, resurslarni taqsimlashga va madaniy o'zgarishlarga doimiy e'tibor qaratishni talab qiladi.

O'zbekiston oliy ta'lim tizimida xotin-qizlarning faolligini oshirish borasida erishilgan yutuqlarga qaramay, qator muammolar saqlanib qolmoqda. Ijtimoiy-madaniy, iqtisodiy va institutsional omillar bilan bog'liq bo'lgan bu to'siqlar akademiyada gender tengligini to'liq amalga oshirishga to'sqinlik qiladi. Taraqqiyotga qaramay, bir qator muammolar mavjud:

- Madaniy to'siqlar: chuqur ildiz otgan an'anaviy me'yorlar ko'pincha ayollar uchun oliy ma'lumotdan ko'ra nikoh va maishiy mas'uliyatni birinchi o'ringa qo'yadi.

- Iqtisodiy omillar: ko'pgina oilalar moliyaviy qiyinchiliklarga duch keladi, bu esa qizlarning ta'lim olish imkoniyatlarini cheklaydi.

- Etakchilikda kam vakillik: akademiyada qaror qabul qilishda ayollar kam vakilligicha qolmoqda.

Bu muammolar xotin-qizlarning oliy ta'limda ishtirok etishidagi tarkibiy, madaniy va iqtisodiy to'siqlarni bartaraf etish bo'yicha barqaror harakatlar zarurligini ta'kidlaydi. Ta'lim siyosati, jamiyatni o'zgartirish va institutsional qo'llab-quvvatlashni o'z ichiga olgan kompleks strategiyalar ayollarning rivojlanishi va O'zbekiston taraqqiyotiga hissa qo'shishi mumkin bo'lgan inklyuziv akademik muhitni yaratish uchun muhim ahamiyatga ega.

O'zbekiston oliy ta'lim tizimida xotin-qizlarning faolligi tobora ortib borayotganiga o'rnak bo'layotgan, kelajak avlodlarga ilhom baxsh etayotgan ilg'or xotin-qizlar erishayotgan yutuqlar yanada mustahkamlanmoqda.

O'zbekiston oliy ta'lim tizimida xotin-qizlarning ishtiroki va muvaffaqiyatini yanada oshirish uchun maqsadli chora-tadbirlar ko'rish zarur. Ushbu tavsiyalar ijtimoiy-madaniy, iqtisodiy va institutsional to'siqlarni bartaraf etishga qaratilgan bo'lib, shu bilan birga yanada inklyuziv va adolatli akademik muhitni ta'minlaydi:

- akademik ayollar uchun murabbiylik dasturlari va malaka oshirish imkoniyatlarini kengaytirish;

- talaba qizlarga mo'ljallangan grantlar va kreditlar kabi moliyaviy yordam tizimini mustahkamlash;

- stereotiplarga qarshi kurashish va ta'limda gender tengligini targ'ib qilish uchun jamoatchilikni xabardor qilish kampaniyalarini rag'batlantirish;

- ilg'or tajriba almashish uchun oliy ta'lim muassasalari va xalqaro tashkilotlar o'rtasidagi hamkorlikni rag'batlantirish.

Xulosa

O'zbekiston Respublikasi oliy ta'lim tizimida xotin-qizlar faolligining ortib borayotgani gender tengligiga erishish yo'lida ham salmoqli yutuqlar, ham davom etayotgan vazifalarni aks ettiradi. O'tgan o'n yil ichida turli islohot va tashabbuslar ayollarning akademiyadagi kirish, vakillik va imkoniyatlarni yaxshilashga yordam berdi. Hukumatning O'zbekistonda gender tengligi bo'yicha strategiyasi (2020–2030) kabi siyosat orqali namoyon bo'lgan majburiyat ayollarning talabalar, o'qituvchilar va yetakchilar sifatida ishtirokini kengaytirish uchun asos yaratdi.

Ushbu yutuqlarga qaramay, muhim sohalarda gender tafovutlari saqlanib qolmoqda. Ayollar STEM sohalorida va rahbarlik lavozimlarida yetarlicha vakil emasligicha qolmoqda, ijtimoiy-madaniy me'yorlar va iqtisodiy to'siqlar ularning ta'lim va kasbiy imkoniyatlarini cheklashda davom etmoqda. Mintaqaviy nomutanosiblik, ayniqsa, qishloq va kam ta'minlangan hududlardagi ayollar uchun bu muammolarni yanada kuchaytiradi.

Bu muammolarni hal etish va oliy ta'lim muassasalarida xotin-qizlarning salohiyatidan to'liq foydalanish uchun ko'p qirrali yondashuv zarur. Bunga stipendiyalar va infratuzilmani rivojlantirish orqali kirish imkoniyatlarini kengaytirish, ayollar uchun STEM ta'limini targ'ib qilish hamda murabbiylik dasturlari va oilaga do'st siyosatlar kabi institutsional qo'llab-quvvatlash mexanizmlarini rivojlantirish kiradi. Ijtimoiy stereotiplarga qarshi kurashish va ayollar ta'limining ahamiyati haqida xabardorlikni oshirishga qaratilgan sa'y-harakatlar ham bir xil darajada muhimdir.

Pirovardida, xotin-qizlarning oliy ta'limdagi faol ishtiroki nafaqat adolat masalasi, balki O'zbekistonning keng ijtimoiy-iqtisodiy rivojlanishining harakatlantiruvchi omilidir. Ta'lim orqali ayollarning imkoniyatlarini kengaytirish va inklyuziv akademik muhitni yaratish orqali mamlakat innovatsiyalar, taraqqiyot va global raqobatbardoshlik uchun yangi imkoniyatlarni ochishi mumkin. Genderga nisbatan sezgir siyosatga sodiqlik va manfaaddor tomonlar o'rtasidagi barqaror hamkorlik ayollarning O'zbekistonda oliy ta'lim va jamiyat kelajagini shakllantirishda markaziy rol o'ynashini ta'minlashda muhim ahamiyatga ega bo'ladi.

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WATER PRODUCTIVITY IN CROP PRODUCTION AND ITS ASSESSMENT: A CASE STUDY OF TASHKENT REGION

Abstract: In the context of climate change, ensuring timely and adequate water supply for agricultural crops is becoming an increasingly pressing issue. Addressing this challenge can contribute to obtaining higher yields from the supplied water, which is of great importance for irrigated agriculture in the Tashkent region. This study examines the changes in water productivity for traditional crops such as rice, wheat, apricot, cherry, grapes, melon, onion, tomato, watermelon, potato, and carrot, using climate data from 2019 to 2021. The analysis, which was carried out in the context of the conditions in Tashkent, revealed that among vegetables, onions had the lowest water productivity, and among fruits, cherries had the lowest water productivity.

Keywords: Water Demand, Water Productivity, Climate Change, Vegetable Crops, and Orchards.

Introduction. In the context of climate change, ensuring a timely and adequate water supply for agricultural crops remains a critical issue. Addressing this challenge can enable higher yields from the supplied water [1-3]. Delivering water to farms in a timely and sufficient manner, especially in the lower reaches of river basins, is complex, necessitating accurate assessments of water demand across the river basin and efficient water allocation [4-5]. However, changes in river flow supply over many years, particularly due to climate change, introduce significant uncertainties into this process [2,3]. Therefore, this research is dedicated to determining the water demand of major food crops for the conditions of the Tashkent region and to assessing the water use productivity of these crops.

Research Methods. The study was conducted in three stages. In the first stage, reference evapotranspiration (ET_o) was estimated. For this, the Penman-Monteith formula, recommended by FAO for wide use, and the Hargreaves-Samani formula, for situations with insufficient climate data, were used. In the second stage, crop evapotranspiration (ET_c) was estimated using the FAO method. Daily climate data for the years 2019–2022 were used to estimate ET_o. In the third stage, the water use productivity of the crops, or the yield per m³ of water consumed, was calculated. Water productivity was assessed for traditional crops: rice, wheat, apricot, cherry, grapes, melon, onion, tomato, watermelon, potato, and carrot. In this study, water consumption was assumed to be equal to crop evapotranspiration. Planting dates, vegetation period lengths, and development phase durations were considered for the selected crops. This was achieved by ensuring consistency between planting/harvest dates and placing the growing season within appropriate parts of the year with

sufficient temperature amounts for crop growth. The climate data set was obtained from the Center of Hydrometeorological Service of the Republic of Uzbekistan (Uzhydromet), and water productivity was determined based on this data.

Results and Discussion.

Figure 1 shows the results of the reference evapotranspiration estimation during the crop growing period.

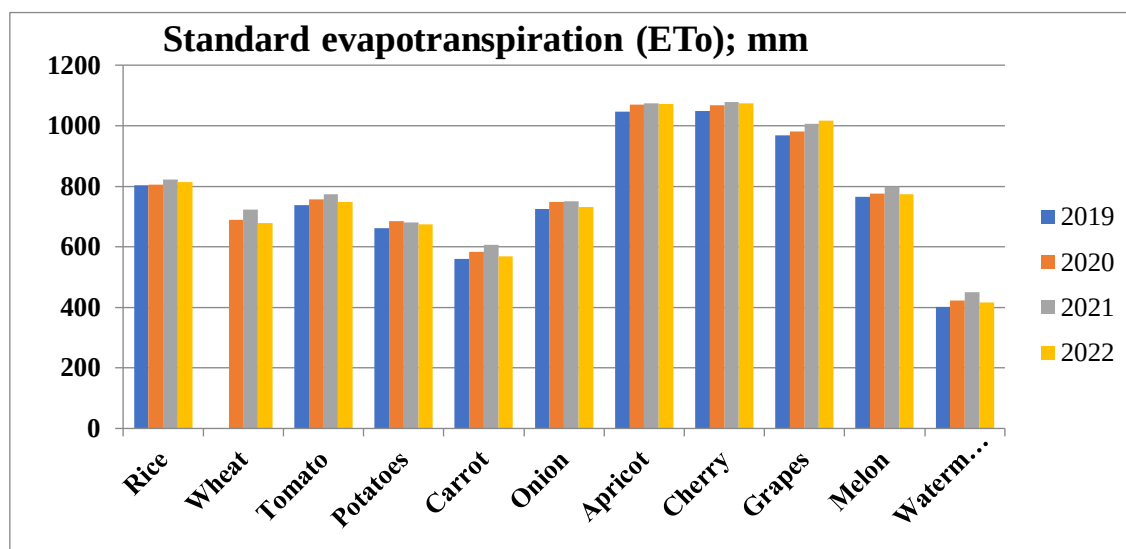


Figure 1. Reference evapotranspiration values during the crop growing season for the years 2019-2022.

Figure 1 shows that reference evapotranspiration during the crop growing season varied as follows: rice, 1051 mm to 1079 mm; wheat, 677 mm to 722 mm; tomatoes, 738 mm to 774 mm; potatoes, 661 mm to 684 mm; carrots, 560 mm to 606 mm; onions, 726 mm to 750 mm; apricot orchards, 1047 mm to 1075 mm; cherry orchards, 1048 mm to 1079 mm; grapevines, 968 mm to 1017 mm; melons, 765 mm to 800 mm; and watermelons, 402 mm to 451 mm. Figure 2 shows the results of crop evapotranspiration estimation.

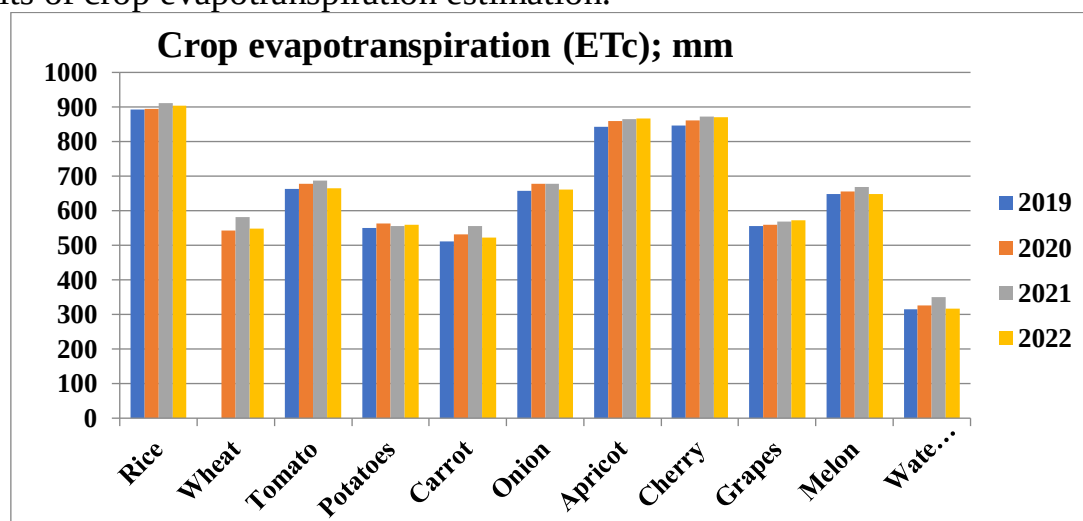


Figure 2. Results of crop evapotranspiration estimation for the years 2019-2022.

As can be seen in Figure 2, crop evapotranspiration during the crop growing season was found to be: 1027 mm to 1046 mm for rice; 543 mm to 581 mm for wheat; 664 mm to 688 mm for tomatoes; 550 mm to 563 mm for potatoes; 511 mm to 555 mm for carrots; 657 mm to 677 mm for onions; 842 mm to 866 mm for apricot orchards; 847 mm to 873 mm for cherry orchards; 555 mm to 572 mm for grapevines; 648 mm to 668 mm for melons; and 315 mm to 350 mm for watermelons. Table 1 presents the results of the water productivity change assessment for the 2019-2022 period, by crop type.

Table 1. Water Productivity Values for the 2019-2022 Period kg/m³

Water Productivity	2019	2020	2021	2022
	0.34	0.26	0.30	0.38
Rice		0.67	0.51	0.52
Wheat	5.93	4.54	4.77	4.68
Tomato	6.05	5.84	5.54	4.93
Potato	6.35	6.49	6.44	7.27
Carrot	4.56	4.36	4.55	5.33
Onion	0.46	0.57	0.60	0.75
Apricot	0.37	0.63	0.50	0.56
Cherry	0.74	0.62	0.67	0.66
Grape	4.57	3.55	4.38	4.52
Melon	6.53	6.79	3.45	3.48

As can be seen from Table 1, in the conditions of the Tashkent region, the crops are ranked in the following order according to their increase in water productivity (kg/m³): rice > cherry > wheat > apricot > grape > melon > onion > tomato > watermelon > potato > carrot.

The results of assessing the water use productivity of crops (sum/m³), taking into account the prices of agricultural products in the markets of the Tashkent region, are presented in Figure 3.

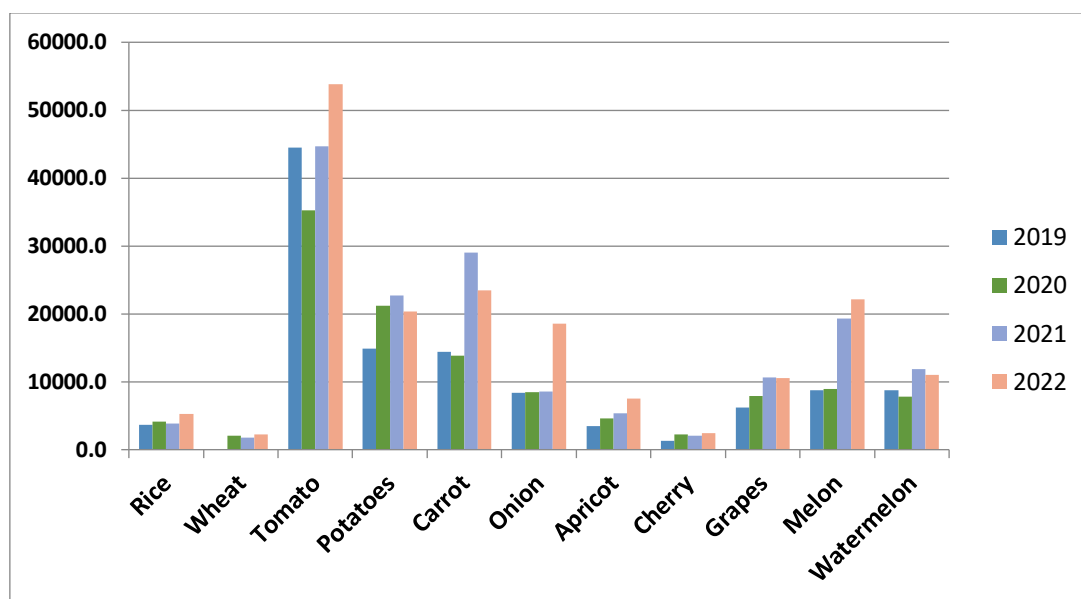


Figure 3. Price graph based on water productivity.

Based on the increase in price, the crops were ranked in the following order according to their water use productivity: cherry > wheat > rice > apricot > grape > watermelon > onion > melon > potato > carrot > tomato.

Under the conditions of the Tashkent region, the following are recommended:

- Achieving water savings by replacing water-intensive crops with less water-intensive crops.
- Planting more crops with high water productivity and less crops with low water productivity in water-scarce conditions.
- Planning crop areas by taking water productivity into account when scheduling crop placement.
- Using a water consumption assessment method for predicting crop water requirements.

Summary. The results showed variations in ETo and ETc across the studied crops, with rice, apricot, and cherry exhibiting higher values. When ranked by water productivity (kg/m^3), the crops were in the order: rice > cherry > wheat > apricot > grape > melon > onion > tomato > watermelon > potato > carrot. However, when considering market prices (sum/m^3), the ranking changed to: cherry > wheat > rice > apricot > grape > watermelon > onion > melon > potato > carrot > tomato, indicating that crops like cherry and wheat offer better returns considering both yield and market value relative to their water use. Based on these findings, the study recommends several strategies for improving water management in the Tashkent region: replacing water-intensive crops with less water-intensive ones, prioritizing crops with higher water productivity during water scarcity, integrating water productivity into crop planning, and using water consumption assessment methods for better forecasting of crop water requirements. These recommendations aim to enhance water use efficiency and optimize agricultural production in the region.

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ENGLISH GRAMMAR AND PEDAGOGICAL TECHNOLOGIES

Abstract: *This article is devoted to the study of the effectiveness of gaming technologies in teaching English. The purpose of the study is to determine the impact of the use of playful technology in English lessons on the level and motivation of students ' knowledge. Literature analysis, pedagogical experiment and statistical analysis were used as research methods. The results showed that the application of Gaming Technologies has a higher effect than traditional methods. Games increase students ' interest in the lesson, develop language skills, and improve their level of mastery. In conclusion, it is recommended to widely introduce a playful approach in English lessons.*

Keywords: *English, gaming technology, efficiency, motivation, mastering.*

English is now of great importance as the language of international communication. His position is growing. Therefore, improving the methodology of teaching English is one of the pressing issues. Traditional teaching methods are often tedious for students, reducing their motivation. Gaming technology, on the other hand, can be an important tool in solving this problem.

Through games, students master English in a relaxed and fun way, in conditions close to the natural environment. During the game, students actively participate, discovering new knowledge for themselves. At the same time, games also develop students ' communication, collaboration and problem-solving skills.

The purpose of this study is to study the effectiveness of the application of gaming technologies in English lessons. This analyzes how games affect the level and motivation of students ' knowledge.

Literature analysis, pedagogical experiment and statistical analysis were used as research methods. Based on the analysis of literature, the theoretical foundations, types and areas of application of Game technologies were studied. The pedagogical experiment was carried out in 2 groups (experimental and control) for 3 months. In the experimental group, English lessons were conducted on the basis of gaming technologies, and in the control group-in the traditional way. At the beginning and end of the experiment, students ' English language proficiency levels were evaluated through tests. At the end of the experiment, a survey was carried out among the students and their reaction to the lesson was determined.

Several scientific articles and monographs were analyzed for the study. Of particular importance among them are the work of scholars such as Ersoz, Derakhshan and Khatir, Baidildina and others, Gozcu and Caganaga. These resources provide theoretical and practical information on the application of gaming

technologies in English language education.

Also, the studies of Uzbek scientists Jalolov and Hoshimov reveal the importance of gaming technologies. While Jalolov shows the place of games in the communicative approach in his work, Hoshimov studies their influence on the psychology of students.

From the results obtained, it can be seen that the use of gaming technologies in English lessons is highly effective. Games not only increase the level of knowledge of students, but also their interest in the lesson. This in turn ensures that students are motivated and active.

During the Games, students will have the opportunity to practice English. They strengthen new language material through interaction, test their existing knowledge in practice. This contributes to the development of their communicative competence.

Another important aspect of games is that they develop students' creativity, independent thinking, and problem-solving skills. In games, students face unusual situations and try to solve them independently. This increases their cognitive skills.

At the same time, games create an atmosphere of healthy competition and cooperation among students. They learn from each other, help among themselves, and as a result, the class team is strengthened. This has a positive effect on the formation of social skills.

English is one of the most widely spoken and studied languages in the world, and its grammatics and pedagogical technologies are important tools that help students learn the language effectively.

The role of grammatics in the study of English is great, and at the same time, modern pedagogical technologies make the process of learning a language more effective and interesting.

1. Basic principles of English grammar English grammar is complex and versatile. However, its basic principles include: a) word categories In English, words are usually divided into the following categories: - Nouns (nouns) – represent people, places, objects or ideas. - Verbs (verbs) – represent action or case. - Adjectives (adjectives) – provide information about nouns. - Pronouns (pronouns) – replace nouns. - Link words (conjunctions) – combine sentences. b) system of times In English, the system of tenses is very important because they represent the time and duration of the action.

The main tenses are as follows: – Present Tense (Present Tense) - represents present and constant States. - Past tense (Past Tense) – represents change or action in the past period. - Future Tense (Future Tense) – represents actions to be taken in the future. Morphology and syntax In English, word formation (morphology) and their position in a sentence (syntax) are crucial for proper language acquisition. For example, the correct forms of the verb, the correct word order in the sentence (subjekt + verb + object) and the methods of correctly composing the sentence fall into this part.

Pedagogical technologies Pedagogical technologies, that is, the use of modern tools in education, provide new opportunities for students to learn English.

These technologies make the learning process more interactive and efficient. a) electronic resources and online platforms** Today, there are many online platforms and applications for Learning English. For example, through applications such as Duolingo, Babbel, Memrise, readers have the opportunity to increase vocabulary, perform gramatic exercises, and develop the ability to listen. However, it is also very effective to watch videos about learning English on platforms such as YouTube.

In conclusion, a study conducted showed that the use of playful technologies in English lessons is desirable. Games relieve students ' mastery of English, increase their motivation and activity, and develop practical language skills. Therefore, it is necessary for English teachers to regularly include various games in their classes. In this, it is important to adapt games to the age, level of knowledge and needs of students, linking them to the topic and goals of the lesson. In the future, it is necessary to further improve the technologies of the game, to conduct research on the development of new types of games.

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MODERN METHODOLOGY OF TEACHING ENGLISH

Annotation: *the use of modern techniques in teaching English is covered in this article. In addition to improving speech and vocabulary, the main purpose of teaching foreign languages to preschool children is to help them acquire useful English skills.*

Keywords: *English, modern methods, speech, foreign languages, information, technology, educational system, educational process, teaching methods, globalization.*

In everyday life, people increasingly choose to speak English. The global influence of English-language films, music, and popular culture contributed to its widespread use. People often want to deal with and understand these cultural products. English is the dominant language on the internet and on various social media platforms. People communicate, share and communicate online in English, which affects its distribution. English facilitates global networking and connections. People communicate with professionals, colleagues and friends from all over the world, and English often serves as a common language. English is often the medium of instruction in higher education, requiring many students to learn and use English to succeed in their academic pursuits. Knowledge of English is useful, for example, in English there is a lot of information and resources. This includes books, scientific research, online content, and media. English-speaking people access these valuable resources more easily. English is widely spoken in the tourism industry. Knowledge of English can facilitate travel and facilitate interaction with people from different countries. English is important in today's modern life, so new methods should be used in teaching English. In doing so, teachers learn interactive methods and curricula and help students learn through new technologies and websites. Individual approach: each student must take an individual approach based on the requirements and needs of learning and development.

The teacher must guide the students with appropriate approach methods. Spiritual applicability: teachers need to support students morally and solve moral problems and problems while teaching. Support teaching for research: educators conduct research so that they can seek innovation and conduct research in their fields. This will help to better organize the learning process. Interactivity: teachers must support interactive methods when teaching classes, such as making teaching interactive through textbooks, supplements, video conferencing, websites, and applications. International cooperation: teachers can seek opportunities to collaborate and benefit from other teachers through an international network.

Knowledge of new technologies and teaching tools: teachers learn about new technologies, applications and teaching tools, as well as the best practices of online teaching. Creativity: teachers need to support the creativity of students in mastering educational materials, learning and learning new ways of teaching.

One of the modern teaching methods in the world of modern technology is online teaching. Online learning has several advantages: An online education site or app allows students and teachers to receive education from anywhere in the world. Students can choose their own study schedules based on their consumption and personal comfort.

Online education provides students with access to texts, videos, programs, audio materials, and additional learning resources. Online learning helps the student's flexibility and learning skills. They can choose and implement their own educational programs and methods. Online tutors can provide students with a programmatic approach and support. They benefit students through additional advice and approaches.

With online education, students receive more personalized tutoring, volunteer tutoring, and interactivity than other methods. An online education site or app accepts students from anywhere in the world, and the geographic location of teachers is also not limited.

Teaching in online education is facilitated by the benefits of today's technology, such as interactive tutorials, video conferencing, tips and other opportunities. To know in which language students want to study and to give them the opportunity to choose the subjects they are interested in. Using additional materials, videos, supplements, and games to make language teaching lessons fun and interactive.

Create a curriculum that shows what steps students take to learn another language. Additional resources such as books, audio materials, and online resources help students learn other languages. Create opportunities for students to learn other languages by talking to a group, watching cartoons and movies, and getting to know students from other countries. Conducting Language Teaching through a spiritual approach, trying to make the study of additional languages dependent on the comfort and faith of a person. Teachers must be experts in teaching other languages and help students find inspiration.

To be able to support students by explaining their personal needs and with the training methods that suit them. These methods will help make learning another language easy and fun for students. Training in teacher training can be helpful. Training in teacher training can be helpful. Interactive methods and programs: teachers learn interactive methods and programs that help students learn through new technologies and websites. Individual disorders: each student must be treated individually, depending on their studies, requirements and needs. The teacher must guide the students with appropriate test methods. Spiritual support: teachers must provide spiritual support to students and solve moral problems and problems during the teaching process. O learning support: teachers manage volume to search and review their news. This will help to better organize the learning process.

Interactivity: teachers must support interactive methods such as making teaching interactive through textbooks, supplements, video conferencing, websites, and apps while teaching their classes. International cooperation: teachers may seek to collaborate and benefit from other teachers through an international network.

Knowledge of new technologies and teaching: teachers learn to learn new technologies, applications and learning and learn about good practices in online teaching. Creation: teachers need to be supported in mastering educational materials, learning new ways of teaching, and providing learning opportunities.

These definitions will be useful for teachers to teach students well and help them through the learning process. When an interactive whiteboard is used in the classroom, preschoolers may be more encouraged to learn English. These technologies allow young people to actively participate in their education, greatly increase their motivation to learn, foster creativity, and shape their personality. To expand the possibilities of information delivery, provide methodological content in teaching, taking into account the availability of interactive education and the peculiarities of children. Interactive whiteboard classes include children who actively participate in visual exercises, in addition to watching and listening to audio and video content. Using animation capabilities, object selection, motion and color-based selection will allow you to process data through visual and voice channels.

One of the most important ways to teach English is sign language. Affection arises when children see special teachers with kindness and a gentle smile from the educator. Children can move freely and enjoy learning a foreign language using gestures. We create a stimulating environment for language learning. Children should immerse themselves in new situations and enjoy the game, but interactive play should not be confused with role-playing. This is an important issue. The latter is more like a theatrical production. It is very important to organize an interactive game with preschool children, as it allows children to experience social interaction in a meaningful way for them. These types of games allow children to practice speaking with their teachers and peers, as well as participate in coordinated group cognitive exercises that promote social growth.

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SHOHIMARDON TURIZM IMKONIYATLARI

Annotatsiya. Mazkur maqolada Shohimardon anklavini rivojlantirishda turizmning ahamiyati yoritilgan. Hududda joylashgan 174 ta turizm obyekti Shohimardonga o'ziga xos joziba bag'ishlayotgani qayd etilgan va ekoturizm, agroturizm hamda ziyorat turizmi bo'yicha imkoniyatlar tahlil qilingan. Shuningdek, hududni rivojlantirishga katta e'tibor qaratilayotgani va qo'shni davlat bilan aloqalarning yanada mustahkamlanayotgani ta'kidlangan.

Kalit so'zlar: Shohimardon, anklav, turizm, ziyorat turizmi, infratuzilma, trekking.

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TOURISM OPPORTUNITIES IN SHAKHIMARDAN

Annotation. The article explores the significance of tourism in the development of the Shakhimardan enclave. It highlights the unique appeal of the 174 tourism sites located in the region, which contribute to the distinct charm of Shakhimardan. The potential for ecotourism, agritourism, and pilgrimage tourism in the area has been analyzed. Additionally, the article discusses the growing attention being paid to the region's development and the strengthening of relations with the neighboring state.

Keywords: Shakhimardan, enclave, tourism, pilgrimage tourism, infrastructure, trekking.

Kirish. Turizm so'nggi yillarda dunyo iqtisodiyotida eng tez rivojlanayotgan va ahamiyati ortib borayotgan sohalardan biriga aylandi. Jahon sayyohlik tashkiloti (UNWTO) ma'lumotlariga ko'ra, turizm jahon yalpi ichki mahsulotining 10 foizdan ortig'ini tashkil etib, har yili millionlab ish o'rinlari yaratmoqda. Shu bilan birga, turizm nafaqat iqtisodiy, balki ijtimoiy, madaniy va ekologik omillarga ham katta ta'sir ko'rsatadi.

O'zbekiston kabi tarixiy-madaniy boy merosga ega davlatlarda turizm iqtisodiy barqarorlikka erishish va xalqaro maydonda davlat imijini shakllantirish uchun strategik ahamiyatga ega. Xususan, mamlakatning sharqiy qismi – go'zal

Farg‘ona vodiysida turizm salohiyatidan foydalanish katta ahamiyatga ega. Xususan, mintaqaning eng turistik obyektlari ko‘p hududi – Farg‘ona viloyatining bu boradagi salohiyatini yanada rivojlantirish bo‘yicha O‘zbekiston Respublikasi Vazirlar Mahkamasining 2019-yil 3-oktabrdagi “Farg‘ona viloyatining turistik salohiyatini yanada rivojlantirish chora-tadbirlari to‘g‘risida”gi 843-sonli Qarori qabul qilindi [13]. Bu qaror qabul qilinishi esa viloyatning turistik salohiyatini yanada rivojlantirishga imkoniyat yaratib berdi. Ushbu qarorga muvofiq, Farg‘ona viloyati hokimligi huzurida o‘ziga xos periferik hududga yo‘naltirilgan davlat muassasasi shaklidagi “Shohimardon turizmni rivojlantirish direksiyasi” tashkil etildi. Direksiyaning asosiy vazifalaridan biri – Farg‘ona tumaniga qarashli “Shohimardon” va “Yordon” MFYlarda turizmni rivojlantirish bo‘yicha konsepsiya ishlab chiqish va amalga oshirilishini ta‘minlashdir. Ushbu mahalla fuqarolar yig‘inlarining turizm salohiyatini inobatga olgan holda, yangi turizm yo‘nalishlarini joriy qilish ustuvor ahamiyatga ega. Direksiya tomonidan o‘tgan vaqt mobaynida Shohimardon hamda Yordon mahalla fuqarolar yig‘inlarida jami 174 ta turizm obyektlari ro‘yxati shakllantirilgani qayd etilgan [9].

Ishning **maqsad va vazifalari**. Ushbu maqolaning **maqsadi** Shohimardon turistik salohiyatini geografik jihatdan baholash bo‘lib, ushbu maqsadga erishish uchun quyidagi **vazifalar** belgilab olingan:

- Shohimardon anklavidagi ekoturizm, agroturizm va ziyorat turizmi obyektlarini tavsiflash;
- turizmni rivojlantirish omillarini tahlil qilish.

Adabiyotlar tahlili va metodologiya

Ushbu maqolada periferik tahlil, SWOT-tahlil, monografik tahlili, geografik taqqoslash hamda ekologik monitoring usullaridan foydalanilgan.

Shohimardon qishlog‘i – O‘zbekistonning eng o‘ziga xos anklav hududlaridan biri hisoblanadi. Tabiiy va rekreatsion salohiyatga boy bo‘lsa-da, bu hududni ilmiy o‘rganish bo‘yicha manbalar yetarlicha emas. Hudud haqida mavjud ma‘lumotlarning aksariyati ijtimoiy tarmoqlardagi qisqacha publitsistik sharhlar bilan cheklangan. Bu holat Shohimardonning turizm sohasidagi jozibasini to‘liq ochib berish va ilmiy jihatdan o‘rganishga to‘sqinlik qiladi. Hududni ilmiy o‘rganish faqat turizmni rivojlantirishga emas, balki Markaziy Osiyodagi anklavlar tadqiqoti sohasida yangi nazariy va amaliy bilimlarni shakllantirishga xizmat qiladi. Shu asosda, Shohimardon mintaqaviy turizm markazi sifatida o‘z o‘rnini mustahkamlay oladi.

Aytish lozimki, Markaziy Osiyo mamlakatlari mustaqillikka erishgach, chegaralar ajratish funksiyasini “mustahkam” bajara boshlagan. Jumladan, o‘zbek-qirg‘iz chegara mojarolari sabab Shohimardonga kirib-chiqishda ham muammolar yuzaga kelgan. Shu xususida, yevropalik olim B.Fazendeiro O‘zbekiston va Qirg‘iziston o‘rtasidagi chegaralar va millatchilik jarayonlarini taqdid qilgan. Chunonchi, Farg‘ona vodiysi kabi hududlar aholisi bu yerda ikki davlat o‘rtasidagi chegaraviy chiziqlarning qanday hissiyotlar va konfliktlarni keltirib chiqarishi haqida so‘z yuritadi [4]. Professor N.Megoran Markaziy Osiyo hududidagi anklavlar va chegaralar masalalariga alohida e‘tibor bergan. Jumladan, olim “Natsionalizm in

Central Asia: A Biography of the Uzbekistan-Kyrgyzstan Boundary'' kitobida O'zbekiston va Qirg'iziston o'rtasidagi chegara va anklav hududlaridagi geosiyosiy vaziyatni batafsil yoritib bergan. Megoran geografik jihatdan, chegara va anklavlarning milliy va etnik identifikatsiya yaratishda qanday o'rin tutishini o'rganadi [8]. A.Alao esa o'zining ishlarida, ayniqsa, anklav hududlarning milliy, etnik va siyosiy jihatlari bilan bog'liq masalalarini o'rgangan [3].

Mustaqil davlatlar hamdo'stligi mamlakatlarida anklav hududlarning siyosiy va ijtimoiy holatini tahlil qilish yuzasidan ko'plab ilmiy tadqiqotlar amalga oshirilgan. Bu sohada o'rganishlar, asosan, anklavlarning geosiyosiy va iqtisodiy ahamiyati, ular bilan bog'liq territorial nizolar va milliy identifikatsiya masalalariga qaratilgan. Xususan, S.Juravskiy, T.Zverinseva, Y.Rojkov-Yuryevskiy, V.Zaysev [11], Y.Rojkov-Yuryevskiy kabi tadqiqotchilar anklav/eksklav hududlar, ayniqsa, tarixiy va siyosiy jihatdan ajratilgan mintaqalar borasida izlanishlar olib borishgan. Ayniqsa, Y.Vinokurovning tadqiqotlari, geografik jihatdan o'zaro ajratilgan va siyosiy nuqtayi nazardan maxsus ahamiyatga ega bo'lgan hududlarni, masalan, Kaliningrad, Prussiya va Sharqiy Prussiyani o'rganishga qaratilgan. Bu hududlar tarixiy tarzda cheklangan va boshqa davlatlar bilan chegaralar orqali bog'langan [10].

Yurtimizda mavzuga oid tadqiqotlar A.S.Soliyev, F.F.Tolipov, Y.I.Ahmadaliyev, A.A.Ibragimova, Sh.Z.Jumaxanov, A.M.Toshpo'latov ilmiy ishlarida atroficha yoritib berilgan. Xususan, Sh.Z.Jumaxanov "Markaziy Osiyo anklav/eksklav hududlarini iqtisodiy geografik va siyosiy geografik tadqiq etishning metodologik asoslari" nomli doktorlik dissertatsiyasida anklav va eksklav hududlarning geosiyosiy holati, ular o'rtasidagi siyosiy aloqalar, shuningdek, hududiy resurslar va iqtisodiy imkoniyatlarni tahlil qilishga qaratilgan yondashuvlar ko'rsatilgan. Tadqiqotda, Markaziy Osiyo mintaqasidagi anklavlarda yuzaga keladigan muammolar o'rganilgan [5]. Tadqiqotchi A.M.Toshpo'latovning ilmiy ishlarida ham anklav hududlar, xususan, So'xning geosiyosiy va geoiqtisodiy jihatlari tahlil qilingan [7]. Shuningdek, N.Abdulohatov [1,2], T.G'oziyev, F.Zohidov tomonidan olib borilgan tadqiqotlarda Shohimardon qishlog'ining turistik maskanlari va ularning tarixi ochib berilgan.

Natijalar va muhokama

Tahlil uchun olingan tadqiqot obyekti mansub bo'lgan Farg'ona viloyati hududida hozirgi kunda 376 ta turistik obyektlar ro'yxatga olingan. Shundan 117 ta arxeologik yodgorliklar, 139 ta arxitektura yodgorliklari, 88 ta diqqatga sazovor joylar hamda 32 ta monumental yodgorliklar shular jumlasidandir [7].

Viloyatda mavjud obyektlardan biri – Shohimardon – O'zbekistonning noyob tabiiy go'shalaridan biri bo'lib, "O'zbekiston Shveysariyasi" nomini olgan. U Farg'ona vodiysining janubidagi anklav geografik joylashuvga ega. Bu go'zal maskan qadimiy tarix, boy madaniyat va muqaddas qadamjoylar bilan sayyohlarni o'ziga jalb qiladi. Shohimardonning tog' yonbag'irlari, sharqirab oqayotgan zilol daryolari va ekologik toza havosi nafaqat mahalliy aholi, balki xorijlik mehmonlar uchun ham maftunkor dam olish joyiga aylangan. Shohimardon hududi yillik tashrif buyuruvchilar soni bo'yicha katta salohiyatga ega. Bu joy, ayniqsa, Oqsuv va

Ko'ksuv daryolari qo'shiladigan ajoyib maskanlari bilan ajralib turadi. Ayniqsa, yoz oylarida salqin ob-havo va toza tog' havosi tufayli ko'plab sayyohlar bu joyni dam olish va tabiat qo'ynida vaqt o'tkazish uchun tanlashadi. Umuman olganda, hududning ekoturistik salohiyati juda yuqori hisoblanadi.

Ekoturizm (yashil turizm) – antropogen ta'sirga nisbatan ta'sirlanmagan tabiiy hududlarga tashrif buyurishga qaratilgan barqaror turizmning bir yo'nalishi [12] bo'lib, Shohimardonda ekoturizmni rivojlantirish uchun tabiiy obyektlar juda katta ahamiyatga ega. Ular sayyohlar uchun sog'lomlashtirish va dam olish maqsadida foydalaniladigan maskanlar hisoblanadi.

Anklavda ko'plab turistik obyektlar joylashgan. Jumladan, *Jannat Ariq* Shohimardonning mashhur tabiiy buloqlaridan biri bo'lib, undan toza va shifobaxsh suv oqib keladi. Bu suv mahalliy aholi va sayyohlar orasida davo sifatida tan olingan. Buloq atrofidagi go'zal manzara, tinch muhit va toza havo sayyohlarni jalb qiluvchi asosiy omillardandir. Ahamiyatlisi shundaki, Jannat Ariq shifobaxsh suv sifatida tan olingan. Bu joy tabiat qo'ynida dam olish va stressdan xalos bo'lish uchun qulay maskan hisoblanadi. Jannat Ariq deb nomlanishiga suvning musaffoligi, ariq atrofidagi yashil daraxtzorlar va tog' manzarasi bu joyni jannatga qiyos qilishga sabab bo'lgan [1].

Qurbonko'l tog'lar orasida joylashgan kichik, lekin chiroyli ko'l bo'lib, uning suvi sof va tozadir. Ko'lining atrofidagi o'tloqlar va tog' manzaralari sayyohlarga dam olish va tabiatdan zavqlanish uchun mukammal sharoit yaratadi. Ko'lining ahamiyatli jihatlari dam olish va piknik uchun mos. Shuningdek, tabiatning boy biologik xilma-xilligini o'rganish imkonini beradi. Ekoturizm va trekking faoliyatini rivojlantirish uchun ideal joy hamdir. *Ko'kko'l* kelgan sayyohlar uchun mashhur to'xtash joylaridan biridir. Ko'lga olib boruvchi yo'llar tog'li va manzarali bo'lib, sayohatchilar uchun ta'riflangandan-da jozibadordir. Ko'l atrofida pikniklar, suzish va fotosuratga olish uchun joylar tashkil etilgan.

Yordon qishlog'idagi *Ikki dovon* daryosi, ba'zan Mashalang daryosi deb ham ataladi. Tabiatni sevuvchilar va ekoturizmga qiziqqanlar uchun daryo bo'ylab sayohatlar, pikniklar va tog' sayrlari tashkil etish mumkin. Bu yerda mashhur bo'lgan *Dugoba* fors tilida ikki so'zdan tashkil topgan "du" – ikki, "Goba" yoki "g'uba" – yashil hududni bildiradi [2]. Dugoba bo'ylab tog'larda yurish va tabiatni tomosha qilish imkoniyati va tog' velosipedlariga qiziqqanlar uchun bu joy katta imkoniyatlar taqdim etadi.

Shohimardon hududi, tog'li va kutilmagan manzaralari bilan **alpinizm va tog' turizmi** uchun juda qulay joy hisoblanadi. Ushbu hududda alpinizmning rivojlanishiga bir qator tabiiy va ijtimoiy omillar ta'sir qiladi. Alpinizm – bu faqat jismoniy kuchni talab qiladigan sport turi emas, balki o'zining mental va ruhiy jihatlari bilan ham ahamiyatga ega. Shohimardon hududi, alpinizmni rivojlantirish uchun bir qator imkoniyatlar yaratadi. Shohimardon tog'lari o'zining balandligi, qiyaliklari va tabiiy resurslari bilan alpinistlar uchun yaxshi imkoniyatlar yaratadi. Hududdagi Qiziltog', Dugoba, G'altin, Xurjun va Qora Sho'ra tog'lari tog' sporti bilan shug'ullanish uchun maqbul joylardir [9]. Bu tog'larda alpinistlar uchun turli

darajalar va qiyinchiliklarga ega yo'llar mavjud, bu esa yangi boshlovchilar va tajribali alpinistlar uchun keng imkoniyatlar yaratadi.

Hududda tog' turizmi va alpinizmni rivojlantirishda *Mashalang* va *Dugoba tog'lari* o'rni beqiyosdir. Mashalang tog'lari qishloqlardan nisbatan uzoq joylashgan bo'lib, tog' etaklarida lager tashkil qilish uchun qulay. Tog'larda qiyin bo'lmagan, boshlovchilar uchun mos yo'nalishlar mavjud. Bu joy tog' sportiga yangi qadam qo'yuvchilar uchun juda mos. [Dugoba](#) tog' lageri Qirg'izistondagi O'zbekiston anklavi bo'lgan Shohimardon, shuningdek, Batken viloyatining Qadamjoy shahri yaqinida joylashgan. Obyekt archa o'rmonlari, qoyali va qirrali cho'qqilar bilan o'ralgan [14]. Dugoba tog'lari ancha yillardan buyon alpinizmga qiziquvchilarni o'ziga chorlab kelmoqda. Bu hududda Sobiq Ittifoq davrida alpinistlar lageri bo'lgan. Hozirgi kunda O'zbekiston va Qirg'iziston "Dugoba" alpinistlar lagerini tiklashni rejalashtirmoqda [15].

Agroturizm bo'yicha hudud yetarli imkoniyatlarga ega. Dam oluvchilarning ko'pchiligi tog' o'rmonlariga chiqishni afzal ko'rishadi. Chunki bu joylarda nafaqat tabiiy go'zallikdan bahramand bo'lish, balki shifobaxsh o'simliklarni to'plash imkoniyati ham mavjud. Shohimardon hududi, ayniqsa, Yordon qishlog'i atrofi tog'li va o'simlik qoplamini zich bo'lib, bu yerda dalachoy (*Orthosiphon stamineus*), na'matak (*Hypericum perforatum*), zveroboy (*Achillea millefolium*), kiyik o'ti (*Teucrium chamaedrys*), tog' rayhoni (*Thymus serpyllum*) va zira (*Cuminum cyminum*) kabi dorivor o'simliklar keng tarqalgan. Ushbu o'simliklar, ularning davolovchi xususiyatlari bilan tanilgan. Ayniqsa, to'g'ri qo'llanilganida turli kasalliklarni davolashda samarali bo'ladi. Yordon qishlog'ining Qiziltog', Dugoba, G'altin, Xurjun va Qora sho'ra tog'larida bu dorivor o'simliklar tabiiy ravishda o'sadi [9]. Ushbu tog'lar o'zining ekologik tozaligi va o'ziga xos bioxilma-xilligi bilan ajralib turadi, bu esa sayyohlar va dam oluvchilarni jalb qilishda asosiy omil hisoblanadi. Dam olish maskanlari va aholi turar joylari Yordon qishlog'ida joylashgani sababli, ko'pchilik sayyohlar bu yerda qo'nim topadi. Qishloqdagi dam olish joylari sayyohlar uchun qulaylik yaratib, tog'da sayr qilish, dorivor o'simliklar terish va tabiat bilan yaqin aloqada bo'lish imkoniyatini taqdim etadi.

Shohimardon va Yordon qishloqlarida joylashgan ziyoratgohlar va muqaddas joylar **ziyosat tuzimi** uchun keng imkoniyatlar yaratgan. Ular orasida bir qator mozorlar, qadamjoylar va tarixiy obidalar mavjud bo'lib, ularning har biri o'zining alohida tarixiga ega. Jumladan, *Ellik paysaki* [1] Shohimardon qishlog'ida joylashgan bo'lib, o'zining ajoyib tabiat va diniy ahamiyati bilan sayyohlarni jalb etadi. Bunday joylar, mahalliy aholi uchun nafaqat ma'naviy o'zlikni anglash, balki tabiat bilan uyg'unlashish imkoniyatini ham yaratadi. *Ko'ktosh* muqaddas va diniy e'tiqodlar asosida ziyorat qilinadigan joylardan biridir va bu joyga kelganlar o'zlarini ruhiy tinchlik va huzur topgan, deb his qiladilar. *Shoh Tolib* (Kichik mozor) maqbarasining tarixiy va diniy ahamiyati katta [2]. Bu mozor Shohimardonning qadimiy va diniy merosini saqlab kelayotgan joylardan biridir. Ko'plab ziyoratchilar bu joyga kelib, diniy marosimlarni o'tkazadilar. *Hazrat Ali maqbarasi* islom tarixidagi buyuk shaxs bo'lgan Hazrat Ali ibn Abu Tolibning yodgorliklari bo'lib, musulmonlar uchun juda muqaddas ziyoratgoh hisoblanadi [1].

Ul zot Muhammad (s.a.v.) payg‘ambarning jiyani, islom saltanatining to‘rtinchi xalifasi va bo‘lib, uning mozoriga tashrif buyurish, nafaqat diniy, balki ma‘naviy jihatdan ham katta ahamiyatga ega. *Umar Umiya mozori* ham Shohimardon qishlog‘ida joylashgan. Bu mozor islom tarixining o‘ziga xos shaxslaridan biri bo‘lgan Umar Umiyaga bag‘ishlab bunyod etilgan. Lekin tarixiy manbalarda bu ulug‘ zotlar bizni diyorlarga kelganligi haqida ma‘lumotlar yo‘q. Faqatgina xalq orasida turli rivoyatlar saqlanib qolgan. *Chakka tomar* bulog‘i ham diniy ahamiyatga ega ziyoratgoh sifatida mashhur. Ushbu joyning chiroyli tabiati va o‘ziga xos hududi ko‘plab sayyohlarni o‘ziga jalb etadi [1].

Yordon qishlog‘i o‘zining diniy obidalar va ziyoratgohlari jihatidan Shohimardon bilan uzviy bog‘langan. Chunonchi, *Toshsolar* ziyoratgohi o‘zining muqaddasligi bilan tanilgan joylardan biridir. Bu yerda mahalliy aholi va ziyoratchilar diniy marosimlarni o‘tkazadilar. *Yordon ota mozori* ham qishloqdagi muhim ziyoratgohlardan biridir. Bu joyda ziyorat qilish, mahalliy aholi tomonidan katta hurmatga sazovor bo‘lgan va ziyoratchilar uchun ma‘naviy poklanishga erishish imkoniyatini beradi. *Archa mozor* ziyoratgohi Yordon qishlog‘idagi yana bir muhim diniy joy bo‘lib, sayyohlar va ziyoratchilar uchun o‘ziga xos joydir. Bu joyning ruhiy ahamiyati, ziyoratchilar uchun katta o‘ringa ega. Qizqo‘rg‘on ziyoratgohi ham Yordon qishlog‘ining muhim diniy va madaniy markazlaridan biri hisoblanadi (1-jadval). Bu joy ham o‘zining diniy ahamiyati va tarixiy merosi bilan e’tirof etiladi [1].

1-jadval

Shohimardon turizm yo‘nalishlari va obyektlari

Turizm yo‘nalishlari	Ekoturizm	Tog‘ turizmi va alpinizm	Agroturizm	Ziyorat turizm
Mavjud obyektlar	Jannat ariq, Qurbonko‘l, Ko‘kko‘l; Ikkidovon (Mashalang) daryosi, Dugoba	Ispasar, Dugoba, G‘altin, Oynako‘l, Qiziltog‘, Shalang, Xurjun, Qora sho‘ra, Mashalang tog‘lari	Qiziltog‘, Dugoba, G‘altin, Xurjun, Qora sho‘ra kabi tog‘lardagi <i>dalachoy, na‘matak, kiyik o‘ti, tog‘ rayhoni, zira kabi dorivor giyohlar</i>	Ellik paysaki tosh, Ko‘ktosh, Shoh Tolib mozori, Hazrat Ali mozori, Umar Umiya mozori, Chakka tomar, Archamozor, Tolmozor, Toshmozor, Belmozor, Zirkmozor; Toshsolar ziyoratgohi, Yordon ota mozori, Qizqo‘rg‘on
Maqsadi	Shifo topish	Alpinizm	Tabiiy va shifobaxsh dorivorlardan tatib ko‘rish	O‘tganlarni xotirlash va haqqiga duo qilish

Shohimardon va Yordon qishloqlarida turizmni rivojlantirish mintaqaning iqtisodiy va ijtimoiy o'sishiga katta hissa qo'shadi. Hududning tabiiy, tarixiy va madaniy imkoniyatlaridan to'g'ri foydalanish nafaqat mahalliy aholining turmush darajasini yaxshilashga, balki O'zbekiston turizm salohiyatini xalqaro miqyosda tanitishga xizmat qiladi. Shu bilan birga, hududda infratuzilma va xizmat ko'rsatish sifatini oshirish, ekologik muhofaza choralari kuchaytirish muhimdir.

Anklavdagi farovonlik, tabiiyki, asosiy va o'rab turuvchi davlatlar munosabatlariga bog'liq. Agar bu munosabatlar anklavga bevosita aloqador bo'lmagan masalalar bo'yicha yomonlashsa ham, anklavga salbiy bosim kuchayadi. Aksincha, davlatlar o'rtasidagi tinch va do'stona munosabatlar anklav uchun qulay muhit yaratadi [6].

O'zbekiston mustaqillikka erishgach, O'zbekiston va Qirg'iziston o'rtasida diplomatiya munosabatlari xalqaro darajaga ko'tarildi. 1996-yil 24-dekabrda ikki davlat o'rtasida imzolangan "Abadiy do'stlik to'g'risida"gi Shartnoma davlatlar o'rtasidagi munosabatlarning shartnomaviy-huquqiy asosi hisoblanadi. 1999-yili dinni niqob qilib olgan qurolli bo'linmalar Tojikiston hududidan Qirg'iziston hududi orqali Farg'ona vodiysiga kirishga uringan, biroq qirg'iz maxsus kuchlari tomonidan to'xtatilgan [5]. Shundan so'ng O'zbekiston hukumati chegaraning tog'li qismlarini, jumladan, Shohimardon atrofidagi hududlarni minalashtiradi va anklavlarga kirish cheklanadi. Qirg'iziston tomonidan anklavlar hududiga Farg'ona viloyati aholisi uchun bir martalik ruxsatnomalar, O'zbekistonning boshqa fuqarolari uchun esa viza rejimi joriy etiladi. Bunday noxush holat ikki davlat o'rtasidagi do'stona munosabatlarga putur yetkazishiga sabab bo'ladi. 2007-yilning bahorida O'zbekiston va Qirg'iziston hukumatlari ikki davlat fuqarolariga ikki oygacha vizasiz sayohat qilish imkonini beruvchi kelishuvni ratifikatsiya qiladi [6].

Hozirgi kunda Xalqaro kuzatuvchilar O'zbekiston rahbariyati Markaziy Osiyoni tashqi siyosatning ustuvor yo'nalishi sifatida e'lon qilgan holda, 2017-yilda bu borada amaliy qadamlar tashlanganligini alohida e'tirof etishmoqda. Xususan, o'tgan yillar mobaynida ikki mamlakat hamkorligining shartnomaviy-huquqiy asosi yana 25 ta hujjat bilan boyidi. Ular orasida O'zbekiston Respublikasi bilan Qirg'iziston Respublikasi o'rtasida strategik sheriklik, do'stlik, ahil qo'shnichilik hamda ishonchni mustahkamlash to'g'risida deklaratsiya va o'zbek-qirg'iz davlat chegarasi to'g'risidagi shartnomani alohida ko'rsatib o'tish mumkin [14].

«Farg'ona — Shohimardon» yo'nalishi bo'yicha avtobuslar qatnovi 2013-yilning avgust oyida to'xtagandi. 2017-yil 25-apreldan boshlab Farg'ona viloyati hokimining shaxsiy tashabbusi bilan agentlikning viloyat bo'limi hamkorligida ushbu yo'nalishda qatnov qayta yo'lga qo'yildi [15]. 2019-yilda oktabr oyida Farg'ona viloyatining turistik salohiyatini yanada rivojlantirish chora-tadbirlari to'g'risida Hukumat qarori qabul qilindi. Qarorga muvofiq, Farg'ona viloyati hokimligi huzurida davlat muassasasi shaklidagi "Shohimardon" turizmni rivojlantirish direksiyasi tashkil etildi. Keyinroq, 2023-yil oktabr oyida Farg'ona viloyati hokimi Shohimardonga tashrif buyurib, bu yerdagi amalga oshirilayotgan ishlar ko'lamini kengaytirish yuzasidan loyihalar taklif etadi [14].

Shohimardon va Yordon mahalla fuqarolar yig'inlari hududini rivojlantirish bo'yicha amalga oshirilayotgan loyihalar anklavning madaniy, ijtimoiy va iqtisodiy qiyofasini yanada yaxshilashga qaratilgan. Shohimardondagi memorial muzeyni ta'mirlash jarayonida nafaqat bino va jihozlar yangilanadi, balki muzeyning ekspozitsiyalarini kengaytirish va zamonaviy texnologiyalar bilan boyitish ko'zda tutildi. Muzeyda raqamli ekranlar, interaktiv ko'rgazmalar va virtual realistik dasturlar orqali Shohimardonning tarixi va o'ziga xosliklarini aks ettirish ko'zda tutilgan [14].

Ziyoratgohlar va ularga tutash hududlarni obodonlashtirishda ziyoratgohlar orasida eng mashhuri Hazrati Ali maqbarasining infratuzilmasini yaxshilash, shu jumladan, ziyoratchilar uchun maxsus yotoq joylari, dam olish maskanlari va ovqatlanish shoxobchalari barpo etish nazarda tutilgan. Shuningdek, hududda kichik ishlab chiqarish korxonalarini tashkil etish orqali yangi ish o'rinlari yaratiladi. Xususan, qishloq xo'jaligi mahsulotlarini qayta ishlash, hunarmandchilik mahsulotlari ishlab chiqarish va milliy suvenirlar tayyorlash yo'lga qo'yiladi.

Qolaversa, olib borilayotgan islohot va tashabbuslar orqali turistlar uchun qulay sharoitlar yaratish maqsadida asosiy yo'llarni kengaytirish, yo'l belgilari va ko'rsatkichlarini o'rnatish, zamonaviy yoritish tizimlari joriy etiladi. Hududga tashrif buyuruvchilar uchun maxsus avtoturargohlar va transport vositalarini ijaraga berish xizmatlari yo'lga qo'yiladi. Hududda chiqindi yig'ish va utilizatsiya qilish xizmatlarini takomillashtirish bo'yicha maxsus dastur ishlab chiqilmoqda. Bu dastur doirasida qayta ishlash imkoniyati mavjud chiqindilarni ajratish uchun alohida qutilar o'rnatiladi. Shohimardonda turizmni rivojlantirish maqsadida yangi mehmonxona va dam olish maskanlari quriladi. Mahalliy aholining qo'l mehnatini jalb etgan holda, sayyohlar uchun ekskursiyalar va mahalliy madaniyatni tanishtiruvchi dasturlar yo'lga qo'yiladi.

Mazkur loyihalar hududning turizm salohiyatini oshirish bilan birga, mahalliy aholining turmush darajasini ham yaxshilashga qaratilgan. Bunday islohotlarda so'ng investorlar ham Shohimardonda turizmini rivojlantirishga qiziqishi ortib bormoqda. Chunonchi, 2024-yil iyun oyida Farg'ona viloyati hokimi Fransiyaning Montagne et Neige Développement (MND) kompaniyasi hududiy direktori hamda kompaniyaning mahalliy hamkorlarini qabul qildi. Uchrashuvda Arqon yo'l va osma ko'priklarni o'z ichiga olgan ommaviy turizm maskani barpo etish loyihasi muhokama qilindi. Shuningdek, viloyat hokimining taklifi bilan ushbu turistik maskanni Shohimardon qishlog'ida tashkil etish ustida ish boshlashga kelishib olindi. Dastlabki bosqichda bosh reja ishlab chiqiladi. So'nggi tasdiqlangan bosh reja asosida loyihani amalga oshirish uchun Yevropa banklarining imtiyozli kredit mablag'larini jalb etish bo'yicha muzokaralar o'tkaziladi [14].

Anklav hududga borish va u yerda turizmni rivojlantirish uchun eng katta ko'makchi omillardan biri chegara nazorat o'tkazish posti hisobalandi. Mazkur masala yuzasidan islohotlar o'tkazilmasa, turizm rivojlanishi qiyin masalaga aylanadi. Ikkala davlat o'rtasida olib borilgan do'stona munosabatlar natijasida 2023-yil 1-sentabrdan ikki davlat fuqarolari uchun ID kartalar orqali chegaralarni kesib o'tishga ruxsat berildi. Bu ham nazorat ishlarini tezlashtirgan bo'lsa, 2024-yil

25-iyuldan Farg‘ona viloyati bochxona boshqarmasining Farg‘ona chegara posti “Oq qiya” bojxona punkti 24 soatlik ish tizimiga o‘tkazildi. Bundan ko‘zlangan asosiy maqsad Farg‘ona tumani Shohimardon qishlog‘iga sayyohlar qatnovini oshirish, transport vositalarining uzun navbatlarda qolib ketishlarini oldini olish. Avvallari ish soati 6:00 dan 22:00 gacha davom etgan bo‘lsa, hozir bu tizim o‘zgartitilib, jarayon mukammallashtirildi. Shohimardon qishlog‘iga “Farg‘ona” hamda “Oq qiya” chegara bojxona postidan bir kunda o‘rtacha 10 mingdan ortiq fuqaro o‘tish imkoniyati mavjud [7]. Turizmni rivojlantirish uchun yaratilgan bunday keng ko‘lamli imkoniyatlar Shohimardonni yaqin yillar ichida Farg‘ona viloyating turiz markazidan biriga aylansa, ajab emas!

Xulosa. Ushbu o‘zgarishlar O‘zbekiston anklav hududlarining turizm salohiyatini nafaqat milliy darajada, balki mintaqaviy ko‘lamda kuchaytirishiga ishora qiladi. Shuningdek, Shohimardon tajribasi anklavlar geografiyasi va geosiyosiy o‘ziga xosliklarining turizm rivojiga ijobiy ta‘sirini o‘rganish uchun namunaviy model bo‘lib xizmat qiladi. Kelajakda ikki davlat o‘rtasidagi barqaror munosabatlar va xalqaro investitsiyalar jalb qilinishi bilan Shohimardon Farg‘ona vodiysining eng yetakchi turizm markazlaridan biriga aylanishi mumkin.

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**TA'LIM JARAYONINI BOSHQARISH, UNING SIFATINI,
QULAYLIGINI OSHIRISH UCHUN TA'LIM SIYOSATI VA
AMALIYOTINI BOSHQARISHNING SAMARALI MODELLARI**

Annotatsiya: Mazkur maqolada ta'lim tizimini boshqarishda samaradorlikka erishish uchun zarur bo'lgan model va tamoyillar tahlil qilingan. Ta'lim sifatini oshirish va qulayligini ta'minlash uchun markazlashtirilmagan boshqaruv, ta'lim sifatini o'lchash va monitoring qilish, zamonaviy texnologiyalardan foydalanish, o'qituvchilarning malakasini oshirish va ijtimoiy-iqtisodiy sharoitlarni hisobga olish kabi omillar muhim deb ta'kidlanadi.

Kalit so'zlar: Ta'lim tizimi, ta'lim sifatini oshirish, ta'lim boshqaruvi, markazlashtirilmagan boshqaruv, ta'lim monitoring, zamonaviy texnologiyalar.

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**EFFECTIVE MODELS FOR MANAGING EDUCATION POLICY
AND PRACTICE TO ENHANCE THE PROCESS, QUALITY, AND
ACCESSIBILITY OF EDUCATION**

Abstract. This article analyzes the models and principles necessary to achieve efficiency in the management of the education system. It emphasizes key factors, such as decentralized governance, quality measurement and monitoring of education, the use of modern technologies, professional development of teachers, and consideration of socio-economic conditions to enhance the quality and accessibility of education.

Key words: Educational system, improving the quality of education, educational management, decentralized management, educational monitoring, modern technologies, teachers' qualifications.

O'quv jarayonlarini boshqarish tizimining samarali modellari ta'lim sifatini oshirish va unga qulaylik yaratishda muhim rol o'ynaydi. Ta'lim siyosati va amaliyotini boshqarishning samarali usullari orqali ta'lim jarayonidagi ishtirokchilar uchun imkoniyatlarni kengaytirish va o'quv muhitini yaxshilash mumkin[1].

Bunday modellarning asosiy tamoyillari quyidagilarni o'z ichiga oladi.

Markazlashtirilmagan boshqaruv tizimi ta'lim muassasalariga mustaqillik berib, ularga o'z ehtiyojlariga mos ravishda qarorlar qabul qilish imkonini yaratadi. Bu tizimda ta'lim muassasalari, ayniqsa maktablar va kollejlari, o'z hududiy yoki lokal talablariga moslashtirilgan o'quv dasturlarini joriy etish va o'qitish usullarini tanlashda erkin bo'ladilar. Ushbu yondashuv mahalliy sharoitlarni hisobga olish imkonini berib, ta'lim jarayonida tez va samarali yangiliklarni tatbiq etish imkonini beradi. Bunda, markaziy hukumat asosiy standartlarni va umumiy yo'nalishlarni belgilaydi, ammo ular ijrosi mahalliy rahbarlar tomonidan amalga oshiriladi[2-5].

Ta'lim sifatini muntazam kuzatib borish va uni o'lchash tizimi ta'lim muassasalaridagi jarayonlarning samaradorligini baholash uchun juda muhimdir. Bunday tizim o'quvchilarning bilimini, o'qituvchilarning malakasini va ta'lim muhitining sifatini muntazam tahlil qilib borishni o'z ichiga oladi. Misol uchun, PISA kabi xalqaro testlar yoki milliy baholash tizimlari orqali o'quvchilarni sinovdan o'tkazish amaliyoti ta'lim sifatini baholashning yaxshi namunasi bo'lib xizmat qiladi. Monitoring jarayonlari orqali aniqlangan kamchiliklarni tuzatish va umumiy ta'lim standartlarini oshirish mumkin[6-8].

Texnologiyalar ta'lim jarayonini rivojlantirish va o'quvchilarga yanada ko'proq imkoniyatlar yaratishda muhim rol o'ynaydi. Raqamli platformalar, masofaviy ta'lim tizimlari, elektron resurslar va axborot texnologiyalari o'quv jarayonini yanada qulay va samarali qilishga yordam beradi. Masalan, onlayn kurslar, virtual laboratoriyalar va elektron kitoblar kabi imkoniyatlar talabalar uchun resurslar xilma-xilligini ta'minlaydi va ularga o'z bilimini kengaytirish imkonini beradi. Shu bilan birga, texnologiyalar o'quvchilar va o'qituvchilar orasidagi aloqani yaxshilaydi va ta'limni yanada interaktiv qiladi.

O'qituvchilar ta'lim sifatini belgilaydigan asosiy omillardan biri hisoblanadi. Shu sababli, ularning malakasini oshirish bo'yicha doimiy trening va kurslar tashkil etish muhimdir. O'qituvchilar o'z bilimlarini yangilab borish uchun zamonaviy metodikalar, pedagogik texnologiyalar va psixologik bilimlarni o'zlashtirishi kerak. Bundan tashqari, o'qituvchilarga innovatsion yondashuvlarni tatbiq qilish uchun qo'shimcha qo'llab-quvvatlash tizimlarini yaratish kerak. Bu jarayonlar ta'lim sifatini oshirishda va ta'lim jarayonining samaradorligini ta'minlashda katta ahamiyatga ega[8-10].

Tahlil va natijalar: Ta'lim tizimining samaradorligini oshirish uchun markazlashtirilmagan boshqaruv, ta'lim sifatini o'lchash va monitoring qilish, zamonaviy texnologiyalardan foydalanish, o'qituvchilarning malakasini oshirish, va ijtimoiy-iqtisodiy omillarni hisobga olish kabi asosiy tamoyillar joriy etilishi lozim. Tahlil natijalariga ko'ra, har bir tamoyil ta'lim jarayonini yaxshilash va ta'lim olish uchun yanada qulay muhit yaratishga yordam beradi.

Ta'lim tizimida ushbu tamoyillarni joriy etish orqali yaxshilash mumkin:

- Ta'lim sifatida sezilarli yaxshilanishga erishiladi.
- Ta'lim muassasalari o'z ehtiyojlariga mos ravishda rivojlanish imkoniyatiga ega bo'ladi.
- Zamonaviy texnologiyalar orqali o'quv jarayonining sifati va qulayligi oshadi.

• O'qituvchilarning malakasi oshirilib, ta'lim jarayonining samaradorligi kuchayadi.

• Ijtimoiy-iqtisodiy sharoitlarni hisobga olish orqali ta'limda tenglik ta'minlanadi.

Natijada, yuqoridagi tamoyillarga asoslangan boshqaruv modeli ta'lim tizimini yanada rivojlantirishga va ta'lim oluvchilarga yuqori sifatli ta'lim berishga yordam beradi.

Xulosa

Ta'lim tizimini boshqarishning samarali modellarini yaratish ta'lim sifatini oshirish va unga qulaylik yaratish uchun muhimdir. Tahlillar shuni ko'rsatadiki, markazlashtirilmagan boshqaruv, ta'lim sifatini muntazam monitoring qilish, zamonaviy texnologiyalarni qo'llash, o'qituvchilarning malakasini oshirish va ijtimoiy-iqtisodiy sharoitlarni hisobga olish kabi tamoyillar ta'lim tizimini samarali boshqarishda asosiy rol o'ynaydi. Ushbu tamoyillar o'quv jarayonini modernizatsiya qilishga va har bir o'quvchi uchun teng ta'lim imkoniyatlarini yaratishga xizmat qiladi. Bundan tashqari, ta'lim tizimidagi mavjud kamchiliklarni aniqlash va ularni bartaraf etish orqali ta'lim sifati va qamrovi oshiriladi. Samarali boshqaruv modeli ta'lim jarayonini aniq maqsadlarga yo'naltirish va innovatsiyalarni tatbiq etishda muhim o'rin tutadi.

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NEW METHODS OF USING A SOUND SENSOR WITH ARDUINO UNO

Annotation. *This article provides information about the working principle of sound sensors, their main types, and fields of application. The advantages and disadvantages of sensors are analyzed, and their scientific and practical applications, as well as experimental methods, are detailed. The article can be useful for those interested in sound technologies and researchers conducting studies in this field.*

Keywords. *Sound sensor, Microphone technology, Electret microphone, Voice recognition, Arduino UNO*

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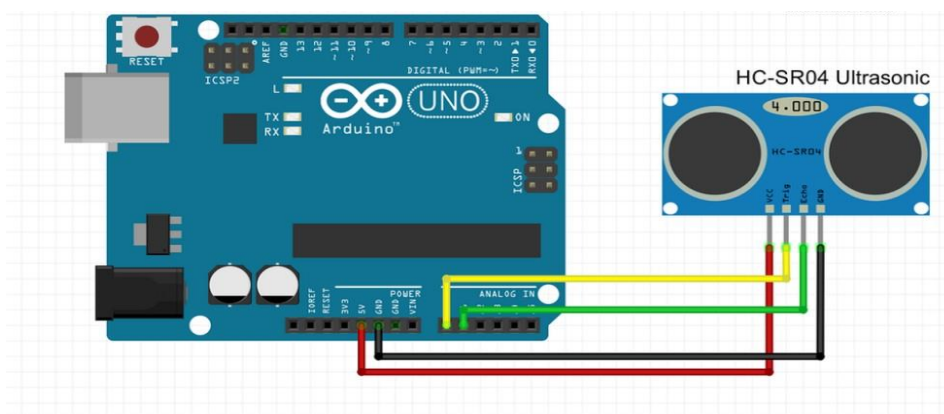
ARDUINO UNO BILAN TOVUSH SENSORINI ISHLATILISHINING YANGI USULLARI

Annotatsiya. *Ushbu maqolada tovush sensorlarining ishlash prinsipi, ularning asosiy turlari va qo'llanilish sohalari haqida ma'lumotlar keltirilgan. Sensorlarning afzalliklari va kamchiliklari tahlil qilinib, ilmiy va amaliy qo'llanilishi, shuningdek, tajriba o'tkazish usullari batafsil yoritilgan. Maqola tovush texnologiyalariga qiziquvchilar va ushbu sohada tadqiqot olib borayotganlar uchun foydali bo'lishi mumkin.*

Kalit so'zlar. *Tovush sensori, Mikrofon texnologiyasi, Elektret mikrofon, Ovoz identifikatsiyasi, Arduino UNO*

Tovush sensori (microphone sensor yoki sound sensor) tovush to'lqinlarini elektr signaliga aylantiruvchi qurilma hisoblanadi. Ular asosan mikrofonlar, piezoelektrik elementlar yoki MEMS (mikroelektromexanik tizimlar) texnologiyalaridan foydalanadi. Tovush sensorlari tovushning chastotasi, amplitudasi va yo'nalishini aniqlash uchun ishlatiladi.

MEMS sensorlar: Ultra kichik hajmda ishlab chiqariladi va yuqori aniqlikka ega. HC-SR04 masofani o'lchash uchun juda mashhur sensordir. U 40 kHz chastotada ultratovush to'lqinlarini chiqaradi. Ultrasonik to'lqinlar havo orqali tarqaladi. Agar yo'lda ob'ektlar yoki to'siqlar bo'lsa, u modulga qaytadi. Ovozning tarqalish vaqti va tezligini hisobga olgan holda siz masofani hisoblashingiz mumkin.



1-rasm. Arduino bilan ulanish sxemasi

1. Asosiy texnik parametrlar:

Odatiy ish kuchlanishi: 5V

Ultra-kichik statik ish oqimi: 5mA dan kam

Sezgi burchagi (R3 qarshiligi yuqori bo'lsa, daromad qanchalik baland bo'lsa, aniqlash burchagi kattaroq bo'ladi):

R3 qarshiligi 392, 15 darajadan oshmaydi

R3 qarshiligi 472, 30 darajadan oshmaydi

Aniqlash masofasi (R3 qarshiligi daromadni sozlashi mumkin, ya'ni aniqlash masofasini sozlashi mumkin):

R3 qarshiligi 392 2 sm-450 sm

R3 qarshiligi 472 2 sm-700 sm

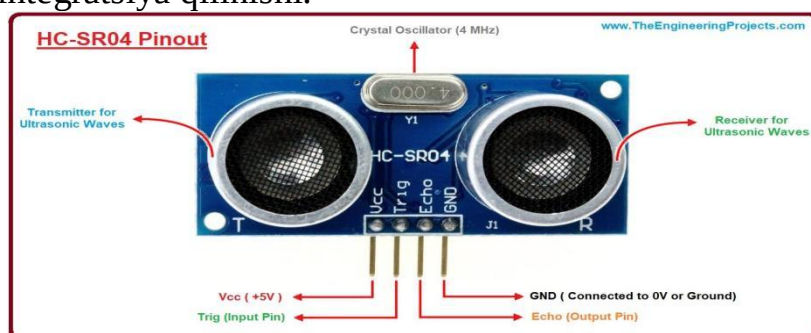
Yuqori aniqlik: 0,3 sm gacha

Sezish zona (2 sm) juda yaqin.[1-5]

Yuqori sezgirlik: Kichik o'zgarishlarni aniqlash qobiliyati.

Ko'p funksiyalilik: Chastota, amplituda va yo'nalishni aniqlash imkoniyati.

Zamonaviy texnologiyalar bilan moslashuvchanlik: Sun'iy intellekt va IoT bilan integratsiya qilinishi.



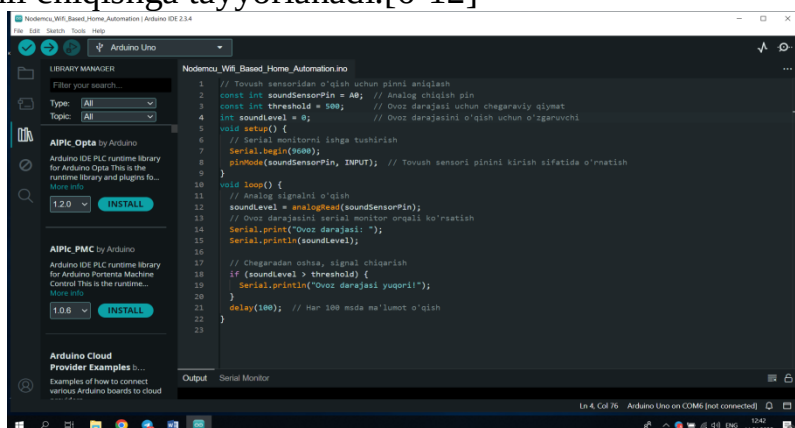
2-rasm. HC-SR04 tovush sensori.

Tovush sensori tovush to'lqinlarini sezish orqali ishlaydi. Bu jarayon quyidagicha amalga oshadi:

1. Tovush to'lqinlarini qabul qilish: Havodagi tovush bosimining o'zgarishi mikrofon membranasini tebratadi.

2. Mexanik harakatni elektr signallariga aylantirish: Membrananing harakati piezoelektrik yoki boshqa texnologiya yordamida elektr signallariga aylantiriladi.

3. Signalni kuchaytirish va tahlil qilish: Signal kuchaytirilib, analog yoki raqamli chiqishga tayyorlanadi.[6-12]



3-rasm. Arduino uchun tovush sensorini ishlatuvchi dastur

Arduino va tovush sensorlari integratsiyasi ovoz bilan boshqariladigan tizimlar, IoT qurilmalari va xavfsizlik tizimlarida keng qo'llaniladi. Sensorning oddiy interfeysi va dasturlash qulayligi yangi boshlovchilar uchun ham, tajribali dasturchilar uchun ham foydali. Tovush signallarini aniqlash va qayta ishlash orqali interaktiv, innovatsion loyihalarni yaratish mumkin.

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SUN'IY INTELLEKT YORDAMIDA O'QUVCHILARNING INDIVIDUAL EHTIYOJLARIGA MOS KELADIGAN SHAXSIY O'QUV REJALARI VA DASTURLARINI YARATISH MASALALARI

Annotatsiya: Ushbu maqola sun'iy intellekt (SI) texnologiyalarining ta'lim jarayonida qanday yordam berishi mumkinligini tahlil qiladi. Maqolada SI tizimlarining o'quvchilarning individual ehtiyojlariga mos keladigan shaxsiy o'quv rejalari yaratish, motivatsiya oshirish, o'quvchilarni monitoring qilish va o'qish jarayonini optimallashtirish kabi asosiy imkoniyatlari ko'rib chiqiladi. Mashina o'rganish va adaptiv ta'lim tizimlari yordamida o'quvchilarning bilim darajasi va ehtiyojlariga mos ravishda materiallar taqdim etish, virtual o'qituvchilar yordamida interaktiv ta'lim berish, va ko'p kanalli o'quv materiallari orqali ta'limni samarali tashkil etish mumkin.

Kalit so'zlar: Sun'iy intellekt, ta'lim jarayoni, shaxsiy o'quv rejalari, adaptiv ta'lim tizimlari, mashina o'rganish, virtual o'qituvchilar, ko'p kanalli o'quv materiallari, motivatsiya.

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ISSUES OF CREATING PERSONALIZED LEARNING PLANS AND PROGRAMS THAT MEET STUDENTS' INDIVIDUAL NEEDS WITH THE HELP OF ARTIFICIAL INTELLIGENCE

Abstract: This article analyzes how artificial intelligence (AI) technologies can assist in the educational process. It explores the main capabilities of AI systems, such as creating personalized learning plans tailored to students' individual needs, enhancing motivation, monitoring students' progress, and optimizing the learning process. Machine learning and adaptive learning systems enable the delivery of materials based on students' knowledge levels and needs, while virtual tutors provide interactive learning experiences.

Keywords: Artificial intelligence, educational process, personalized learning plans, adaptive learning systems, machine learning, virtual tutors, multi-channel learning materials, motivation.

Kirish. O'quvchilarning individual ehtiyojlarini tahlil qilish. Sun'iy intellekt (SI) yordamida o'quvchilarning individual ehtiyojlari va imkoniyatlari

aniqroq tahlil qilinadi. Masalan, o'quvchilarning o'qish uslublarini, qiziqishlarini, o'qish sur'atlarini va yutuqlarini o'rganish uchun turli algoritmlar va mashina o'rganish texnologiyalaridan foydalaniladi. SI tizimlari o'quvchilarning yutuqlarini va xatolarini tahlil qilish orqali, ular o'qitishni qanday qabul qilayotganlarini yaxshiroq tushunish imkonini beradi. Shuningdek, o'quvchilarning zaif tomonlarini aniqlashda ham yordam beradi. Misol uchun, o'quvchining matematikadan muammolarni hal qilishda qiyinchiliklarga duch kelishi mumkin, bunday holatlarda SI tizimi bu masalani aniqlab, unga mos ravishda maxsus o'quv materiallari taqdim etadi.

Moslashtirilgan o'quv dasturlarini yaratish. SI texnologiyalari yordamida o'quvchilarga moslashtirilgan o'quv dasturlarini yaratish jarayoni yanada samarali bo'ladi. Har bir o'quvchining bilim darajasi, qiziqishlari, va o'quv sur'atiga qarab o'quv materiallari va mashqlar avtomatik ravishda moslashtiriladi. Misol uchun, matematika yoki tillarni o'rganishda o'quvchi ilgari o'zlashtirib bo'lmagan mavzularga qayta yo'naltirilishi mumkin. Shu bilan birga, ba'zi o'quvchilar maxsus yondashuvga muhtoj bo'lishi mumkin, masalan, vizual yoki kinestetik o'quvchilar uchun maxsus materiallar ishlab chiqiladi. Sun'iy intellekt, shuningdek, o'quvchilarning ijtimoiy va emotsional ehtiyojlarini hisobga olib, ularni qo'llab-quvvatlashga yordam beradi.

Ta'limda adaptiv texnologiyalarni qo'llash. Adaptiv ta'lim texnologiyalari sun'iy intellekt yordamida o'quvchilarning o'qish jarayonini avtomatik ravishda sozlash imkonini beradi. Masalan, o'quvchilarning o'qish sur'atini va ularga qiyinchilik tug'dirayotgan mavzularni real vaqt rejimida aniqlash mumkin. Agar o'quvchi biror mavzuni yaxshi o'zlashtira olmasa, SI tizimi shu mavzuda yana qo'shimcha materiallar, mashqlar yoki tushuntirishlar taqdim etadi. Shu tarzda, o'quvchilar doimiy ravishda o'z imkoniyatlariga mos materiallar bilan shug'ullanib, o'quv jarayoni samarali va yanada qiziqarli bo'ladi. Bunday yondashuv ta'limda "shaxsiylashtirilgan o'qish" modelini yaratadi, ya'ni har bir o'quvchi uchun o'ziga xos va moslashtirilgan darslar va materiallar.

Ma'lumotlarni tahlil qilish va o'quvchilarning natijalarini kuzatish. Sun'iy intellekt ta'lim jarayonida o'quvchilarning yutuqlarini, xatolarini va umumiy natijalarini real vaqt rejimida tahlil qiladi. Bu orqali o'qituvchilar o'quvchilarning muvaffaqiyatlarini kuzatib borishi, ularning kuchli va zaif tomonlarini aniqlashlari mumkin. O'qituvchi har bir o'quvchining dars davomida qanday natijalar ko'rsatganini, qaysi mavzularni yaxshiroq o'zlashtirganini yoki qaysi mavzular bilan muammoga duch kelayotganini bilib, o'quv dasturini moslashtirishi mumkin. Shu bilan birga, o'qituvchilar o'quvchilarning diqqatini o'ziga jalb qilish uchun sun'iy intellekt yordamida o'quvchilarning qiziqishlariga mos materiallar taqdim etishlari mumkin.

O'quvchi faoliyatini va natijalarini real vaqtda tahlil qilish. Sun'iy intellekt o'quvchilarning faoliyatini va darsdagi natijalarini real vaqt rejimida tahlil qiladi. Bu, o'qituvchilarga o'quvchilarning qiyinchiliklarini aniqlash va shu asosda o'quv dasturini o'zgartirish imkoniyatini beradi. Masalan, o'quvchi biron bir mavzuni o'zlashtirgan bo'lsa, sun'iy intellekt bu haqda ma'lumot beradi va

qo'shimcha qiyinlashtirilgan mashqlar yoki yangilangan materiallar taqdim etilishi mumkin. Bunday tahlillar orqali o'qituvchilar o'quvchilarning darsga bo'lgan qiziqishini va o'qish samaradorligini kuzatib, kerakli o'zgartirishlarni kiritish imkoniyatiga ega bo'ladilar.

Takliflar. Sun'iy intellekt ta'lim jarayonida o'quvchilarning individual ehtiyojlariga mos keladigan shaxsiy o'quv rejalari va dasturlarini yaratish imkoniyatini taqdim etadi. Bu texnologiyalar o'quvchilarning bilim darajasini tahlil qilib, o'quv jarayonini shaxsiylashtirish, motivatsiyani oshirish va ta'lim samaradorligini yuqori darajaga olib chiqishda muhim rol o'ynaydi. Sun'iy intellekt tizimlarining o'qish jarayoniga integratsiyasi, o'qituvchilarga o'quvchilarning yutuqlarini kuzatish, ularni qo'llab-quvvatlash va ta'lim jarayonini yanada samarali qilish imkonini beradi. Bu esa umumiy ta'lim sifatini yaxshilashga xizmat qiladi.

Xulosa.

Sun'iy intellekt (SI) yordamida o'quvchilarning individual ehtiyojlariga mos keladigan shaxsiy o'quv rejalari va dasturlarini yaratish ta'lim jarayonini yangi bosqichga olib chiqadi. Bu texnologiyalar o'quvchilarning o'qish sur'atlarini, bilim darajasini, qiziqishlarini va zaif tomonlarini tahlil qilib, ularni har tomonlama qo'llab-quvvatlash imkonini yaratadi. Shaxsiylashtirilgan o'quv dasturlari, adaptiv texnologiyalar, va real vaqt rejimida tahlil qilish orqali o'quvchilar uchun samarali va qiziqarli ta'lim muhitini yaratish mumkin. O'qituvchilar o'z vaqtlarini samarali boshqarib, o'quvchilarga individual yordam ko'rsatish imkoniyatiga ega bo'ladilar, bu esa umumiy ta'lim sifatini va samaradorligini oshiradi. Sun'iy intellektning bu sohadagi roli, ta'limni shaxsiylashtirish, o'qish jarayonini yaxshilash va har bir o'quvchining ehtiyojlariga moslashtirishda katta ahamiyat kasb etadi.

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STUDY OF A FIELD-EFFECT TRANSISTOR SWITCH CIRCUIT

Annotation. This article explores the theoretical and practical aspects of field-effect transistor (FET) switch circuits. It examines the operating principle of transistors, their behavior in switching modes, and their effects on load voltage and current. The research highlights the application possibilities, efficiency, and advantages of FETs as switches. This article can be particularly useful for professionals and students in the field of electronics.

Keywords. Field-effect transistor, MOSFET, JFET, switch circuit, electronics, transistor modes, power supply, V_{gs} , drain current, switching operation.

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MAYDON TRANZISTORLI KALIT SXEMASINI TADQIQ ETISH

Annotatsiya. Ushbu maqolada maydon tranzistorli kalit sxemalarini tadqiq qilishga oid nazariy va amaliy jihatlar ko'rib chiqiladi. Tranzistorlarning ishlash printsipli, kalit rejimlarida o'zini tutishi va ularning yukdagi kuchlanish hamda tokka bo'lgan ta'siri tahlil qilinadi. Tadqiqot natijasida maydon tranzistorning kalit sifatida qo'llanilish imkoniyatlari, samaradorligi va ilovalari aniqlanadi. Maqola, ayniqsa, elektronika sohasida ishlovchi mutaxassislar va talabalarga foydali bo'lishi mumkin.

Kalit so'zlar. Maydon tranzistor, MOSFET, JFET, kalit sxemasi, elektronika, tranzistor rejimlari, quvvat manbai, V_{gs} , drain oqimi, kalit ishlashi.

Maydonli tranzistorlar (FET) elektron sxemalarda yuqori tezlikda va samarali ishlaydigan kalit sifatida keng qo'llaniladi. Ularning asosiy afzalliklari ichida kam quvvat sarfi, yuqori boshqaruv aniqligi va tezkor javob berish kabilar bor. Ushbu maqolada maydon tranzistorli kalit sxemasi qurilishi va tadqiqot usullari yoritiladi.[1-5]

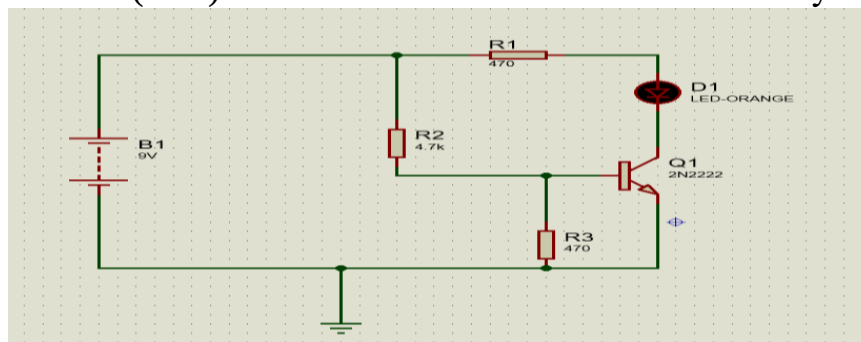
Maydon tranzistorlar elektr maydonining ta'sirida oqimni boshqaradigan yarimo'tkazgich elementlar hisoblanadi. Ularning ikki asosiy turi mavjud:

1. MOSFET (Metal-Oxide-Semiconductor FET): Yuqori boshqaruv darajasi va samaradorligi bilan ajralib turadi.
2. JFET (Junction FET): Oddiy tuzilma va past kuchlanishlarda ishlashi bilan mashhur.

FET uchta asosiy terminaldan iborat: **Gate**, **Drain**, va **Source**. Gate terminaliga berilgan kuchlanish oqimning Drain va Source o'rtasida oqishini boshqaradi.[6-12]

Kalit sxemasi tranzistorni ochiq (on-state) va yopiq (off-state) rejimlarda ishlashini tahlil qilishga qaratilgan. Sxemaning asosiy qismlari:

- V_{gs} boshqaruv signali: Gate terminali orqali boshqariladi.
- Yuk qarshiligi (RL): Drain terminaliga ulanadi.
- Quvvat manbai (V_{dd}): Tranzistorni kuchlanish bilan ta'minlaydi.[6-9]



1-rasm. Maydonli transistor kalit sxemasi

Tajriba davomida maydon tranzistorli kalitning ishlash samaradorligi tahlil qilinadi.

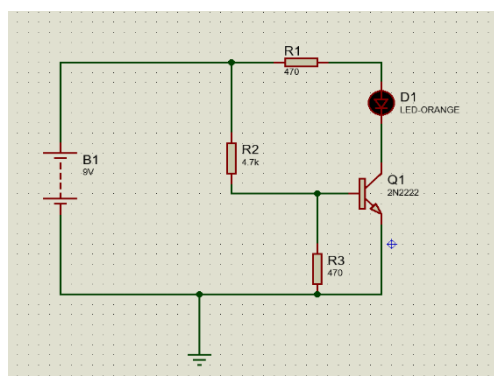
Zarur Asbob-uskunalar: Signal generator, Multimetr, Maydon transistor, MOSFET yoki JFET), Rezistor va ulash simlari, LED diodlar.

Tajriba Bosqichlari: Sxemani yuqoridagi chizmaga muvofiq yig'ing.(1-rasm)

1. Gate terminaliga kuchlanish signali uzating.
2. Drain va Source o'rtasidagi oqimni kuzating.

Tajriba davomida quyidagi xulosalar chiqarilishi mumkin: Ochiq holat (on-state): Gate kuchlanishi (V_{gs}) tranzistorning Threshold Voltage (V_{th}) qiymatidan katta bo'lganda oqim o'tadi.[10-12]

Yopiq holatda (off-state): Gate kuchlanishi (V_{gs}) V_{th} dan kichik bo'lganda oqim o'tmaydi.



off-state

2-rasm. Olingan natija

on-state

Tadqiqot natijalariga ko'ra, maydon tranzistorli kalitlar yuqori tezlikda javob berishi, kam quvvat sarfi va samarali boshqaruv xususiyatlariga ega ekanligi

aniqlangan. Gate terminaliga uzatilgan boshqaruv kuchlanishi tranzistorni ochiq va yopiq holatlarda ishlashini ta'minlab, yukdagi oqim va kuchlanishni muvaffaqiyatli boshqarish imkonini beradi. Shuningdek, tranzistorning kalit sifatida ishlashi yuk qarshiligi va boshqaruv signali parametrlariga bog'liq ekanligi qayd etildi. Ushbu natijalar, ayniqsa, zamonaviy elektron qurilmalarda maydon tranzistorlarni samarali qo'llash uchun muhim ahamiyatga ega.

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MODERN METHODS OF MANUFACTURING MOP TRANSISTORS

Annotation: *This article analyzes modern technologies for the production of Metal-Oxide-Semiconductor Field-Effect Transistors (MOSFETs). The article covers advanced methods such as photolithography, Atomic Layer Deposition (ALD), Plasma Enhanced Chemical Vapor Deposition (PECVD), FinFET technology, and high-k dielectric materials. New approaches focused on miniaturization, efficiency, and energy conservation in the transistor manufacturing process are presented. The FinFET technology and 3D integration possibilities play a crucial role in improving the performance of MOSFETs. The main goal of the research is to analyze the technical and economic aspects of MOSFET production and highlight the future prospects in this field.*

Keywords: MOSFET, photolithography, ALD, PECVD, FinFET, high-k dielectric, 3D integration, microelectronics, transistor manufacturing.

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MOP TRANZISTORINI ISHLAB CHIQUARISHNING ZAMONAVIY USULLARI

Annotatsiya: *Ushbu maqola MOP (Metal-Oxide-Semiconductor Field-Effect Transistor) tranzistorlarini ishlab chiqarishning zamonaviy texnologiyalarini tahlil qiladi. Maqolada fotolitografiya, Atomic Layer Deposition (ALD), Plasma Enhanced Chemical Vapor Deposition (PECVD), FinFET texnologiyasi va yuqori-k dielektrik materiallar kabi ilg'or usullar ko'rib chiqiladi. Tranzistor ishlab chiqarish jarayonida miniaturizatsiya, samaradorlik va energiya tejamkorligini oshirishga qaratilgan yangi yondashuvlar taqdim etiladi. FinFET texnologiyasi va 3D integratsiya imkoniyatlari MOP tranzistorlarining samaradorligini oshirishda muhim rol o'ynaydi. Tadqiqotning asosiy maqsadi, MOP tranzistorlarini ishlab chiqarishning texnik va iqtisodiy jihatlarini tahlil qilish va kelajakda bu sohadagi rivojlanish istiqbollarini ko'rsatishdir.*

Kalit so'zlar: MOP tranzistor, fotolitografiya, ALD, PECVD, FinFET, yuqori-k dielektrik, 3D integratsiya, mikroelektronika, tranzistor ishlab chiqarish.

MOP tranzistorlarini (Metal-Oxide-Semiconductor Field-Effect Transistor) ishlab chiqarishning zamonaviy usullari, asosan, yuqori samaradorlikni ta'minlash va miniaturizatsiyani amalga oshirishga qaratilgan. Quyida MOP tranzistorlarini ishlab chiqarish jarayonida qo'llaniladigan asosiy zamonaviy texnologiyalarni keltiraman:

Fotolitografiya: bu yarimoʻtkazgich materiallar yuzasiga turli naqshlarni kiritish uchun ishlatiladigan asosiy texnologiyalardan biridir. Bu jarayon orqali, tranzistorning har bir qismi (masalan, manba, drenaj va eshik) aniqlik bilan joylashtiriladi. Zamonaviy fotolitografiya usullari, ayniqsa, ekstremal ultrabinafsha (EUV) fotolitografiya, mikrometr darajasida naqshlarni ishlab chiqarishni taʼminlaydi.

Atomic Layer Deposition (ALD): ALD — bu materiallarni oʻzgartirishning yuqori aniqlikdagi usuli boʻlib, ayniqsa, oksid qatlami (masalan, SiO₂) yoki boshqa materiallarni bir necha atom qatlamida yotqizishga imkon beradi. Bu usul MOP tranzistorlarining gate oksidi sifatida ishlatiladigan materiallarning sifatini oshirishda muhim rol oʻynaydi.

Plasma Enhanced Chemical Vapor Deposition (PECVD): PECVD yordamida MOP tranzistorining strukturasida kerakli qoplama qatlamlarini, masalan, silikon oksidi yoki azotli oksidni oʻrnatish mumkin. Bu usul, ayniqsa, substrat ustidagi materiallarni yumshoq va samarali joylashtirish uchun ishlatiladi.

FinFET texnologiyasi: FinFET (Fin Field-Effect Transistor) tranzistorlari, yaʼni "fin" shaklidagi tranzistorlar, MOP tranzistorlarining yangi avlodidir. Bu texnologiya koʻproq miniaturizatsiyani taʼminlash uchun ishlatiladi va yuqori ishlash tezligini, past energiya sarfini va yuqori tranzistor zichligini taʼminlaydi. FinFET texnologiyasi tranzistorning samarasini oshirish uchun koʻproq koʻp qirrali yondashuvlarni taklif etadi.

High-k dielektrik materiallar: MOP tranzistorlarining gate oksidi sifatida ishlatiladigan yuqori dielektrik (high-k) materiallari, masalan, hafniy oksidi, silikon oksidiga nisbatan yuqori permittivlikka ega boʻlib, bu tranzistorlarning past energiya sarfi va yuqori oʻlchamlarini taʼminlaydi.

Shartli metall yuqori qatlamlar (Metal Gate): Anʼanaviy silikon oksidining oʻrniga zamonaviy MOP tranzistorlarida metall gate (masalan, tungstendan foydalanish) ishlatiladi, bu esa tranzistorlarning ishlash samaradorligini va yuqori tezlikda ishlashni taʼminlaydi.

3D integratsiya va 3D-FinFET: 3D integratsiya texnologiyasi MOP tranzistorlarini vertikal ravishda joylashtirish imkonini beradi. Bu, oʻz navbatida, tranzistorlar sonini oshirish va chip hajmini kamaytirish imkonini beradi.[1-10]

Zamonaviy MOP tranzistorlarini ishlab chiqarish texnologiyalari mikroelektronika sanoatida yuqori samaradorlikni, energiya tejamkorligini va miniaturizatsiya darajasini oshirishga qaratilgan. Bu texnologiyalar yordamida ishlab chiqarilayotgan tranzistorlar koʻplab ilgʻor qurilmalar, masalan, kompyuterlar, mobil telefonlar va boshqa elektron qurilmalarda qoʻllaniladi.

MOP tranzistorlarini ishlab chiqarish uchun zamonaviy usullar, masalan, fotolitografiya, ALD, PECVD, FinFET texnologiyalari va yuqori-k dielektrik materiallar, samaradorlikni oshirish va tranzistorlarni miniaturizatsiya qilishda katta yutuqlarni taqdim etadi. Biroq, har bir texnologiya oʻzining baʼzi kamchiliklariga ega. Fotolitografiya va ALD kabi usullar yuqori xarajatlar va murakkab jarayonlarni

talab qilsa, PECVD va FinFET texnologiyalari materiallarning buzilishi va dizaynning murakkabligi kabi muammolarga duch keladi. Yuqori-k dielektrik materiallar va 3D integratsiya jarayonlari esa issiqlikni chiqarish va ishlab chiqarishning yanada murakkabligini keltirib chiqarishi mumkin. Shunday bo'lsa-da, bu texnologiyalarning rivojlanishi va yangi yondashuvlarning qo'llanilishi MOP tranzistorlarini ishlab chiqarish jarayonini yanada takomillashtirishga imkon beradi.[11-16]

Xulosa qilib aytganda, MOP tranzistorlarini ishlab chiqarish zamonaviy texnologiyalarni joriy etish orqali samaradorlik, miniaturizatsiya va energiya tejashga qaratilgan. Fotolitografiya, ALD, PECVD va FinFET texnologiyalari kabi ilg'or usullar ishlab chiqarish jarayonini isloh qilib, yuqori samaradorlik va past energiya sarfini ta'minlaydi. Yuqori-k dielektrik materiallar va 3D texnologiyalarining integratsiyasi tranzistorlar ishlab chiqarishning keyingi bosqichlarini rivojlantiradi. Mikroelektronikaning rivojlanishi davom etar ekan, MOP tranzistorlarini ishlab chiqarish kelajakda ushbu innovatsiyalar orqali yanada kuchli va energiya samarali elektron qurilmalarni yaratishga imkon beradi.

Foydalanilgan adabiyotlar

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ZILZILA VAQTIDA AHOLINI TO'G'RI HARAKAT QILISHGA TAYYORLASHNING – ZAMONAVIY USULLARI

Annotatsiya: Zilzila – bu tabiiy ofat bo'lib, ko'p holatlarda katta talafotlarga olib keladi. Shuning uchun, zilzila yuz berganda aholi to'g'ri harakat qilishi uchun tayyorlanishi zarur. Maqolada zilzila vaqtida aholini tayyorlashning zamonaviy usullari, ularni xavfsizlikni ta'minlash, samarali boshqarish va tezkor javob choralari ko'rish borasidagi metodologiyalar tahlil qilinadi.

Zamonaviy texnologiyalar, shu jumladan mobil ilovalar, interaktiv onlayn kurslar va treninglar, aholini zilzilaga tayyorlashda muhim vosita sifatida ishlatilmoqda. Ushbu usullar yordamida aholiga xavfsiz zonasini aniqlash, binolarda qanday harakat qilish kerakligini tushuntirish, shuningdek, texnologiyalarni qo'llash orqali tezkor ma'lumotlar almashish imkoniyati yaratiladi.

Bundan tashqari, jismoniy va psixologik tayyorgarliklarni kuchaytirish, zilzila xavfi bo'yicha muntazam treninglar va simulyatsiyalarni o'tkazish, shuningdek, odamlar o'rtasida hamkorlik va muvofiqlikni ta'minlash kabi omillar ham muhim ahamiyatga ega. Zilzila vaqtida to'g'ri harakat qilishni o'rgatish nafaqat xavfsizlikni oshiradi, balki odamlar orasida stressni kamaytirishga ham yordam beradi.

Maqola, shuningdek, rivojlangan davlatlarning zilzila xavfsizligi sohasidagi tajribalarini o'rganib, o'zimizning aholini tayyorlash jarayonida qanday zamonaviy yondashuvlarni qo'llashimiz mumkinligini ko'rsatadi. U so'nggi ilmiy tadqiqotlar va amaliyotlarni inobatga olgan holda aholi xavfsizligini ta'minlashning samarali usullarini taklif qiladi.

Kalit so'zlar: zilzila, aholini tayyorlash, zamonaviy usullar, xavfsizlik, mobil ilovalar, trening, interaktiv kurslar, psixologik tayyorgarlik, xavfsiz hududlar.

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MODERN METHODS OF PREPARING THE POPULATION TO ACT CORRECTLY AT THE TIME OF AN EARTHQUAKE

Abstract: An earthquake is a natural disaster that often causes significant damage. Therefore, it is crucial to prepare the population to act correctly during an earthquake. This article analyzes modern methods of preparing people for an

earthquake, focusing on ensuring safety, effective management, and implementing quick response measures.

Modern technologies, including mobile applications, interactive online courses, and training programs, are key tools in preparing people for earthquakes. These methods help individuals identify safe zones, understand how to act within buildings, and facilitate rapid information exchange through technology.

Additionally, strengthening both physical and psychological preparedness, conducting regular earthquake drills and simulations, and ensuring cooperation and coordination among people are also vital factors. Teaching the correct actions during an earthquake not only enhances safety but also helps reduce stress among individuals.

The article further explores the earthquake safety practices of developed countries and demonstrates how modern approaches can be applied in our own earthquake preparedness process. It offers effective strategies for ensuring public safety, taking into account the latest scientific research and practical experiences.

Keywords: *earthquake, population preparedness, modern methods, safety, mobile applications, training, interactive courses, psychological preparedness, safe zones.*

Kirish.

Tabiiy xususiyatli favqulodda vaziyatlarning kutilmaganda paydo bo'ladigan, insoniyatga to'liq bo'ysinmagan holda, davlat iqtisodiyotiga va aholiga katta zarar yetkazadigan turlaridan biri bu zilziladir. Zilzilalar butun insoniyat uchun katta muammodir. "O'lkamizda so'ngi 20 yil ichida o'rtacha 241 ta iqlim o'zgarishi bilan bog'liq tabiiy ofatlar sodir bo'lgan bo'lsa, uni 46 % ni zilzilalar tashkil etadi". Zilzila – yer qobig'ining yoki yer ustki qatlamining to'satdan ro'y bergan siljishi, yemirilishi yoki o'pirilishi oqibatida vujudga kelgan, uzoq masofalarga tarqaladigan to'lqinsimon tebranishlar tarzidagi yer osti silkinishlari va tebranishlari.

Zilzilalar oqibatida juda ko'p turar joy binolari, iqtisodiyot obyektlari, suv to'g'onlari, ko'priklar buzilishi yoki vayron bo'lishi, temir yo'l, avtomobil va aeroportlar jiddiy zarar ko'rishi, yuqori kuchlanishli elektr simlari uzilishi, tog' va qor ko'chkilari yuzaga kelishi, ko'plab yerlarda yong'in chiqishi, telefon, radioaloqalar bir necha soat ishlamay qolishi, eng dahshatlisi minglab odamlar hayotdan ko'z yumishlari mumkin.

1966 yilgi Toshkent zilzilasi oqibatlarini o'rganish tajribasi shuni ko'rsatdiki, seysmik faol hududlarda istiqomat qiladigan aholining barcha qatlamlarini zilzila vaqtida to'g'ri harakat qilishga tayyorlashga alohida e'tibor qaratish kerak. Toshkent zilzilasida jabrlanganlarning 10 % bino devorlari va tomlari buzilishidan, 35 % bino va inshootlar konstruktiv qismlari uchishidan, 55% qo'rquv va vahimaga tushib, noto'g'ri harakat qilishganliklari sabab yuzaga kelgan.

Bunday favqulodda vaziyatlarda talofatlarni oldini olish va kamaytirishga qanday erishish mumkin, degan savol tug'ilishi tabiiy, albatta. Masalaning javobi

yagona – u ham bo‘lsa, aholining barcha tabaqalarini o‘qitish, tahdid manbalarini anglay olishga, ulardan o‘zini muhofaza qilishga tayyorlashdan iborat.

Tadqiqot metodologiyasi. Ushbu masalalar bo‘yicha xorijiy adabiyotlar tahlil qilinganda, shu narsa ayon bo‘ldiki, aholini zilzila bilan bog‘liq favqulodda vaziyatlarga harakat qilishga tayyorlash tizimini takomillashtirish maqsadida, zamonaviy axborot-kommunikatsiya texnologiyalari bir necha o‘n yillardan beri samarali tadbiq etib kelinmoqda.

Axborot-kommunikatsiya texnologiyalarini rivojlanishi insonlarni zilzila bilan bog‘liq favqulodda vaziyatlardan muhofaza qilish tizimida ham yangicha yondashuvlarni kirib kelishiga sabab bo‘lmoqda. Zamonaviy yondashuvlarning eng muhim jihati axborot almashinuvida vaqt va masofa ko‘lamini qisqarib borayotganidir. Bugungi kunda zamonaviy axborot-kommunikatsion texnologiyalar orqali dunyoning istalgan nuqtasida sodir bo‘lgan tabiiy ofat, xususan, zilzila haqida soniyalar ichida ma‘lumot olish mumkin. Bu turdagi ma‘lumotlarni qabul qilish, umumlashtirish, qayta ishlash, tahlil qilish, qaror qabul qilish va uzatishda mobil qurilmalar imkoniyatlaridan ham keng foydalanilmoqda. Zamonaviy axborot-kommunikatsion texnologiyalar asrida insonlar axborot va ma‘lumotlarni olishda ommaviy axborot vositalari gazeta va jurnal, televideniye va radio imkoniyatlaridan ko‘ra, Internet tizimiga ulangan mobil aloqa vositalari imkoniyatlaridan ko‘proq foydalanishni afzal bilishmoqda [9].

Ta‘kidlash kerakki, aholini tayyorlash tizimida zamonaviy axborot texnologiyalari va kommunikatsiyalari, yangi innovatsion g‘oyalar asosida ta’sirchan mexanizmlarni qo‘llash zarur. Shu boisdan, yer kurrasining seysmik jihatdan eng faol bo‘lgan hududida joylashgan Yaponiyaning zilziladan fuqarolarni muxofazalash bo‘yicha tajribasini chuqur o‘rganish asosida O‘zbekistonda aholini zilzila xavfi yuzaga kelganda yoki sodir bo‘lganda to‘g‘ri harakatlanishga tayyorlash tizimini takomillashtirish bo‘yicha ilmiy – uslubiy tavsiyalar ishlab chiqish hamda yangi innovatsion g‘oyalar, zamonaviy axborot texnologiyalari va kommunikatsiyalari yordamida aholining tayyorgarlik darajasini oshirish oldimizda turgan eng muhim vazifalardan biri sanaladi[1, 2, 3, 4].

Ilg‘or xorij tajribasini mahalliy sharoitda keng joriy etish, seysmik xavfsizlikni ta‘minlash, aholini zilziladan oldin, zilzila vaqtida va zilziladan keyin to‘g‘ri harakat qilishga tayyorlash borasida Prezidentimiz boshchiligida hukumatimiz tomonidan tizimli ishlar amalga oshirilmoqda va zaruriy meyoriy – huquqiy hujjatlar qabul qilingan [5, 6, 7,8].

Tahlil va natijalar. Ta‘kidlash lozimki, Fuqaro muhofazasi institutida 2020-2022 yillarda “Zilzilada aholining barcha qatlamlarini to‘g‘ri harakatlanishga o‘rgatish uchun mo‘ljallangan mobil ilova yaratish” mavzusida amaliy innovatsion ilmiy-texnik loyiha amalga oshirildi.

Loyihani amalga oshirishda respublika aholisi shartli ravishda 4 ta guruhga ajratildi:

- a) ta‘lim muassalari tarbiyalanuvchilari, o‘quvchilari va talabalari;
- b) vazirlik, idora, korxona va tashkilot xodimlari;
- v) ishlab chiqarish va xizmat ko‘rsatish sohasida band bo‘lmagan aholi;

g) xorijlik fuqarolar.

Ushbu yangi mobil ilova keng jamoatchilik tomonidan bepul yuklab olish uchun Google Play (Play Market) platformasiga (Zilzila Mobile) nomi bilan joylashtirilgan.

Zilzilada aholi barcha qatlamlarini to'g'ri harakatlanishga o'rgatish uchun mo'ljallangan interaktiv mobil ilovadan foydalanish Play Market platformasidan ushbu mobil ilovani Android tizimda ishlovchi mobil telefonlarga yuklab olish talab etiladi.

Yuklab olingan ilova o'rnatilganidan so'ng foydalanuvchi uchun qulay bo'lgan til tanlanadi. Ilovada uchta tilda (o'zbek, rus, ingliz) ishlash imkoniyati yaratilgan.

Bundan tashqari ushbu sohadagi islohotlarni izchil davom ettirish, aholining seysmik xavfsizligini ta'minlashning yangi usullarini joriy qilish maqsadida, 2022-2023 yillarda fuqarolarga zilzila va uning ikkilamchi oqibatlaridan muhofazalanish to'g'risida to'liq tushunchalar berishga hamda zilziladan oldin, zilzila vaqtida va zilziladan keyin to'g'ri harakat qilishga tayyorlash uchun mo'ljallangan milliy elektron ta'lim platformasi Fuqaro muhofazasi instituti va Namangan muhandislik-qurilish instituti qoshidagi "In Tech NamMQI" unitar korxonasi mutaxassislari tomonidan yaratildi.

Aholini zilzilaga tayyorlash milliy ta'lim platformasi - masofaviy ta'lim texnologiyasi asosida, mustaqil tarzda zilzilada to'g'ri harakatlanishga o'rganishga mo'ljallangan, maxsus o'quv kontenti joylashtirilgan dasturiy ta'minot tizimi hisoblanadi. Unda ta'lim oluvchilar toifasidan kelib chiqib 15, 24, 30 soatli o'quv dasturlari bo'yicha o'quv materiallari Microsoft Word, Microsoft Power Point elektron dasturlari va video darslar shaklida joylashtirilgan.

Ta'kidlash lozimki, O'zbekiston Respublikasi Vazirlar Mahkamasining 2023 yil 29 sentabrdagi 513-sonli qarori bilan "Aholini zilzilada harakatlanishga tayyorlash tartibi to'g'risida"gi nizom tasdiqlandi. Ushbu nizomda Aholini zilzila sharoitida harakatlanishga tayyorlashga mo'ljallangan milliy elektron platforma orqali malaka oshirish va qayta tayyorlash masofaviy kurslarini tashkil etish tartibi ko'rsatilgan.

Ushbu platforma materiallari orqali o'quvchi-talabalarda quyidagi ko'nikmalar shakllanadi:

- kuchli zilzila vaqtida to'g'ri harakatlanish, o'z xavfsizligini ta'minlash choralarini ko'rish;
- o'ziga va jabrlanganlarga birinchi yordam ko'rsatish;
- o'qish va yashash joylarida zilzilaga qadar amalga oshiriladigan chora-tadbirlarni bajarish.

Platforma orqali o'quvchi-talabalarining tayyorgarlikdan o'tish tartibi quyidagi bosqichlarda amalga oshiriladi:

1-bosqich. Platformaga mustaqil tarzda kiradi va login, parol oladi.

2-bosqich. Platformaning tegishli toifasidagi o'quv dasturi asosida shakllangan guruhga qo'shiladi.

3-bosqich. O'quv modullari bo'yicha taqdim etilgan mavzularni mustaqil o'zlashtiradi.

4-bosqich. O'quv kursi yakuniy nazorat sinovida ishtirok etadi va berilgan vazifalarni bajaradi (test savollariga qoniqarsiz javob bergan tinglovchilarga qayta sinov topshirish uchun bir kun muddat beriladi).

5-bosqich. Yakuniy nazorat sinovidan muvaffaqiyatli o'tgandan keyin mustaqil tarzda o'quv kursini tugatganlik haqidagi elektron guvohnomani yuklab oladi.

Mutaxassislarning xulosalariga ko'ra, zilzila bilan bog'liq favqulodda vaziyatlarda to'g'ri harakat qilishga amaliy tayyorlashda trenajer-simulyatorlardan foydalanish, o'rganuvchilarni tayyorgarlik sifatini oshirishda muhim hisoblanadi. Zamonaviy trenajyorlar o'rganuvchilarni yakka tartibda va kichik guruxlar tarkibida yaratilgan taktik vaziyat asosida tayyorlash imkonini beradi. [8].

Mazkur masalaning dolzarbligini inobatga olgan holda, O'zbekiston Respublikasi Prezidentining 2022 yil 30 maydagi PF-144-sonli "O'zbekiston Respublikasining seysmik xavfsizligini ta'minlash tizimini yanada takomillashtirish chora-tadbirlari to'g'risida"gi Farmonining 2-ilovasi, 29-bandida Favqulodda vaziyatlar vazirligi va Innovatsion rivojlanish agentligiga "Zilzilada amaliy harakatlanishni o'rgatishga mo'ljallangan ko'chma mobil zilzila simulyatorini yaratish" mavzusida maqsadli innovatsion ilmiy-texnik loyihani ishlab chiqish va bajarish vazifasi yuklatilgan. Mobil zilzilani simulyatsiya qilish qurilmasining ishlash prinsipi sun'iy ravishda zilzilalar hosil qilishdan iborat bo'lib, ushbu vaziyatlarda tinglovchilarni to'g'ri harakat qilishga o'rgatishdan iborat. Shu nuqtai nazardan, zilzila simulyatori fuqarolarni zilzilaga amaliy tayyorlashda muhim ahamiyatga ega ekanligini aytish mumkin. Shu maqsadda, Fuqaro muhofazasi instituti tomonidan zilzilada amaliy harakatlanishni o'rgatishga mo'ljallangan ko'chma mobil zilzila simulyatorini yaratish bo'yicha tadbirlar amalga oshirilmoqda.

Xulosa. Shuni ta'kidlash lozimki, aholini favqulodda vaziyatlarda harakat qilishga tayyorlashda rivojlangan mamlakatlardagi ilg'or tajribani mahalliy sharoitda amaliyotga tadbiq etish, zamonaviy axborot texnologiyalarini tizimga integratsiya qilishni jadallashtirish, fuqarolarni favqulodda vaziyatlarda to'g'ri harakat qilishga o'rgatishning innovatsion usullaridan foydalanishni yo'lga qo'yish orqali ularning tayyorgarlik darajasini sezilarli ravishda oshirishga erishiladi, eng avvalo ularda xavfsizlik madaniyatini shakllantirish imkonini beradi.

Foydalanilgan adabiyotlar

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MAKTABGACHA YOSHDAGI BOLALARNI ART PEDAGOGIKA VOSITASIDA IJODIY RIVOJLANTIRISH

Annotatsiya. Ushbu maqola bugungi kunda har tomonlama rivojlangan bola shaxsini tarbiyalashda dolzarb ahamiyat kasb etgan art pedagogikani maktabgacha ta'lim tashkiloti bolalarini ijodiy qobiliyatlarini rivojlantirishda vosita sifatida qo'llash imkoniyatlari va ahamiyati yoritib berilgan. Innovatsion metodlar yordamida maktabgacha yoshdagi bolalarni ijodkorlik, kreativlikka o'rgatib borish ahamiyati asoslangan.

Kalit so'zlar: Art pedagogika, badiiy madaniyat, axloqiy tarbiya, estetik, loy ishi, kreativlik, faol, taraqqiyot, tashkiliy-huquqiy.

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CREATIVE DEVELOPMENT OF PRESCHOOL CHILDREN BY MEANS OF ARTISTIC PEDAGOGY

Annotation. This article highlights the possibilities and importance of using art pedagogy as a tool for developing creative abilities of children in preschool educational organizations, which has become relevant today in the education of a comprehensively developed child. It is based on the importance of teaching preschoolers creativity and creativity using innovative methods.

Keywords: Artistic pedagogy, artistic culture, moral education, aesthetics, clay work, creativity, activist, development, organizational and legal.

O'zbekiston Respublikasi Prezidentining "Yangi O'zbekistonning taraqqiyot strategiyasi"da "Maktabgacha ta'lim tizimida ta'lim sifatini yangi bosqichga olib chiqish, bog'cha xodimlarining professional tayyorgarligini va mahoratini oshirib borishning takomillatirilgan tizimini tadbqiq qilish, maktabgacha ta'lim-tarbiya jarayonlarini ilmiy asoslangan yondashuvlar asosida takomillashtirish belgilab qo'yilgan".

Respublikamizda bugungi kunda samarali maktabgacha ta'lim tizimini tashkil qilishga qaratilgan kompleks tashkiliy-xuquqiy chora tadbirlar ishlab chiqilib amaliyotga tadbqiq qilinmoqda.

O'zbekiston Respublikasi maktabgacha ta'lim tizimini 2030-yilgacha rivojlantirish Konsepsiyasida "Maktabgacha yoshdagi bolalarning har tomonlama intellektual, axloqiy, estetik va jismoniy jihatdan rivojlanishi uchun shart-sharoitlar yaratish, maktabgacha ta'lim tizimiga innovatsiyalarni, ilg'or pedagogik va

axborot-kommunikatsiya texnologiyalarini joriy etish” kabi ustuvor vazifalar belgilab berilgan. “Maktabgacha yoshdagi bolalarni intellektual, axloqiy, estetik va jismoniy jihatdan har tomonlama rivojlantirish uchun sharoitlar yaratish, maktabgacha ta’lim tizimiga innovasiyalarni, ilg’or pedagogik va axborotkommunikatsiya texnologiyalarini joriy etish ustuvor yo’nalishi davr talabidir”.

Bolalarning ijodiy rivojlanishi maktabgacha ta’lim tizimidagi badiiy va estetik ta’limning eng muhim yo’nalishidir. Ko’pchilik insonlar musiqa tinglab, teatrlar va san’at ko’rgazmalariga tashrif buyurib, jahon madaniyatining faol ishtirokchilariga aylanishadi: ular muloqot va o’z-o’zini bilish musiqa, teatr va tasviriy san’at qadriyatlarini tushunadilar, madaniyatning umumiy darajasiga ta’sir qiladilar va badiiy ijodiy qobiliyatga ega bo’ladilar. Faol ijodiy shaxsni tarbiyalash maktabgacha yoshdagi bolalikdan boshlanishi kerak, chunki bu yosh musiqiy, badiiy va estetik sezgirlikning jadal rivojlanish davri hisoblanadi. Ijodiy faoliyatni murakkab ko’p bosqichli hodisa sifatida rivojlantirish maktabgacha yoshdagi bolalar uchun turli xil san’at asarlarini oddiy idrok etishdan ko’ra qiyinroqdir. Bu, bir tomondan, aqliy jarayonlarning rivojlanishini o’ziga xosligi va murakkabligi bilan, ikkinchi tomondan, maktabgacha yoshdagi bolaning yosh xususiyatlari bilan bog’liq. Shu munosabat bilan, maktabgacha yoshdagi bolalarda, ijodkorlik shakllanishining dastlabki bosqichida bolaga san’at turlarini eshitish, ko’rish va tushunishga, uning murakkab tasvirlari dunyosiga kirishga yordam berish zarurdir. Bolaning ijodiy rivojlanishi vositalaridan biri bu art pedagogika, ammo yetarli darajada o’rganilmagan yo’nalish.

Art pedagogika (art-terapevtik pedagogika, estetik pedagogika, badiiy pedagogik yondashuv, art-terapiya) pedagogika va san’atning uyg’unlashuviga asoslangan pedagogika fanining sohasi bo’lib, san’at orqali inson tarbiyasi va kamolotining qonuniyatlarini o’rganadi.

Art pedagogika maktabgacha yoshdagi bolaga rasm chizish, musiqa, raqs, harakat va adabiy nutqdan foydalangan holda turli xil ijodiy faoliyat turlari bilan shug’ullanish imkonini beradi. San’at pedagogikasi pedagogika va san’at chorrahasida paydo bo’lgan va hozirgacha rivojlanib kelmoqda. Uning mohiyati ta’lim va tarbiya jarayonida bolada badiiy madaniyatni rivojlantirish va unga turli ijodiy faoliyat turlari sohalarda amaliy ko’nikmalarni muvaffaqiyatli o’zlashtirishga yordam berishdir. Ammo shuni ta’kidlash kerakki, "san’at" elementidan foydalanishda zamonaviy pedagogika tarbiyachilar tomonidan o’ziga xos obrazlilik sifatida qabul qilinadi, chunki san’at pedagogikasida san’at faoliyatning yagona maqsadi emas, balki faqat kasbiy muammolarni hal qilish vositasiga aylanadi. Favqulodda kuchga ega bo’lgan san’at insonning ichki resurslarini ro’yobga chiqarishga turtki beradi, uning shaxsiyati va ruhiyatining uyg’un rivojlanishiga hissa qo’shadi. Art pedagogikaning xarakterli jihati shundaki, u rivojlantiruvchi va tarbiyaviy salohiyatga ega badiiy va ijodiy faoliyat vositalariga asoslanadi. Unda badiiy rivojlanish va estetik tarbiya bir-biri bilan chambarchas bog’liq. To’g’ri birlashtirilganda, ular ta’lim jarayoniga yangi o’ziga xos yo’nalish beradi va bugungi kunda dolzarb hisoblanadi.

Aynan art pedagogika vositalari o'quv jarayonida san'atning deyarli barcha turlaridan, shuningdek, tarbiyachi va tarbiyalanuvchilar bilan birgalikdagi badiiy ijodidan foydalanish imkonini beradi.

Xulosa qilib aytganda san'at pedagogikasi ta'lim jarayonining tarkibiy qismi sifatida maktabgacha ta'lim tashkilotida ijodiy shaxsni shakllantirishda o'zining beqiyos rolini egallaydi.

Mashg'ulotlar jarayonida bolalarning ijodiy fikrlashini rivojlantirish, ularning ijtimoiy ko'nikmalarini shakllantirish va ta'limga yorqin ranglar kiritish jarayonini innovatsion texnologiyalar orqali ijobiy natijalarga erishishga olib keladi.

San'at pedagogikasi ta'lim jarayoniga shunchaki qo'shimcha emas; bu asosiy element har bir bolaning salohiyatini ochib beradi, ularning har tomonlama rivojlanishiga yordam beradi. Bizning maqolamiz art pedagogikasini muhim yo'nalish sifatida tadqiq qilish va tadbiq qilishni davom ettirishga chaqiradi. Umuman olganda,

O'zbekistonda maktabgacha ta'limdagi art pedagogika nafaqat ta'lim usuli, balki ijodiy, barkamol shaxsni shakllantirish vositasidir.

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DESIGN OF THE INVERTER DEVICE IN "PROTEUS" PROGRAM

Abstract : *This article presents the schematic design of the inverter device in the "Proteus" virtual modeling program, the stages of transferring the circuit to the printed circuit board, as well as methods of simulating the created circuit.*

Key words: *printed circuit board, virtual modeling, inverter, simulation.*

Introduction.

Nowadays, the creation of computer design programs is electronic devices from creation before his virtual by modeling the model them analysis is giving opportunities to do , check. Virtual modeling process successful from being done then , electron of the device laboratory its prototype in conditions there is an opportunity to create . Created from the device real measure tools analysis using results i is taken. Received results virtual received results with the possibility of comparison is created . Analysis to do of the device type looking different virtual tools using execution can [1].

The advantage of virtual design programs is that the component library of such programs contains a virtual model of any measuring instrument, and special laboratory equipment is not required to check a device. It is also possible to design the printed circuit board and design of the device created in the next steps.

In this article, we consider the stages of schematic design of the inverter device in the virtual modeling program "Proteus" [2-4].

First, an electronic circuit of the device is created and analyzed using measuring instruments. It is advisable to use realistic and commonly used components as much as possible when creating the devices electronic circuit. Because the use of outdated or discontinued components may not achieve the expected result. The scheme shown in Figure 1. uses the most common components [5-8]. In the picture is an inverter circuit that converts direct current into alternating current.

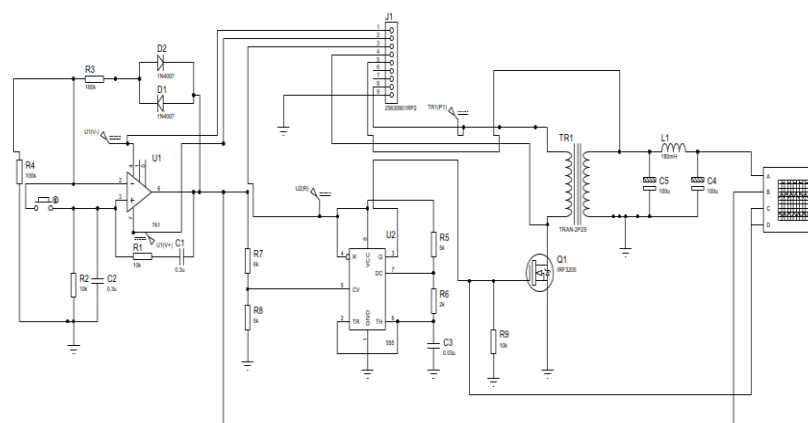


Figure 1. Circuit diagram of the inverter device

To analyze the device model, the measuring instrument is selected depending on the function of the device. An oscillograph is mainly used to analyze the amplifier circuit. In this case, the differences between the input and output signals are checked (Figure 2).

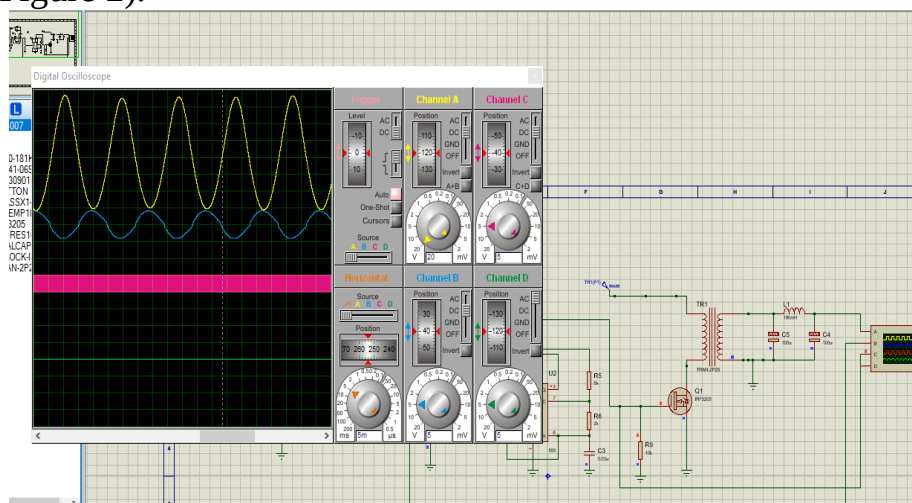


Figure 2. Inverter of the device analyze the scheme .

Proteus in Figure 3 and Figure 4 in the program of the device print board design and only 3D appearance described.

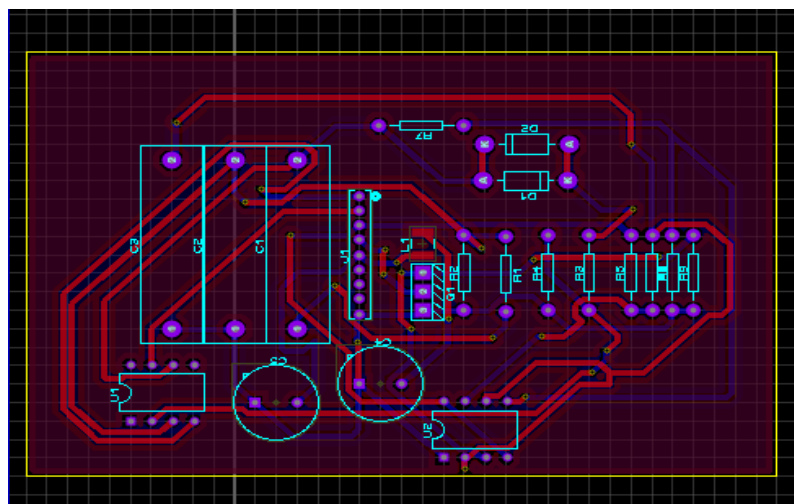


Figure 3 . Inverter of the device print plate

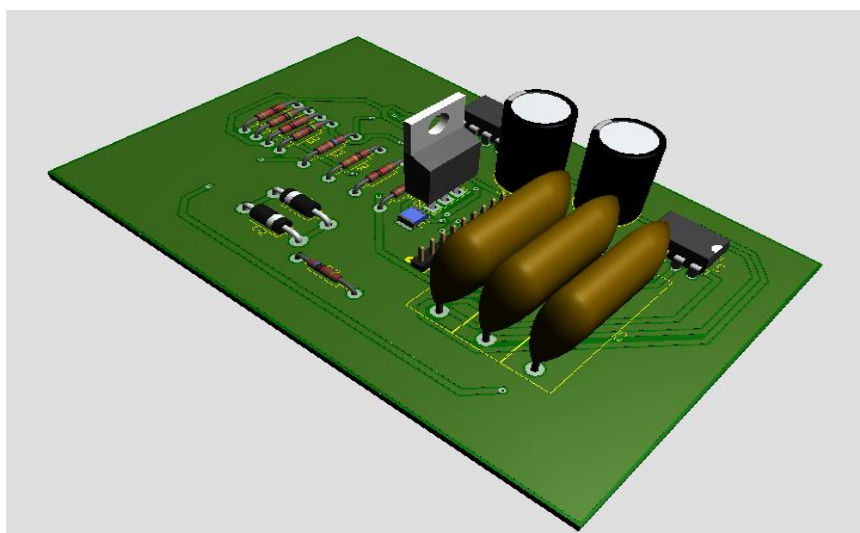


Figure 4. 3D view of the inverter unit

Summary

In conclusion, it can be said that having the ability to design devices by modeling analog and digital electronic circuits at various levels and having the ability to apply it in practice is one of the important tasks facing future industrial electronics engineers today.

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TERMINOLOGICAL CORRESPONDENCES IN TRANSLATION OF ECONOMIC TERMS FROM ENGLISH INTO UZBEK

Abstract: *The work examines the concept of a term, translation equivalence in general, as well as terminological equivalence, and analyzes the concepts of equivalence. Economic terms are classified by equivalence types, a quantitative analysis of economic terms by equivalence types is presented.*

Keywords: *equivalence, translation, correspondence, source language, target language, communication.*

Over the past decades, due to the ever-accelerating development of science and technology, as well as global world processes, a new model is being established in the world economic system, as a result of which new professions, concepts and, accordingly, new terms arise. These terms appear on the pages of books, in numerous scientific and applied publications on management, marketing, auditing and other subsystems of the economy. Very often there is a need to translate scientific texts containing relevant information, which requires good translator skills.

The global development of science and technology, as well as communication in the scientific world, go far beyond the borders of one country and even beyond the borders of one cultural or linguistic community. The need to communicate globally in scientific and cultural aspects has led to the need to translate texts from one language to another. Specialists have an ever-increasing need to constantly update their knowledge in theoretical and practical aspects, learn the latest achievements in the field of science through various scientific international conferences, scientific communities and publications. It is quite natural that the main language of the international scientific community has become English, because all important achievements in science are instantly reflected in academic articles, which are mainly published in English. In this case, a high-quality translation of such texts from the source language to the target language is very important, since the translation of scientific texts should provide the most accurate and objective information possible.

Of particular importance in the translation of academic texts is the translation of terminology. The purpose of this work is to analyze and compare terminological units related to the field of economics in English and Russian and find correspondences between them. The economic sphere of human activity is the area of knowledge that is always connected with the ever-accelerating processes of scientific and technological development; it is constantly and dynamically

developing, which contributes to the continuous enrichment of economic terminology [1, p. 372]. New concepts appear, scientific, cultural, technical, commercial exchange of knowledge takes place, as well as constant updating of dictionaries. Let us define some working concepts that we use in this work. Terminology plays a very important role in the communication of specialists, since terms are the key and most informative words that carry the main semantic load in a scientific text. There is a different understanding of the concept of "term", different authors give their own definition of this word. A large number of studies have also been developed on terms and terminology (A.A. Reformatsky, D.S. Lotte, V.M. Leychik, A.V. Superanskaya, S.V. Grinev-Grinevich, V.P. Danilenko, Ya.I. Retsker, V.N. Komissarov, I.V. Arnold). For example, according to A.A. Reformatsky, "terms are special words limited by their special purpose; words that strive to be unambiguous as an exact expression of concepts and names of things" [2, p. 110].

Based on a general analysis of the definitions of the concept of a term proposed by many authors and the criterion of terms, we can say that a term is a word or combination denoting a phenomenon in a certain sphere of human activity or area of his knowledge. As a rule, a term is unambiguous, brief, stylistically neutral and does not expressive. Accordingly, an economic term is a word or phrase denoting a concept of the economic sphere of human activity. Economic terminology is a set of means of nominating, designating and recording professional and scientific knowledge of the economic sphere of research [3, p. 31].

As is known, an invariable and extremely important component of the activity of any translator who deals with specialized scientific terminology is to correctly understand what a concept means in the source language, choose a suitable word corresponding to this concept in the target language (equivalent) and convey it correctly according to the linguistic norms of the target language, possibly in cooperation with a specialist in the field of translation. The concept of equivalence is a basic concept of translation theory and has a far from simple history. This concept has been used by linguists since the 50s of the last century. In the history of translation, various concepts of equivalence have developed [4, p. 146]. These concepts reflected different historical approaches of people to the text.

These include: the concept of formal correspondence (one of the most ancient theories), the concept of normative-substantive correspondence (16th century), the concept of cultural-aesthetic correspondence (17-18th centuries), the concept of the completeness of translation (19-20th centuries - A.V. Fedorov, Ya.I. Retsker), the concept of dynamic equivalence (late 1950s), etc. Also, various researchers identified different types of equivalence. V. Koller, for example, distinguishes five types of equivalence: denotative, connotative, text-normative, pragmatic and formal-aesthetic equivalence. E.V. Breus, taking into account the transfer of various linguistic functions, points to the following types of equivalence: denotative, expressive, volitional, factual, metalinguistic and poetic [4, p. 178].

Currently, the concept of translation equivalence is understood as the idea of the result of translation, as close as possible to the original, and the idea of the means

of achieving this result. Translation equivalence involves achieving maximum similarity; the theory of equivalence is the theory of the possible, based on the maximum competence of the translator [4, p. 146].

As is known, errors in the translation of terms inevitably lead to a distortion of the meaning and communicative function of the text. That is why the primary task of the translator is to establish correspondences between terms in the source and target languages, which requires certain skills and abilities in translation. After all, a translator is currently not just a specialist in the field of translation and language, but a bilingual or multilingual intercultural transmitter of information, various concepts, thoughts or simply speech.

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PREVENTIVE DIPLOMACY IN CONTEMPORARY INTERNATIONAL RELATIONS: BASIC CONCEPTS

Abstract: *Today's international environment is marred by growing instability and geopolitical uncertainty. Ongoing armed conflicts in many parts of the world are getting even more deadly with enormous human and material costs. At the time of writing, the world is witnessing Russia-Ukraine war, devastating Israeli-Palestinian conflict and the situation in Syria, just to name a few. Under such circumstances, the role of preventive diplomacy is again back to the fore and already creating intense academic and scholarly debates. Although extensive body of literature has emerged about preventive diplomacy over the last decades, its current resurgence requires revisiting this phenomenon. Thus, the aim of this article is twofold: first, to review preventive diplomacy's theoretical and conceptual basis; and second, to assess its impact on the prevention and resolution of current conflicts.*

Overview

During his recent visit to Central Asia, the UN Secretary General Antonio Guterres has publicly recognized the contribution of Shavkat Mirziyoyev, the President of Uzbekistan, in creating a new environment in Central Asia, 'an environment of dialogue and cooperation'. While also referring to the tense relations among Central Asian states in near history, Mr. Guterres went on commending President Mirziyoyev for being "a bridge-builder, an honest broker, a messenger for peace, but also a leader committed to prosperity with justice, as the Sustainable Development Goals represent"⁹. In essence, the head of the UN was paying a special tribute by showcasing the entirely changed Central Asia (largely due to Uzbekistan's policies) to the world, at a time of deep global divisions and heightened great power rivalry.

Central Asia has been a region of special focus for the United Nations' global efforts to prevent conflicts and promote preventive diplomacy. It has established the United Nations' Regional Centre for Preventive Diplomacy for Central Asia (UNRCCA), in Ashgabat (2007), with the mission 'to liaise with the Governments of the region on issues relevant to preventive diplomacy; to provide monitoring and analysis; to maintain contact with regional organizations and facilitate coordination and information exchange'¹⁰. The decision to set up a regional center for preventive

⁹ <https://media.un.org/unifeed/en/asset/d323/d3230427>

¹⁰ <https://unrcca.unmissions.org/mandate>

diplomacy in Central Asia had been dictated by the region's rising geopolitical significance as well as the existence of a wide array of acute problems, i.e. border issues, the usage of trans-boundary water resources, religious and ethnic issues, among others. It is even argued that 'the idea of creating a UN structure for Central Asia was a defining moment for the region'¹¹.

Theoretical Basis of Preventive Diplomacy

Preventing conflicts before they spiral out of control has always been one of the most challenging issues of international system. Despite the high hopes of creating peaceful and just global order after the end of the Cold War, which also led to a period of *conflict prevention renaissance*¹² in international affairs, the world is again sliding back to confrontational mentality. Furthermore, 'the cost of violent conflicts, both in financial and human terms, and subsequent international post-conflict peacebuilding efforts remains staggering'¹³. In this context, the actual impact of international and regional institutions in preserving peace and security is called into question, so does the relevance of preventive diplomacy that they often preach. To understand these complexities, it is important to know what preventive diplomacy really is. What kind of theories and concepts best explain the nature of preventive diplomacy? Is there a growing interest in preventive efforts? What is the relevance of preventive diplomacy today? Can preventive diplomacy be able to avert conflicts as diverse and intricate as in our time?

Preventive diplomacy is not a new field. The term 'preventive diplomacy' was first coined in 1960 by then UN Secretary General Dag Hammarskjöld. Initially, it was held to mean 'keeping regional conflicts localized as to avoid into the superpower arena and to prevent nuclear confrontation'¹⁴. As time passed, Hammarskjöld's idea of preventive diplomacy further gained a ground and became 'one of the central tools used by the United Nations in international conflict resolution'¹⁵. But, preventive diplomacy efforts faced daunting obstacles in the Cold War years as ideological approaches impeded finding genuine diplomatic solutions to emerging conflicts. However, as the primary goal of the preventive efforts in the Cold War years was to avert nuclear collisions among major powers, other potential sources of instability and armed conflicts had given lesser attention. The end of the Cold War gave new hopes for the preventive efforts. Accordingly, the search for the alternative methods of conflict prevention has gained a new momentum while gradually advancing the conceptual foundations of preventive diplomacy.

The second major period for the development of preventive diplomacy came with the end of the Cold War. The easing of East-West tensions and the subsequent

¹¹Jenča Miroslav. The Concept of Preventive Diplomacy and Its Application by the United States in Central Asia.//Journal of Security and Human Rights. January, 2013.

¹²Babbitt F.Eileen. Preventive Diplomacy Intergovernmental Organizations: Learning from Practice.//International Negotiation, 17, 2012. –Pp.349-350.

¹³Ackermann Alice. The Idea and Practice of Conflict Prevention.//Journal of Peace Research. Vol.40, No3, 2003. –Pp. 339-340.

¹⁴Ibid.

¹⁵Joel Djibom. An Analysis of Hammarskjöld's Theory of Preventive Diplomacy. Peace Operations Training Institute. -2006. –P.10.

outpouring of optimism about the future of humankind gave birth to a kind of '*renaissance of preventive diplomacy*', which, above all, aimed at finding negotiated settlements for potential conflicts. It was in 1992, then UN Secretary General Boutros-Ghali has published his seminal work titled as "An Agenda for Peace", in which he presented his fresh considerations to global peace and security in a changing international context.

At that times, "An Agenda for Peace" was seen as a sweeping conceptual overhaul of all existing (traditional) threats to world peace and security as well as the unconventional ones', such as the environmental issues, terrorism and migration. This key document defined preventive diplomacy as an 'action to prevent disputes from arising between parties, to prevent existing disputes from escalating into conflicts and to limit the spread of the latter when they occur'¹⁶. Moreover, the United Nations has explicitly called international organizations and democratic institutions for close cooperation in the work of preventing conflicts and in global peacekeeping activities, while urging national governments to respect the rule of law, transparent decision-making and good governance, as key elements of '*social peace*'¹⁷. As a relatively new term in preventive diplomacy, social peace largely referred to the significance of eradicating root causes of conflicts, such as alleviating poverty, addressing social disparities, creating economic opportunities.

Conclusion

The spirit of an era was such that it appealed for the increasing role of the regional governmental and non-governmental organizations, civil society and other social movements to come up with a concerted approach in resolving disputes between states before they relapse into armed conflicts. Across the board people had placed high hopes for the emergence of liberal international order that would put an end to the horrors of the recent history. Particularly, some prominent scholars of liberal institutionalism argued that in the post-Cold War period international organizations led by the United Nations will be at the center of emerging new world order maintaining global peace and stability. Growing international cooperation and peace will replace tense great power competition and cold considerations of realpolitik reminiscent of the past. It was a pivotal moment in human history.

However, as time passed, those high hopes about the triumph of liberal ideals and peaceful international system started to fade away as tensions and conflicts among states resurfaced and great power rivalries reemerged, reminiscent of the past Cold War period. International norms and mutual trust is eroding between states and the potential for inter-state conflicts is rising. Accordingly, the global demand for political dialogue and preventive diplomacy led by not only individual states but also by powerful regional and international institutions is consolidating.

¹⁶Boutros Boutros-Ghali. An Agenda for Peace. Preventive diplomacy, Peacemaking and Peace-keeping. United Nations. New-York, 1992.

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DEVELOPMENT OF CRITICAL THINKING IN STUDENTS

Abstract: *Critical thinking is an integral part of the modern educational process. This process not only teaches students to receive information, but also encourages them to analyze, evaluate and express their opinions freely. Critical thinking is also important in problem solving and decision making. Developing critical thinking in students is essential for their personal and professional success.*

Key words: *critical thinking, modern technologies, curriculum, education, problems, solutions, self-assessment, interactive methods.*

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TALABALARDA TANQIDIY FIKRLASHNI RIVOJLANTIRISH

Annotatsiya: *Tanqidiy fikrlash, zamonaviy ta'lim jarayonining ajralmas qismi hisoblanadi. Bu jarayon talabalarni faqatgina ma'lumotlarni qabul qilishga o'rgatmay, balki ularni tahlil qilish, baholash va o'z fikrlarini erkin ifoda etishga ham undaydi. Tanqidiy fikrlash, shuningdek, muammolarni hal qilish va qarorlar qabul qilishda muhim ahamiyatga ega. Talabalarda tanqidiy fikrlashni rivojlantirish, ularning shaxsiy va professional hayotida muvaffaqiyatga erishishlari uchun zarurdir.*

Kalit so'zlar: *tanqidiy fikrlash, zamonaviy texnologiyalar, o'quv dasturlari, ta'lim, muammolar, yechim, o'z-o'zini baholash, interaktiv metodlar.*

To develop critical thinking, first of all, it is necessary to improve educational programs in educational institutions. Incorporating activities that encourage critical thinking into the curriculum encourages active student participation. For example, methods such as group discussions, project-based learning, and problem solving help develop critical thinking among students. Through these methods, students learn to listen to, evaluate, and express their own opinions. Teachers also play an important role in developing critical thinking. Teachers should encourage students to ask questions, express their opinions, and interact. Through questions, students create an opportunity to further analyze their thoughts and develop new ideas. Teachers should also encourage students to think independently when solving problems. This, in turn, helps students to freely express their thoughts and apply their knowledge in practice. Encouraging students to work collaboratively is also important in developing critical thinking. Working in a group allows students to listen, evaluate and exchange ideas with each other. This process fosters

communication among students and helps them expand their thinking. Students also learn to understand and accept different points of view, which increases their critical thinking skills. It is also important to use modern technologies in the development of critical thinking. The Internet and other digital resources provide a wide range of opportunities for students. Students will be able to collect information from various sources, analyze them and justify their opinions. Online discussions and forums can be effective tools for sharing ideas and developing critical thinking among students. In addition, self-assessment and reflection in the learning process are important in developing critical thinking. Students can identify their strengths and weaknesses by evaluating their performance. This process helps students learn to analyze their own thoughts and take a critical approach to their own learning processes. Self-assessment and reflection encourage students to actively participate in their own learning.[1]

Developing critical thinking also helps students understand social and cultural issues. Students expand their thinking through exposure to different cultures, ideas, and perspectives. This process teaches students to think critically about social issues and to express their opinions. Students will also be prepared to actively participate in their community and express their opinions freely. Developing critical thinking is also important in preparing students for their future careers. Today's employers demand professionals with critical thinking and problem solving skills. By developing critical thinking, students increase their chances of success in their future careers. This process also helps students develop innovative ideas and find new solutions in their professional fields. Developing critical thinking is one of the important goals for students in the modern education system. Critical thinking not only teaches students to receive information, but also encourages them to analyze, evaluate, and express their opinions freely. [2]

The role of students in this process is of particular importance. Through their activities, they help students develop critical thinking skills, interact, and express themselves. Students should actively participate in the critical thinking process. This is done by expressing their opinions, asking questions and participating in discussions. By expressing their opinions, students not only expand their knowledge, but also get the opportunity to exchange ideas with other students. This process helps students to develop relationships, listen and evaluate each other's ideas. Students' ability to self-assess is also important in developing critical thinking. Students can identify their strengths and weaknesses by evaluating their performance. This process helps them learn to analyze their own thoughts and take a critical approach to their own learning processes. Self-assessment allows students to actively participate in their own learning and deepen their knowledge. [3]

The role of students in developing critical thinking is also reflected in group discussions and team work. By working in groups, students have the opportunity to listen to, evaluate and exchange ideas with each other. This process fosters communication among students and helps them expand their thinking. Students learn to understand and accept different points of view, which improves their critical thinking skills. It is also important that students use modern technologies to express

their opinions and develop critical thinking. The Internet and other digital resources provide a wide range of opportunities for students. Students will be able to collect information from various sources, analyze them and justify their opinions. Online discussions and forums can be effective tools for sharing ideas and developing critical thinking among students. The role of students in developing critical thinking is also reflected in their interactions with teachers. Students learn a lot from teachers by expressing their opinions, asking questions, and participating in discussions. Teachers should encourage students to think critically by asking questions, encouraging them to analyze and express their own ideas. This process helps students to master their knowledge more deeply.[4]

The role of students in developing critical thinking as well as understanding social and cultural issues. Students expand their thinking through exposure to different cultures, ideas, and perspectives. This process teaches students to think critically about social issues and to express their opinions. Also, students will be ready to actively participate in their community and express their opinions freely. Encouraging students to work collaboratively is also important in developing critical thinking. By working together, students help analyze, evaluate, and develop new ideas. This process fosters student interaction and helps expand their thinking. Students learn to understand and accept different points of view, which improves their critical thinking skills. The role of students in the development of critical thinking is also reflected in the process of self-development and expansion of their knowledge. Students will have the opportunity to develop their own knowledge by learning independently, searching for new information and justifying their opinions. [5]

Conclusion:

In conclusion, the development of critical thinking in students is necessary for their success in their personal, academic and professional lives. In educational institutions, students can improve their ability to analyze and evaluate their own thinking by including activities that encourage critical thinking, teacher support for students, collaborative work, and the use of modern technology. Critical thinking also helps students understand social and cultural issues, prepare them for their careers, and help them succeed in the future.

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DESIGNING ESP COURSES FOR BOOKKEEPERS: A NEEDS ANALYSIS STUDY

Abstract: *This study investigates the linguistic and professional needs of bookkeepers attending an English for Specific Purposes (ESP) course. Employing needs analysis through formative and summative assessments, diagnostic tools, and qualitative methods, the study highlights gaps in financial vocabulary, report writing, and client communication. Drawing on frameworks from Flowerdew (2013), Woodrow (2018), and O'Sullivan (2012), the findings demonstrate the importance of tailoring ESP courses to professional contexts. The study underscores the effectiveness of problem-based learning (PBL) and authentic materials in addressing learners' challenges.*

Keywords: *ESP, needs analysis, bookkeepers, financial vocabulary, professional communication, problem-based learning, Uzbekistan, authentic materials, digital tools.*

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BUXGALTERLAR UCHUN ESP KURSLARINI LOYIHALASH: EHTIYOJLARNI TAHLIL QILISH

Annotatsiya: *Ushbu tadqiqot kasbiy maqsadlarga yo'naltirilgan ingliz tili (ESP) kursida tahsil olayotgan buxgalterlarning lingvistik va kasbiy ehtiyojlarini o'rganishga bag'ishlangan. Oraliq va yakuniy baholashlar, diagnostika vositalari va sifatli tadqiqot metodlarini qo'llash orqali tadqiqot moliyaviy lug'at, hisobot yozish va mijozlar bilan muloqot qilishdagi bo'shliqlarni aniqlaydi. Flowerdew (2013), Woodrow (2018) va O'Sullivan (2012) ishlariga asoslangan holda, natijalar ESP kurslarini kasbiy kontekstga moslashtirishning muhimligini ta'kidlaydi. Shuningdek, tadqiqot muammolarga asoslangan o'qitish (PBL) va o'quvchilarning muammolarini hal qilish uchun autentik materiallardan foydalanish samaradorligini ko'rsatadi.*

Kalit so'zlar: *ESP, ehtiyojlarni tahlil qilish, buxgalterlar, moliyaviy lug'at, kasbiy muloqot, muammolarga asoslangan o'qitish, O'zbekiston, autentik materiallar, raqamli vositalar.*

English for Specific Purposes (ESP) is designed to meet the unique linguistic and professional needs of specialized learner groups. Bookkeepers, who handle financial records, budgets, and client interactions, often operate in globalized

environments requiring proficiency in financial terminology and professional communication (Flowerdew, 2013; Woodrow, 2018). However, bookkeepers are frequently underserved in ESP curricula, leading to skill gaps that affect workplace performance. Needs analysis, the cornerstone of ESP course design, provides a systematic method to identify and address linguistic challenges (Flowerdew, 2013). Serafini et al. (2015) argue that effective needs analysis integrates stakeholder input and authentic assessments to inform curriculum development. This study investigates the specific needs of bookkeepers and offers recommendations for designing ESP courses that align with their professional contexts.

The study involved a total of 25 participants, categorized as follows:

1. **Bookkeepers (Course Participants):** 15 bookkeepers actively attending the ESP course, employed in various industries such as finance, retail, and logistics. Their English proficiency ranged from pre-intermediate to intermediate levels.

2. **Managers:** 5 managers from bookkeeping firms who provided insights into workplace expectations, critical communication skills, and common linguistic challenges faced by their employees.

3. **Experienced Bookkeepers:** 5 experienced professionals working in international contexts, who shared real-world examples of workplace communication and their perspectives on the linguistic demands of the job.

The study employed targeted questions for each stakeholder group:

1. **Learners (Bookkeepers):**

- What are your main goals for improving your English as a bookkeeper?
- Which financial vocabulary terms do you find most challenging?
- What specific tasks (e.g., writing emails, preparing reports, or interacting with clients) require English in your work?
- In what situations do you feel least confident using English?

2. **Managers:**

- What English language skills do you expect bookkeepers to have to perform their jobs effectively?
- What communication problems do bookkeepers frequently encounter with foreign clients or teams?
- Which tasks or situations require precise English, such as preparing financial reports or handling client inquiries?

3. **Experienced Bookkeepers:**

- What were the most important English skills you had to improve when starting your job?
- What financial vocabulary and phrases do you use frequently in your work?
- Can you provide examples of situations where effective English communication was critical to success?
- What language skills or tasks in English are the most difficult in your job, and why?

A mixed-methods approach was used:

- **Interviews:** Conducted with learners, managers, and experienced bookkeepers to explore their linguistic needs.

- **Questionnaires:** Distributed to managers to identify workplace expectations for English use.

- **Diagnostic Assessments:** Evaluated learners' baseline knowledge of financial terminology and their ability to write professional summaries.

The study followed Flowerdew's (2013) cyclical model of needs analysis, emphasizing the integration of stakeholder input, diagnostic tools, and authentic materials. Problem-based learning (PBL) was incorporated to simulate real-world workplace scenarios (Woodrow, 2018).

Learners aimed to improve their ability to communicate effectively in professional settings, particularly in writing clear financial reports, understanding financial terminology, and preparing for career advancement. They identified challenges with vocabulary such as "liabilities," "equity," and "amortization." Tasks requiring English, including drafting emails, preparing reports, and client interaction, were described as essential yet difficult. Learners felt least confident explaining discrepancies, responding to client questions, and navigating cross-cultural communication.

Managers emphasized the need for bookkeepers to have strong writing skills for professional emails and financial reports, as well as oral communication skills for meetings and client interactions. Common challenges included misusing financial terms, unclear messaging in emails, and difficulty explaining financial data to non-specialists. Precise English was deemed critical for tasks such as preparing audit summaries, handling client inquiries, and presenting financial projections. Experienced bookkeepers identified mastering financial vocabulary and concise email writing as essential skills when starting their careers. Frequently used terms included "accounts payable," "balance sheet," and "reconciliation process." Examples of critical communication included clarifying errors during audits, negotiating payment terms with international clients, and presenting reports to stakeholders. Challenges included simplifying technical terms for non-specialists and managing high-stakes communication about financial discrepancies. This study highlights the importance of needs analysis in ESP course design, addressing gaps in financial vocabulary, professional writing, and oral communication (Flowerdew, 2013; Serafini et al., 2015). In Uzbekistan, where English is often a third or fourth language, bookkeepers face increasing demands for professional English in global contexts like foreign investment and audits.

Authentic materials, such as financial reports and email templates, provide effective practical learning tools (O'Sullivan, 2012). However, technical terms like "liabilities" and "equity" require clear explanations for better understanding. Problem-based learning (PBL) builds practical skills through role-plays and report analysis (Woodrow, 2018), and adapting PBL to local industries like textiles and agriculture enhances relevance.

The lack of localized resources for Uzbek bookkeepers remains a challenge. Collaboration among educators and policymakers is needed to develop materials

and integrate digital tools like financial software simulations aligned with IFRS standards, preparing learners for success in international roles.

Conclusion: Conducting a needs analysis is crucial for creating ESP courses that address the specific challenges faced by bookkeepers. This study highlights the value of including input from various stakeholders, using diagnostic assessments, and incorporating realistic materials in the course design. To further improve ESP programs, future studies could examine how these courses affect learners' performance in their jobs over time and explore how technology can be used to make instruction more effective and engaging.

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ARTISTIC ORIGINALITY OF W. FAULKNER'S STORIES

Abstract: *The article study presents facts illustrating the importance of W. Faulkner's work and, in particular, his novel "The Sound and the Fury". The outstanding talent of this writer influenced a group of writers - authors of novels of the "southern school" of the United States. The presence of a historical root and common - literary as well as historical and cultural traditions - allows us to speak in this case about the existence of genetic connections between the work of W. Faulkner and the artists of the "southern school". Such connections are expected and quite explainable.*

Key words: *artistic, epithet, context, original meaning, historical and cultural traditions literary.*

In modern literary studies, one of the most promising areas is comparative historical literary studies. The study of national or foreign literature or the work of one of the writers belonging to this literature cannot be considered sufficient today if it is carried out without considering literary connections and influences. As is known, "literary connections and influences this is one of the main features of the literary process, which consists in the constant interaction of literatures, in the assimilation (and overcoming) by one literature of the artistic experience of another". [7]

As a special scientific discipline studying literary connections and influences, comparative literature arose in the late 19th and early 20th centuries. Its development was greatly contributed by the Russian scholar A.N. Veselovsky, French researchers F. Baldansperger, F. van Tieghem, American literary scholars W. Friedrich, R. Wellek, scholars from Germany, Canada, Russia and other countries. Their works reflected the problems of comparative analysis, reflections on influence and borrowing as an integral part of literary creativity. For example, the Russian literary scholar V.M. Zhirmunsky rightly notes that "the history of human society does not know examples of absolutely isolated cultural and literary development. Direct or distant interaction and mutual influence occur between its individual sections" [8]. He points out that the main premise of these interactions lies in the uneven development of literatures in different countries. A more developed culture seems to demonstrate its future to a less developed one. Consequently, countries with a more backward culture do not always repeat and independently that stage of the historical path that has already been passed by advanced countries.

A country like the USA can undoubtedly be classified as highly developed. Throughout the twentieth century, it has maintained a leading position in relation to most countries in the world. It is no secret that the culture and literature of the USA have long been a standard for many backward countries, and some of its manifestations, regardless of whether their influence on the borrowing culture was negative or positive, were completely adopted by less developed countries. In addition, the most striking phenomena of the general literary process in the USA in the twentieth century influenced the literature of several countries around the world. We include, first of all, the work of William Faulkner among such phenomena.

Meanwhile, "comparison, that is, the establishment of similarities and differences between historical phenomena and their historical explanation is.

A great enguine in the field of rapprochement between English and Arabic literature, J. I. Jabra & has made a significant contribution to the development of the Chinese culture. In addition to W. Faulkner's novel "The Sound and the Fury" he compared the school of plays by W. Shakespeare. an obligatory element of any historical research" [8], In the process of turning to the facts of interliterary connections, many nuances are revealed, without which a holistic understanding of a work of art is impossible.

Therefore, the subject of this work is the analysis of literary influences caused by W. Faulkner's novel, in particular, the determination of the nature of W. Faulkner's influence on G. Kanafani. Following V. M. Zhirmunsky, we understand "influence" "exclusively in the sense of the tradition of poetic devices". Without limiting ourselves to composition, style and other elements of form, we consider it necessary to include in the scope of consideration "questions of poetic themes", that is, content, but taken from an "artistic point of view".

As is known, the process of interliterary connections presupposes not passive assimilation, but active processing, as a result of which one's own art is created - This is evidenced by the words of G. Kanafani himself: "Faulkner had a very strong influence on me. But 'What's Left for You' is not a mechanical repetition of his novel. It is, rather, an attempt to use the advantages of the aesthetic devices and artistic achievements of W. Faulkner". It seems that clarifying the processing done will allow us to understand the artistic originality of the work under study and will provide an opportunity to reveal the creative individuality of the author. The artistic idea of W. Faulkner's novel "The Sound and the Fury", as well as a number of other elements of the form, was transferred to a soil deeply alien in the national and cultural sense of the word. Even after it was transformed in the work of G. Kanafani, signs of W. Faulkner's influence are clearly visible. It is all the more important to trace the role of the national-historical factor in the work, which is the result of borrowing.

It is noteworthy that the writer, who analyzed his own work in detail in numerous speeches, letters and articles, and who was distinguished by his objectivity and exactingness towards it, built a fairly transparent hierarchy of the genres that were most important to him. And although Faulkner's famous interview with Jean Stein (1956) is not without a certain amount of self-irony, his attitude to

the genre of the short story in his prose seems quite serious: "I myself am a failed poet. Perhaps every novelist first tries himself in poetry and, having become convinced that he cannot do it, takes on the short story, which in its form is second only to poetry. And only after becoming convinced that even this is beyond his powers, does he take on the novel". To this we must also add the factor of the extraordinary plasticity of Faulkner's short fiction, which organically formed an integral part of his larger works and at a certain stage became a kind of experimental field in which the prototypes of his future novels were created. In particular, examples of this kind can be the story "Evangeline", which was not published during the writer's lifetime, from which the novel "Avessalom, Avessalom!" "grew", and the fragment "Father Abraham", which gave impetus to the appearance of the novel "The Village", etc. (140; 233; 370).

And the world created by W. Faulkner is the world of the American South. It is multifaceted and multi-styled, because, on the one hand, it covers many aspects of life in the southern states of America, and on the other hand, it depicts them by combining numerous subjective opinions, providing an exhaustive, maximally objective vision of this world. The writer used the techniques of the so-called "non-classical stylistics" in his work. And although the form of the "inner monologue" and the elements of the "stream of consciousness" create in his works the technique of depiction and the manner of modernist art, nevertheless, in their content they remain deeply realistic, because they touch upon the ethical and social problems of reality. The unique revulsion of his works is achieved by the formalistic technique of 20th century art, a characteristic feature of which is the "veiling" of the informative side of the text, which undoubtedly complicates the perception and understanding of a work of art and complicates the identification of the author's views and concept, which in such conditions are revealed through a corresponding change in the ratio of open text and subtext. It is indisputable that "being a means of individualization, the speech of a character in a work of art is at the same time a generalization of features" (152, 176), typical of people of a certain circle or way of thinking. That is why the key to understanding the social aspects of reality is penetration into the individual world of the heroes, and through the forms of its typification the author's position and his artistic and figurative understanding of reality are clarified.

In conclusion, it should be said that this article attempted to satisfy the long-standing need to examine William Faulkner's novel "The Sound and the Fury" taking into account the impact it has on the works of writers from different countries of the world, and thereby clarify the place of the novel in the process of interaction of literatures belonging to different cultures.

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DIGITALIZATION OF PERFORMANCE EVALUATION AND PERFORMANCE CRITERIA FOR MANAGEMENT STAFF AND PROFESSORS IN HIGHER EDUCATION INSTITUTIONS

Annotation: This article focuses on the digitalization of performance evaluation systems for management staff and professors in higher education institutions. It highlights the main criteria for evaluation, including academic and research performance, teaching proficiency, leadership skills, and social engagement. The benefits of digitalization – such as transparency, objectivity, efficiency, and improved decision-making – are emphasized. Implementation methods include developing digital platforms, automating data processing, and motivating staff through performance-based incentives. The article concludes that digitalizing performance evaluation processes is a crucial step toward enhancing education quality and competitiveness.

Keywords: Digitalization, performance evaluation, higher education, academic staff, management staff, evaluation criteria, transparency, objectivity, teaching performance, research performance, leadership skills, social engagement, automated systems, educational quality, institutional development.

Performance evaluation of management staff and professors in higher education institutions plays a critical role in enhancing the quality of education and fostering institutional development. Digitalizing this process reduces subjectivity, enables swift analysis, and facilitates data-driven decision-making. Below, we discuss the criteria for evaluating performance, the benefits of digitalization, and methods for implementation.

Performance Evaluation Criteria

1. Academic and Research Performance:

- **Publication Metrics:** The number and quality of articles published in internationally indexed journals, their impact factors, and publications in local academic journals.
- **Conference Participation:** Active involvement in international and national academic conferences, delivering presentations, and networking within academic communities.
- **Patents and Innovations:** Registered patents, technological innovations, and their implementation in practice.

- **Research Projects and Grants:** Involvement in international and local research projects, their economic impact, and the size of secured grants.
- 2. **Teaching Performance:**
 - **Student Feedback:** Surveys assessing students' satisfaction with teaching methods and overall performance.
 - **Use of Innovative Methods:** Adoption of modern technologies and interactive teaching methodologies in the classroom.
 - **Curriculum Development:** Designing new courses, updating existing programs, and aligning curricula with students' needs.
 - **Graduate Monitoring:** Employment rates of graduates and their career success as a measure of educational quality.
- 3. **Leadership Performance** (for management staff):
 - **Institutional Ranking:** The university's position in national and international rankings.
 - **Financial Management:** Efficient use of resources, attracting new investments, and ensuring financial stability.
 - **Team Communication:** Effective communication with staff, resolving issues promptly, and fostering teamwork.
 - **Strategic Plan Implementation:** Achieving set strategic objectives and evaluating their impact.
- 4. **Social and Community Engagement:**
 - **Community Outreach:** Organizing events and activities to enhance the institution's reputation locally and globally.
 - **Mentorship:** Supporting young faculty members and students in their professional development.
 - **Social Responsibility:** Participation in projects that contribute to societal well-being.

Advantages of Digitalization

- **Transparency:** Digital systems ensure that evaluation processes are fully visible, fostering trust among stakeholders.
- **Accuracy and Speed:** Real-time data collection and analysis streamline the evaluation process.
- **Objectivity:** Decisions are based on measurable metrics, minimizing bias.
- **Optimized Decision-Making:** Analyzed data allows for more informed and strategic decision-making.
- **Cost Efficiency:** Automated systems reduce the need for extensive manual labor, saving time and resources.

Methods of Implementation

1. **Development of Digital Platforms:**
 - Create customized software tailored to the institution's needs or adapt existing platforms.

- Centralize all performance data in a single database for easy access and analysis.
- 2. Automated Reporting Systems:**
 - Generate periodic reports on staff performance using automated systems.
 - Provide reports in accessible formats for management and individual staff.
- 3. Data Integration:**
 - Link research and teaching performance data with national and international academic databases (e.g., Scopus, Web of Science).
 - Track publications and other academic achievements automatically.
- 4. Modernizing Educational Programs:**
 - Train faculty members to use digital tools for teaching and evaluation.
 - Introduce innovative assessment techniques in the curriculum.
- 5. Motivation and Incentives:**
 - Design reward systems based on performance metrics.
 - Provide financial and non-financial incentives to encourage higher productivity.
- 6. Continuous Monitoring:**
 - Regularly review the evaluation process and update the digital system based on feedback.
 - Gather input from staff to ensure the system meets their needs and expectations.

Conclusion

Digitalizing performance evaluation systems in higher education institutions is a crucial step toward improving the quality and competitiveness of education. By leveraging modern technologies, fostering continuous professional development, and encouraging stakeholder collaboration, institutions can achieve a more transparent, efficient, and impactful evaluation process. Successful implementation requires a coordinated effort between government bodies and private sectors to provide necessary resources and expertise.

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EVALUATION CRITERIA AND THE ROLE OF DIGITIZATION IN HIGHER EDUCATION INSTITUTIONS

Annotation: The article further delves into the technological foundations required for implementing digital evaluation systems, including online tools, artificial intelligence, data analytics, and integration with existing platforms. Practical pathways to efficiency are outlined, showcasing benefits like improved educational quality, heightened motivation, economic savings, and enhanced objectivity. Innovative solutions such as adaptive learning platforms, digital portfolios, self-assessment tools, and automated research evaluation systems are also proposed.

Keywords: Digital evaluation systems, higher education, faculty performance, transparency, automation, artificial intelligence, data analysis, educational quality, innovative solutions, global evaluation practices, adaptive learning systems, digital portfolios, self-assessment tools, research evaluation, institutional competitiveness.

Today, digitization processes are advancing rapidly in every sector, particularly in higher education systems. This article analyzes the theoretical and practical aspects of using digital systems to enhance the efficiency of evaluating the performance of administrative staff and faculty members in higher education institutions.

The Importance of Digitization

One of the pressing issues in improving efficiency in higher education institutions is the digitization of evaluation systems. Traditional evaluation methods are often subjective and may not fully reflect the actual performance of staff. Digital evaluation systems, however, offer the following advantages:

- **Ensuring Transparency:** All results and indicators are open and traceable, minimizing subjectivity.
- **Automation:** Evaluation processes are carried out automatically, saving time and reducing human errors.
- **Analytical Capabilities:** A comprehensive database allows for monitoring staff performance and conducting in-depth analysis of the results.

Digital evaluation systems not only automate evaluation processes but also contribute to the overall quality of higher education by creating a convenient environment for all participants in the education process. Additionally, modern

technologies provide opportunities to understand the dynamics of evaluation processes and predict outcomes.

International Practices in Evaluation

International experience demonstrates various approaches to improving evaluation processes in higher education institutions. For example:

- **United States:** Faculty performance is evaluated based on teaching activities, research contributions, student feedback, and community engagement.

- **United Kingdom:** Programs such as the "Teaching Excellence Framework" (TEF) and the "Research Excellence Framework" (REF) analyze teaching and research performance.

- **Australia:** The "Learning and Teaching Performance Fund" evaluates teaching quality, student satisfaction, and graduate employability as key metrics.

- **Global Rankings:** International assessment systems such as QS World University Rankings and Times Higher Education measure the efficiency of higher education institutions on a global scale.

These experiences demonstrate that effective evaluation systems enhance the reputation of educational institutions, motivate students and faculty, and optimize management processes.

Scientific and Technical Foundations of Digital Evaluation Systems

To implement digital evaluation systems in higher education institutions, the following technological approaches should be adopted:

1. **Online Evaluation Systems:** Interactive tests, automatic result calculations, and real-time data analysis capabilities.

2. **Artificial Intelligence Technologies:** Monitoring student and staff performance, predicting outcomes, and developing individualized recommendations.

3. **Data Analysis Tools:** Using graphics and diagrams to present statistical data on faculty and student performance.

4. **Integration:** Integrating digital evaluation systems with existing educational platforms and software to enhance efficiency.

Moreover, technical support, including server infrastructure, data security, and compatibility with mobile devices, is essential for effective operation.

Pathways to Achieve Efficiency

The successful implementation of digital evaluation systems can lead to the following outcomes:

- **Improved Educational Quality:** Increased efficiency of faculty and better learning outcomes for students.

- **Enhanced Motivation:** Clear and transparent evaluation results encourage faculty to improve their performance.

- **Economic Efficiency:** Optimal use of resources saves time and money.

- **Objectivity:** Reduces subjective errors commonly encountered in traditional evaluation processes.

- **Monitoring and Analysis:** Enables tracking of overall educational process indicators based on real-time results.

Innovative Digital Solutions in Higher Education

In the process of digitization, the following innovative solutions can be proposed for higher education institutions:

1. **Adaptive Learning Systems:** Introducing digital learning platforms tailored to the individual needs of students.
2. **Digital Portfolios:** Creating electronic portfolios that compile students' knowledge and skills.
3. **Self-Assessment Tools:** Developing interactive programs that allow students to independently assess their knowledge.
4. **Research Evaluation Systems:** Systems that automatically analyze research publications and outcomes.

Conclusion

The implementation of digital evaluation systems in higher education institutions broadens opportunities for automating educational processes, improving efficiency, and motivating staff. Utilizing international experiences and applying modern technologies are essential in designing and implementing such systems.

Further scientific research to improve digital evaluation systems will contribute to enhancing the competitiveness of higher education institutions. The success of digitization processes depends not only on technological innovations but also on strategies aimed at developing human resources.

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APOKARBANAT OLTIN MA'DANLARINING GEOLOGIK TUZILISHI

Annotatsiya: Maqolada apokarbonat oltin konlarining geologik tuzilishi va shakllanish sharoitlari qisqacha tahlil qilingan bo'lib, jumladan hozirgi vaqtda bunday turdagi konlar ishlashi va ishlatilishi haqida ma'lumot keltirib o'tilgan.

Kalit so'zlar: apokarbonat, oltin, ohaktosh, dolomit, pirit, xalkopirit.

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GEOLOGICAL STRUCTURE OF APOCARBONATE GOLD MINES

Abstract: The article briefly analyzes the geological structure and formation conditions of apocarbonate gold deposits, including information on the current operation and use of such deposits.

Key words. apocarbonate, gold, limestone, dolomite, pyrite, chalcopyrite.

KIRISH (ВВЕДЕНИЕ/INTRODUCTION). Bugungi kunda dunyoning rivojlangan mamlakatlarida foydali qazilmalarning kompleks konlarini topishga yo'naltirilgan ko'plab ilmiy izlanishlar olib borilmoqda, Apokarbonat oltin ma'danlari – karbonatli jinslar (ohaktosh, dolomit va boshqalar) bilan bog'liq bo'lgan, metamorfizm va metasomatoz jarayonlari ta'sirida hosil bo'lgan maxsus turdagi oltin konlaridir.

Ushbu konlar dunyoning turli geologik mintaqalarida uchraydi va oltin resurslarining muhim manbai hisoblanadi. Apokarbonat konlarining geologik tuzilishini, minerallasuv jarayonlarini va ularning genezis xususiyatlarini o'rganish nafaqat ilmiy, balki amaliy jihatdan ham katta ahamiyatga ega.

MUHOAKAMA (ОБСУЖДЕНИЕ/DISCUSSION). Karbonat jinslarda oltin ma'danlashuvining yuzaga kelish sharoitlariga bo'lgan katta qiziqish shu bilan tushuntiriladiki, uglerodli terrigen-karbonat formatsiyalardagi oltin ma'danli konlar

jahon oltin zaxiralarining ahamiyatli ulushini tashkil etadi. Mazkur turdagi konlar AQSH va Xitoyda nisbatan keng tarqalgan va ular o'nlab bir turli obyektlarni (Nevadada klasterlar va Xitoyda "oltin uchburchaklari") birlashtirgan mahalliy tarmoqlar bilan chegaralangan. Ammo karbonat jinslardagi konlar jahonning boshqa mintaqalarida ham uchraydi: Rossiya, Makedoniya, Kanada, Eron, Peru, Turkiya, Hindiston, Avstraliya, Indoneziya, Malayziya, Filippin, JAR. Bu turdagi ma'danlashuv tarqalishining keng geografiyasi, shunga o'xshash geologik sharoitlarga ega bo'lgan boshqa rayonlarda ham oltin konlarini aniqlash mumkinligini yana bir bor ta'kidlaydi.

NATIJALAR (PEZUYLTATY/RESULTS). Apokarbonat oltin ma'danlari - karbonat jinslarining metamorfizmi va metasomatozi jarayonlari natijasida hosil bo'lgan, geologik tuzilishi va genezisi jihatidan murakkab bo'lgan konlardir. Ushbu konlar dunyoning turli burchaklarida uchraydi va oltin resurslarining muhim manbai hisoblanadi.

Apokarbonat oltin ma'danlarining geologik tuzilishini o'rganish, ularning hosil bo'lish sharoitlarini tushunish va yangi konlarni aniqlashda katta ahamiyatga ega.

Geologik sharoitlar va tektonik rejim: karbonat jinslarining mavjudligi: apokarbonat oltin ma'danlari, avvalo, paleozoy va mezozoy davrlarida shakllangan ohaktosh, dolomit va mergel kabi karbonat jinslari mavjud bo'lgan hududlarda shakllanadi.

Tektonik faollik: konlar, odatda, tektonik jihatdan faol hududlarda, yoriqlar, burmalar va uzilishlar bilan bog'liq bo'ladi. Bu tektonik harakatlar gidrotermal suyuqliklarning o'tishi uchun yo'l ochadi va ma'dan hosil bo'lishiga yordam beradi.

Metamorfizm: karbonat jinslarining regional yoki kontakt metamorfizmi, ularning mineral tarkibi va tuzilishini o'zgartiradi, bu esa ma'dan hosil bo'lishi uchun qulay muhit yaratadi.

Ma'dan hosil bo'lish jarayonlari: Metasomatoz: Gidrotermal suyuqliklar karbonat jinslari bilan reaksiyaga kirishib, metasomatoz jarayonini keltirib chiqaradi. Bu jarayon davomida karbonatlar o'rniga silikatlar (skarnlar, seritsitlar), sulfidlar va oltin kabi minerallar paydo bo'ladi.

Gidrotermal Faollik: Ma'dan hosil qiluvchi suyuqliklar, odatda, magmatik o'choqlardan yoki yerning chuqur qatlamlaridan keladi. Bu suyuqliklar tarkibida oltin, mishyak, surma va boshqa elementlar mavjud bo'ladi.

Oltinning konsentratsiyasi: oltin, ko'pincha, sulfid minerallari (pirrotin, pirit, arsenopirit) tarkibida bo'ladi va metasomatoz jarayoni davomida to'planadi.

Temir gidrooksidlari o'rganilgan anshliflarda asosiy ma'dan mineral hisoblanadi. Getit, limonit oxralari bilan namoyon bo'lgan. Asosan jinslarning darzliklari bo'ylab sulfidlar bilan aralashib rivojlangan. Alohida qipiqalar hamda ipsimon tomirchalar ko'rinishida qayd qilinadi. Tomirchalarning qalinligi 0,05 mm gacha. Getit limonit bilan almashinadi. Sulfidlar parchalanishining oxirgi mahsuloti sifatida getitdan keyin oxrali limonit rivojlanadi. Ayrim joylarda sulfidlar butunlay erib ketgan va faqatgina limonit oxralari va bo'shliqlar qolgan.

Mineral tarkibi va strukturası: Apokarbonat oltin ma'danlarining asosiy minerallari kvarts, karbonatlar (kaltsit, dolomit), silikatlar (aktinolit, tremolit, granatlar, piroksenlar) va sulfidlar (pirit, arsenopirit, pirrotin, xalkopirit) dan iborat.

Oltin minerallari: oltin, odatda, erkin shaklda (nativ oltin) yoki sulfidlar tarkibida (mikroskopik zarralar) uchraydi.

Struktura va tekstura: konlar, ko'pincha, tomirsimon, tomir-tarqalgan yoki metasomatik o'rnini bosuvchi strukturalarga ega bo'ladi.

Geokimyoviy xususiyatlar: Elementlarning tarqalishi: apokarbonat oltin ma'danlari, oltindan tashqari, mishyak (As), surma (Sb), kumush (Ag), simob (Hg) va boshqa elementlar bilan ham boy bo'lishi mumkin.

Izotop tadqiqotlari: Izotopik tadqiqotlar gidrotermal suyuqliklarning manbasini va ma'dan hosil bo'lish jarayonlarini o'rganishda muhim ahamiyatga ega.

Karbonat jinslari: Konlar asosida karbonatli jinslar (ohaktoshlar, dolomitlar, marmarlar) joylashgan bo'ladi. Ushbu jinslar konning "qabul qiluvchi muhiti" rolini o'ynaydi va ma'dan hosil bo'lishi uchun zarur sharoit yaratadi.

Karbonat jinslari stratigrafik ketma-ketlikda yotadi va tektonik harakatlar natijasida burmalangan yoki uzilishlarga uchragan bo'lishi mumkin.

Yoriqlar va uzilishlar: Konlar tektonik jihatdan faol hududlarda joylashadi. Yoriqlar va uzilishlar gidrotermal suyuqliklar uchun o'tish yo'li vazifasini bajaradi va ma'dan hosil qiluvchi elementlarning migratsiyasini ta'minlaydi.

Burmalar: Burmalangan strukturalar, ayniqsa, antiklinal va sinklinal shakllar, ma'danlarni lokalizatsiya qilishda muhim rol o'ynaydi.

Regional tektonika: Konlar mintaqaviy tektonik sistemalar bilan bog'liq bo'lishi mumkin (masalan, subduksiya zonalariga yaqin).

Metamorfizm: regional metamorfizm: karbonat jinslari regional metamorfizmga (pastdan o'rtacha darajagacha) duchor bo'ladi, bu ularning mineral tarkibini va tuzilishini o'zgartiradi.

Ma'dan zonalar: Oltin-sulfidli tomirlar yoriqlar va uzilishlar bo'ylab rivojlanadi.

Metasomatozga uchragan zonalar bo'ylab tarqalgan ma'danlanish kuzatilishi mumkin.

Brekchiyalar: Tektonik harakatlar natijasida hosil bo'lgan brekchiyalar ma'dan bilan to'ldirilgan bo'lishi mumkin.

Metasomatoz jarayonlari: Suyuqliklar karbonat jinslari bilan o'zaro ta'sirlashib, metasomatoz reaksiyalariga olib keladi. Bu jarayon davomida karbonatlar o'rniga silikatlar (skarnlar) va sulfidlar paydo bo'ladi.

Metasomatoz natijasida hosil bo'lgan asosiy minerallar: kvarts, kaltsit, dolomit.

Kontakt metamorfizm: magmatik intruziyalar atrofida kontakt metamorfizmi kuzatiladi. Bu metamorfizm skarnlar hosil bo'lishiga olib keladi, ular ma'danlar bilan bog'liq bo'lishi mumkin.

Skarnlar: Ko'pgina apokarbonat konlarida metasomatoz natijasida hosil bo'lgan skarnlar kuzatiladi. Skarnlar tarkibiga granatlar, piroksenlar, aktinolit, tremolit va boshqa silikat minerallari kiradi.

Silisifikatsiya: Karbonat jinslarining silisifikatsiyasi (kvarts bilan o'rnini bosishi) ham metasomatozning keng tarqalgan ko'rinishidir.

Ma'dan zonalar: Oltin-sulfidli tomirlar yoriqlar va uzilishlar bo'ylab rivojlanadi.

Metasomatozga uchragan zonalar bo'ylab tarqalgan ma'danlanish kuzatilishi mumkin.

Tektonik harakatlar natijasida hosil bo'lgan brekchiyalar ma'dan bilan to'ldirilgan bo'lishi mumkin.

Suyuqliklar karbonat jinslari bilan o'zaro ta'sirlashib, metasomatoz reaksiyalariga olib keladi. Bu jarayon davomida karbonatlar o'rniga silikatlar (skarnlar) va sulfidlar paydo bo'ladi.

Metasomatoz natijasida hosil bo'lgan asosiy minerallar: kvarts, kaltsit, dolom

Apokarbonat oltin ma'danlari - murakkab geologik sharoitlarda hosil bo'lgan, metasomatoz va gidrotermal faollik natijasida shakllangan konlardir. Ularning geologik tuzilishi va genezisi, karbonat jinslarining mavjudligi, tektonik faollik, metamorfizm va gidrotermal jarayonlar bilan chambarchas bog'liq. Apokarbonat konlarining ilmiy asoslangan o'rganilishi, yangi oltin resurslarini aniqlash va ulardan oqilona foydalanish uchun zarurdir.

Apokarbonat oltin konlarining tuzilishini va hosil bo'lish jarayonlarini yaxshiroq tushunish uchun qo'shimcha geologik, geokimyoviy va izotopik tadqiqotlar o'tkazish.

Zamonaviy geofizik usullardan foydalanib, yangi konlarni aniqlash va ularning resurslarini baholash.

Apokarbonat konlaridan olinadigan metallarning geologik va texnologik xususiyatlarini chuqur o'rganish va ularni qazib olishning samarali usullarini ishlab chiqish.

Karbonatli jinslarda asosan: hosil bo'lgan mineral va elementlar asosida (ohaktoshlar, dolomitlar, marmarlar) joylashgan bo'ladi. Ushbu jinslar konning "qabul qiluvchi muhiti" rolini o'ynaydi va ma'dan hosil bo'lishi uchun zarur sharoit yaratadi. Karbonat jinslarining yoshi, odatda, paleozoy va mezozoy tuzilmalariga to'g'ri keladi. Karbonat jinslari stratigrafik ketma-ketlikda yotadi va tektonik harakatlar natijasida burmalangan yoki uzilishlarga uchragan bo'lishi mumkin.

XULOSA (ЗАКЛЮЧЕНИЕ/CONCLUSION). Apokarbonat oltin ma'danlashuvining mineralogik – gekimyoviy quyidagilar bilan belgilanadi: past haroratli paragenezislarning bir turli tarkibi va mikroelementlar bilan boyigan, margimushli piritning minerallashgan zonlarda doimiy ishtiroki bilan; ma'danli metasomatitlarda ma'danli minerallarning ahamiyatsiz hajmi bilan; tipomorf kompleksning (As, Sb, Ng, Pb, Ag) asosiy elementlarini o'z ichiga olgan, ma'danlarning geokimyoviy profili bilan; tabiiy oltin va uning konsentrator minerallarining (pirit va gidroslyudalar) submikron o'lchami bilan.

Dunyo tajribasida apokarbonat oltin ma'danlashuvining 4 ta asosiy turi ajratiladi: Au-sulfid-argillizit kvarssiz, Au-sulfid-djasperoidli, Au-sulfosol-djasperoidli, Au-sulfid-argillizit embrional-djasperoidli turlariga ko'ra tavsiflanadi.

Aniqlangan turlarni tizimlashtirish, ma'dan mahalliy lashishi va ma'danga qadar metasomatoz muhitining xususiyatlarini, ma'danlarning moddiy tarkibi va ularning geokimyoviy xususiyatlarini, magmatizm va yaqin endogen ma'danli formatsiyalar bilan aloqasini o'rganishga yo'naltirilgan tadqiqotlar asosida tuzilma-geologik, geokimyoviy va mineralogik mezonlarni o'z ichiga olgan izlash-bashoratlash kompleksi ishlab chiqilsa maqsadga erishiladi hamda ishlab chiqilgan komplekslar (tuzilmalarni yotishiga qarab farqlanishiga erishiladi) karbonat jinslarda oltin ma'danlashuvini izlash metodologiyasini takomillashtirish imkonini beradi.

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HISTORY OF THE CREATION OF THE LEGAL FOUNDATIONS OF THE HIGHER EDUCATION SYSTEM IN UZBEKISTAN

Annotation. *This article provides information about the reforms implemented in the higher education system in the Republic of Uzbekistan. Basically, legal documents related to the higher education system are presented and their scientific analysis is carried out. Attention is drawn to the fact that legal documents related to the higher education system play an important role in the development of society..*

Key words: *Uzbekistan, higher education system, personnel training, creative intellectuals, educational process, innovative approaches.*

As Uzbekistan stood on the threshold of independence, one of the first tasks of the republic's leadership was to reform and modernize science and the education system, which became a key issue on the agenda. The First President of Uzbekistan, I. Karimov, said this at a meeting at the Academy of Sciences of the Uzbek SSR on November 20, 1988: “We believe that the main task of the Academy of Sciences of the republic is to raise the status of science in all spheres of the republic's life to a new qualitative level with due regard for the principle. The era of giving orders to scientists, dry administration, and making scientists face the “social order” that appears in the offices of office workers is over. The works and recommendations of scientists of the Academy of Sciences, which include the results of creative research, should become the foundation of future calculations and policies that determine the prospects for the development of the republic. It is necessary to implement a complex set of measures to ensure the influx of talented young people into science. In this regard, it is necessary to radically restructure the activities of higher education institutions, and even general education schools. [1:72].

The solution to various problems that are manifested in all stages, spheres, directions, levels and scopes of human social life today depends on the effectiveness of work in this very area[2]. Modern education develops through the transition to a person-centered education system based on the development of the individual, the improvement of his moral and cognitive qualities (creative, critical, systematic and non-standard thinking, broad outlook, emotional perception, communication skills, etc.).

One of the areas that underwent reforms in the Republic of Uzbekistan during the years of independence and showed results is the education system. Special attention began to be paid to science. Research was launched on new scientific fields that serve the rapid development of the time. Teaching and conducting scientific

research in social and humanitarian, natural and exact sciences was raised to the level of state policy. In implementing the new education system, the government of Uzbekistan studied the educational processes in our history and prepared a program for educational reform. The Law "On Education", adopted on July 2, 1992, served to preserve the previously achieved successes. Although this law was important at the time, it did not solve the problems of practical measures to reform the education system, the integral connection of the content and stages of the educational and training processes with each other, that is, ensuring continuity. The accumulated problems in the education system led to the creation of a new Law "On Education", adopted on August 29, 1997, and the National Program for Personnel Training.

The national program covered such sections as problems and factors of radical reform of the personnel training system, the goal, objectives of the national program and the stages of its implementation, the scientific model of personnel training, and the main directions of development of the personnel training system.

The Decree of the President of the Republic of Uzbekistan "On Improving the Organization of Scientific Research Activities" of February 20, 2002 was of great importance in further developing scientific and technical and innovation activities in accordance with the requirements for the quality of scientific research and technological developments, as well as in ensuring the effective use of the country's scientific potential[3]. The scientific and research complex of the republic includes more than 350 institutions in the Academy, higher education and other sectors, including scientific and research institutes, scientific and research departments of higher education institutions, design and construction organizations, scientific and production associations and pilot enterprises, information and computing centers. According to the results of 2006, more than 34 thousand scientists worked in various branches of science. Of these, 2.4 thousand were doctors of science, 2.4 thousand were candidates of science.

In today's turbulent times, with dangerous conflicts taking place around us and the "expansion of foreign cultures" taking hold, it is appropriate to emphasize once again that raising a spiritually and physically mature generation and educating modern, mature personnel remains a national and state-wide task.

The driving force of world development, including the development of Uzbekistan, the factor that accelerates development is qualified professionals who can meet the requirements of the time. Such personnel, undoubtedly, are prepared by the higher education system. Therefore, the whole world pays special attention to science, education and upbringing, which are the cornerstone of development, can make the country powerful and the nation great [4]. Today, there is a real need to strengthen scientific research on spiritual and ideological issues all over the world, including in our republic. Therefore, it is a requirement of the time to further develop this work, in particular, to strengthen in all respects the scientific research carried out in Uzbekistan by the Institute of Socio-Spiritual Research under the Republican Council for Spirituality and Enlightenment, in such specialties as History and Theory of Spirituality, Technologies of Propagation of the National Idea, Spiritual Education, Spiritual Processes and Technologies [5].

Our President Shavkat Mirziyoyev, in almost every speech, touches upon the topics of youth and personnel training, emphasizing the incomparable role of social sciences in this. In particular, emphasizing that the development of the education system in Uzbekistan is an integral part of state policy, he says: "... it is necessary to further improve science, modern and continuous education. There is a wise saying among our people that "education and upbringing begin from the cradle". Only enlightenment leads a person to maturity and society to development. Therefore, state policy in the field of education should be based on the principle of a continuous education system, that is, education should begin in kindergarten and continue throughout life" [6:29]. From this point of view, in recent years, the education system in Uzbekistan has undergone a fundamental reform, with serious attention being paid to issues of spiritual education[7:467], In particular, the tasks set out in a number of resolutions of the President of the Republic of Uzbekistan, as well as in his Addresses to the Oliy Majlis for 2020 and 2021, and in a number of speeches on the "Development Strategy of New Uzbekistan", are of paramount importance in the development of work in the spiritual, educational and educational spheres in our country.

According to expert researchers, when university graduates enter the workforce, they have difficulty applying the theoretical knowledge they have acquired during their education in practice. Therefore, it is advisable to increase the amount of practical training for students in this area of study, allocating more time to this type of education in the curriculum.

A radical transformation of higher education, one of the most responsible links in the education system, has become an integral part of the reforms in independent Uzbekistan. The Resolution of the President of the Republic of Uzbekistan "On further development of the higher education system" of April 20, 2017 has made a significant contribution to the development of higher education [9]. The resolution stipulated that "each higher education institution should establish close and promising cooperation with leading similar scientific and educational institutions abroad, widely introduce the most modern pedagogical technologies, educational programs and teaching and methodological materials based on international educational standards into the educational process, and attract highly qualified foreign teachers and scientists to scientific and pedagogical activities." The tasks also included "strengthening the scientific potential of higher education institutions, further developing scientific research in the higher education system, strengthening their integration with academic science, increasing the effectiveness of the scientific activities of the teaching staff, and attracting talented young students to engage in scientific activities."

On September 23, 2020, the Law of the Republic of Uzbekistan "On Education" was adopted. This law established new procedures for regulating relations in the field of education in the development of New Uzbekistan. It established the basic principles of education in our country. The new version of the law more broadly revealed the form and content of education in our country. In particular, Article 7 of the Law established that the types of education include:

preschool education and upbringing; general secondary and secondary specialized education; professional education; higher education; post-higher education; retraining and advanced training of personnel; the determination of types of out-of-school education is literally a humanitarian policy aimed at ensuring the continuity of education and upbringing in our country [14].

At the same time, the Program for the Comprehensive Development of the Higher Education System for 2017–2021 was adopted. In accordance with the Program, it is planned to carry out construction and major repairs of 180 educational, scientific and laboratory buildings, sports facilities and social and engineering infrastructure in 48 universities. 400 educational laboratories in 53 universities were gradually equipped with the most modern educational and laboratory equipment. It was indicated that the number of students admitted to bachelor's and master's degrees will increase by 18% by 2021. It was indicated that the funds allocated for the implementation of this Program will exceed 1.7 trillion soums [10].

In conclusion, it is worth noting that as a result of independence, a number of reforms were implemented in the development of the higher education system of Uzbekistan. National pedagogy, which had been cut off from the outside world for a long time, and which did not benefit from the historical experience of other countries or the national educational heritage, entered the world arena. The opportunity arose to compare the achieved results with those of others, to absorb positive aspects from others.

In this regard, the legal reforms in the higher education system in Uzbekistan, the processes of updating and improving education are aimed at expanding the right to education in the country and ensuring that young people have internationally competitive knowledge. Currently, the higher education system of Uzbekistan is moving to a new stage in order to improve its quality and find its place in the world educational arena. It is important to continue this process and further strengthen the legal and organizational foundations of the higher education system.

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STUDYING FOREIGN EXPERIENCE IN THE DEVELOPMENT OF THE TOURIST SERVICES MARKET

Abstract: This article examines the study of foreign experience in the development of the tourist services market. The article examines the elements that influence the formation of the market, including the demand for travel, the growth of services, the function of infrastructure, the legislative framework, competition, branding, marketing and technological advances. The main categories of tourist services, including accommodation, transport, catering, attractions, excursions, intermediary services and other auxiliary services, are also examined in detail in this article. The tourist services market does not develop on its own. It is emphasized how important a number of conditions and elements are for market growth, and foreign experience should also be used to further develop them. Students, researchers and tourism professionals will find this article useful in understanding the complex structure and functioning of the tourist services market.

Key words: Branding, tourist services, booking websites, sustainable travel, specialized locations, health and wellness tourism, tour operators, guides.

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TURISTIK XIZMATLAR BOZORINING SHAKLLANISHI VA UNING TURLARI

Annotatsiya: Ushbu maqolada Studying foreign experience in the development of the tourist services market ko'rib chiqiladi. Maqolada bozorning shakllanishiga ta'sir qiluvchi elementlar, jumladan, sayohatga bo'lgan talab, xizmatlarning o'sishi, infratuzilma funktsiyasi, qonunchilik asoslari, raqobat, brending, marketing va texnologik yutuqlar ko'rib chiqiladi. Turistik xizmatlarning asosiy toifalari, jumladan, turar joy, transport, ovqatlanish, attraksionlar, ekskursiyalar, vositachilik xizmatlari va boshqa yordamchi xizmatlar ham ushbu maqolada batafsil ko'rib chiqiladi. Turizm xizmatlari bozori o'z-o'zidan rivojlanmaydi. Bozor o'sishi uchun bir qator shartlar va elementlar qanchalik muhim ekanligi ta'kidlangan va ularni yanada rivojlantirish uchun chet el tajribasidan ham foydalanish kerak. Talabalar, tadqiqotchilar va turizm mutaxassislari ushbu maqola orqali turistik xizmatlar bozorining murakkab tuzilishi va faoliyatini tushunishda foydali bo'ladi.

***Kalit so'zlar:** brending, turistik xizmatlar, bron qilish veb-saytlari, barqaror sayohat, ixtisoslashtirilgan joylar, sog'lomlashtirish turizmi, turoperatorlar, gidlar.*

INTRODUCTION

Tourism is travel for pleasure, and the commercial activity of providing and supporting such travel.^[1] UN Tourism defines tourism more generally, in terms which go "beyond the common perception of tourism as being limited to holiday activity only", as people "travelling to and staying in places outside their usual environment for not more than one consecutive year for leisure and not less than 24 hours, business and other purposes".^[2] Tourism can be domestic (within the traveller's own country) or international, and international tourism has both incoming and outgoing implications on a country's balance of payments.

Tourism numbers declined as a result of a strong economic slowdown (the late-2000s recession) between the second half of 2008 and the end of 2009, and in consequence of the outbreak of the 2009 H1N1 influenza virus,^{[3][4]} but slowly recovered until the COVID-19 pandemic put an abrupt end to the growth. The United Nations World Tourism Organization estimated that global international tourist arrivals might have decreased by 58% to 78% in 2020, leading to a potential loss of US\$0.9–1.2 trillion in international tourism receipts.^[5]

Globally, international tourism receipts (the travel item in the balance of payments) grew to US\$1.03 trillion (€740 billion) in 2005, corresponding to an increase in real terms of 3.8% from 2010.^[6] International tourist arrivals surpassed the milestone of 1 billion tourists globally for the first time in 2012.^[7] Emerging source markets such as China, Russia, and Brazil had significantly increased their spending over the previous decade.^[8]

Global tourism accounts for c. 8% of global greenhouse-gas emissions.^[9] Emissions as well as other significant environmental and social impacts are not always beneficial to local communities and their economies. For this reason, many tourist development organizations have begun to focus on sustainable tourism to mitigate the negative effects caused by the growing impact of tourism. The United Nations World Tourism Organization emphasized these practices by promoting tourism as part of the Sustainable Development Goals, through programs like the International Year for Sustainable Tourism for Development in 2017,^[10] and programs like Tourism for SDGs focusing on how SDG 8, SDG 12 and SDG 14 implicate tourism in creating a sustainable economy.^[11]

Tourism has reached new dimensions with the emerging industry of space tourism, as well as the cruise ship industry. There are many varieties of tourism. Of those types, there are multiple forms of outdoor-oriented tourism. Outdoor tourism is generally categorized into nature, eco, and adventure tourism (NEAT). These categories share many similarities but also have specific unique characteristics. Nature tourism generally encompasses tourism activities that would take place outside. Nature tourism appeals to a large audience of tourists and many may not know they are participating in this form of tourism. This type of tourism

has a low barrier to entry and is accessible to a large population. Ecotourism focuses on education, maintaining a social responsibility for the community and the environment, as well as centering economic growth around the local economy. Weaver describes ecotourism as sustainable nature-based tourism.^[25] Ecotourism is more specific than nature tourism and works toward accomplishing a specific goal through the outdoors. Finally, we have adventure tourism. Adventure tourism is the most extreme of the categories and includes participation in activities and sports that require a level of skill or experience, risk, and physical exertion.^[25] Adventure tourism often appeals less to the general public than nature and ecotourism and tends to draw in individuals who partake in such activities with limited marketing.

It is important to understand that these definitions may vary. Perceived risk in adventure tourism is subjective and may change for each individual.

Examples of these tourism types.

Nature tourism

- Hiking, walking, camping

Ecotourism

- Guided tours focusing on educating, summer camps, outdoor classes

Adventure tourism

- White water rafting, ice climbing, mountaineering

Tourism products

[edit]

According to the World Tourism Organization, a tourism product is:^[26]

"a combination of tangible and intangible elements, such as natural, cultural, and man-made resources, attractions, facilities, services and activities around a specific center of interest which represents the core of the destination marketing mix and creates an overall visitor experience including emotional aspects for the potential customers. A tourism product is priced and sold through distribution channels and it has a life-cycle".

Tourism product covers a wide variety of services including:^[27]

- Accommodation services from low-cost homestays to five-star hotels
- Hospitality services including food and beverage serving centers
- Health care services like massage
- All modes of transport, its booking and rental
- Travel agencies, guided tours and tourist guides
- Cultural services such as religious monuments, museums, and historical places
- Shopping

MATERIALS AND MATHODS

The methods of induction and deduction, systematic analysis, comparative analysis of the methodologies of various international and non-governmental organizations, and drawing methods were employed in the analysis of the innovative development of the tourism services market.

The tourism industry's primary objective nowadays is to recognize, comprehend, and make use of the main worldwide innovations for the creative growth of tourism that have persisted throughout the 20th century and are still going strong at the start of the 21st. The formation of the tourist services market is a critical development in the global economy, driven by a complex set of factors, including technological innovation, globalization, changes in consumer behavior, and the rise of disposable incomes. The global tourism industry is vast and diverse, shaped by a variety of interrelated services aimed at satisfying the increasing demand for travel, leisure, cultural exchange, and relaxation. From the early days of traditional travel to today's digitalized and highly interconnected world, the evolution of the tourist services market has been a fascinating journey. This conclusion seeks to provide a comprehensive understanding of how the tourist services market has evolved, highlighting its various types and discussing the underlying factors that continue to drive growth, challenges, and opportunities in the sector.

RESULTS AND ANALYSIS

The tourism services market is regarded as an organization that brings together suppliers and buyers of tourism services. In contrast to other commodity markets, the tourist services market involves buyers moving toward the location where tourists are expected to purchase the services—that is, the goods—rather than the goods moving from the seller to the buyer. Systemic activities with high-quality innovations that have a positive impact on the entire tourism industry are known as innovations. Profits have increased and the number of tourists visiting the nation has increased as a result of these innovations.

This implies that the growth of tourism in Uzbekistan can benefit from all of the suggestions, viewpoints, and strategies meant to increase the contribution of tourism to the economy. Stated differently, the utilization of

First and foremost, international innovations in Uzbekistan's tourism industry will boost its competitiveness, boost visitor numbers, which will raise revenue, build out the country's infrastructure, and expand the industry's social role.

There are numerous chances for our nation's tourism industry to grow through the use of creative economic techniques. because the Republic of Uzbekistan's innovative economy was ranked 93rd out of 131 countries in the Global Innovation Index-2020.

The relationship in the most significant segment of the tourism market, namely the operations of tourism firms, is the sole focus of our research when examining the tourism services market. It is well known that the tourism industry's system of market-economy relations relies heavily on travel agencies and travelers. It should be mentioned that this aspect of market relations in the travel and tourism sector is still not thoroughly discussed, despite its significance and applicability.

Therefore, the market for tourism services can be defined as a region that produces a tourist product and establishes business relationships with its consumers (i.e., travelers, tour operators, and travel agents).

One organization that brings together buyers (suppliers of demand) and sellers (suppliers of product) of tourism services is the tourism service market. The tourist service market, in contrast to other commodity markets, refers to the movement of goods from the seller to the buyer as well as the fact that buyers travel to the location where tourists purchase the services provided, such as the tour product.

In the first half of the 1990s, Uzbekistan's tourism services market started to take shape thanks to privatization and market economy reforms. Up until now, the state has tight control over the operations conducted in this market segment; the state was the principal supplier of all services. The market for tourism services has been growing steadily since gaining independence. In addition to accelerating the growth of tourism, Uzbekistan's economic reforms are opening the door for the development of new tourist services that were previously unthinkable given our unique position in the global community.

The market for tourism services has not yet been fully acknowledged for its contribution to Uzbekistan's political, economic, and social life. Nonetheless, Uzbekistan is becoming more interested in the domestic tourism services market given the global financial and economic crisis. There are some explanations for this, and this tourism industry may be the one that can guarantee our economy's future rapid expansion. The market for tourism services has not yet been fully acknowledged for its contribution to Uzbekistan's political, economic, and social life. Nonetheless, Uzbekistan is becoming more interested in the domestic tourism services market given the global financial and economic crisis. There are some explanations for this, and this tourism industry may be the one that can guarantee our economy's future rapid expansion. As the global economy faces uncertainty, Uzbekistan's rich cultural heritage, historical sites, and diverse natural landscapes position it as an emerging tourism destination. The development of domestic tourism offers significant potential for job creation, infrastructure development, and the promotion of regional tourism, thereby reducing the country's dependence on traditional industries. Moreover, the tourism sector can stimulate investment in other key areas, such as hospitality, transportation, and local artisans, contributing to a more resilient and diversified economy. With the right policies and investments, Uzbekistan has the opportunity to establish itself as a major player in the global tourism market while fostering economic growth and social development at home.

Furthermore, the expansion of domestic tourism can play a crucial role in promoting national identity and cultural pride, as local communities engage more with tourists and share their traditions, cuisine, and customs. As the country improves its infrastructure, including transport networks, accommodation facilities, and digital connectivity, it will be able to accommodate increasing numbers of domestic and international tourists, thereby attracting investment and improving the quality of life for its citizens. This investment in tourism infrastructure could also have a positive effect on other sectors, such as agriculture, construction, and services, creating a ripple effect of economic benefits across the country.

Uzbekistan's emphasis on sustainable tourism development will also be crucial to ensuring the long-term viability of its tourism services market. By

promoting eco-friendly practices and preserving its natural and cultural heritage, Uzbekistan can attract a growing segment of eco-conscious travelers, contributing to the global trend of responsible tourism. Moreover, the introduction of digital tourism platforms and innovative technologies, such as virtual tours and interactive experiences, can enhance Uzbekistan's global appeal, especially to tech-savvy younger generations who value convenience and personalized travel experiences. In conclusion, while tourism services have not been fully recognized for their potential, they offer significant promise for Uzbekistan's economic and social development. By leveraging its cultural assets, improving infrastructure, and adopting sustainable tourism practices, Uzbekistan can position itself as a competitive and attractive destination, securing both immediate and long-term economic growth. Here, we may see factors of tourism services:

Factors Driving Market Formation	Types of Tourist Services	Examples
Technological Advancements	Transportation	Air travel, buses, car rentals
Globalization	Accommodation	Hotels, vacation rentals, hostels
Rising Disposable Income	Leisure & Entertainment	Theme parks, adventure tourism, ecotourism
Government Support & Infrastructure	Food & Beverage	Restaurants, catering services
Cultural & Lifestyle Changes	Tour Planning & Support	Travel agencies, tour operators, guides
Focus on Health & Wellness	Health & Wellness	Wellness retreats, medical tourism

CONCLUSION

The formation of the tourist services market has been shaped by a complex interplay of economic, technological, cultural, and social factors. As the world becomes more interconnected, the tourism sector continues to adapt to the changing demands and preferences of travelers. The growth of transportation networks, the evolution of hospitality services, and the increasing focus on experiential travel have all contributed to the diverse range of services available to tourists today. From transportation and accommodation to food, leisure, wellness, and cultural experiences, the tourism industry encompasses a broad spectrum of services, each designed to meet the needs of different types of travelers.

In the future, the tourist services market will continue to evolve, driven by technological advancements, shifts in consumer behavior, and new opportunities created by global trends. As the demand for sustainable travel, personalized experiences, and cultural exchange continues to grow, the tourism industry will likely see the emergence of new service types and innovations. At the same time, challenges such as climate change, over-tourism, and economic uncertainties may influence the direction of the market, requiring businesses and governments to collaborate in creating a sustainable, inclusive, and resilient tourism sector.

Ultimately, the formation and diversification of the tourist services market reflect the ever-changing nature of human desires and the ongoing pursuit of experiences that connect humans to the world around them.

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TA'LIMNI TASHKIL ETISHDA ZAMONAVIY PEDAGOGIK TEKNOLOGIYALAR

Annotatsiya: Jamiyat hayotining jadal tarzda rivojlanishi, taraqqiyot ehtiyojlari va imkoniyatlarining kengayishi, turli-tuman axborotlar oqimining tezlashishini hisobga olib, zamonaviy pedagogik texnologiya fani pedagogik prognostikaning yangi shakl, vosita va usullaridan foydalanish mexanizmini yaratishni o'z zammisiga olmog'i talab etiladi.

Kalit so'zlar: Texnologiya, mexanizmi, metodologiya, didaktika, yangi shakl, vosita.

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MODERN PEDAGOGICAL TECHNOLOGIES IN ORGANIZING EDUCATION

Abstract: Considering the rapid development of society, the expansion of needs and development opportunities, the acceleration of the flow of diverse information, the science of modern pedagogical technology is obliged to take up the creation of a mechanism for using new forms. , means and methods of pedagogical forecasting.

Key words: Technology, mechanism, methodology, didactics, new form, tool

Bugungi kunda turli tipdagi ta'lim muassasalarida amalga oshirilayotgan ta'limning o'rni va darajasini aniqlashga yo'naltirilgan tadqiqotlarda pedagogik prognostikaning imkoniyatlaridan keng foydalanish talab qilinadi. Shundagina ta'lim jarayonining natijalari fan, ishlab chiqarish, madaniyat, iqtisod hamda jamiyat hayotining barcha sohalarini rivojlantirishga xizmat qila oladi. Pedagogik prognostikaga tayangan holda yaratilgan nazariyalargina uzluksiz ta'lim jarayonini uning bosqichlari va komponentlarining mazmuni, shakli va vositalarini, ta'lim natijalarining jamiyat hayotiga ko'rsatadigan ta'sir darajasini oldindan loyihalashtirishga asos bo'la oladi. Demak, o'quv-tarbiya jarayonini yangi tamoyillar va yangi mafkuraviy negizda qayta qurish, ta'lim sohasida islohotlarni amalga oshirish mumkin.

Shuningdek, pedagogik texnologiyalar ta'lim jarayonini tashxis qilish va yaratilgan nazariyalar, o'quv-metodik majmualar tajriba-sinov asosida amaliyotga joriy qilishning metodologik asoslari, aniq mexanizmlari, usul va vositalarini ishlab chiqishi kerak. Ta'lim jarayonining tashxis qilish mexanizmi shu jarayonning yutuq va kamchiliklari, ta'lim natijasining sifat ko'rsatkichlari, ta'lim jarayoniga tatbiq

qilinadigan pedagogik nazariyalar, zamonaviy texnologiyalarning ta'lim amaliyotini rivojlantira olish yoki ta'limning taraqqiyotiga to'sqinlik qilish darajasini aniqlashga yo'naltirilishi kerak. Pedagogik tajriba-sinov esa amalga oshirilgan tadqiqot natijalarining samaradorlik darajasini aniqlashda alohida ahamiyatga ega. O'tkazilayotgan tajriba-sinovning xarakteri bilan bog'liq tarzda o'quv dasturlari, darslik va dars ishlanmalari, metodik qo'llanmalar, didaktik ishlanmalar yaratilishi va tajriba-sinov jarayoniga taqdim etilishi zarur. Agar o'quv dasturi tajribadan o'tkazilayotgan bo'lsa, kuzatilayotgan ta'lim jarayonini, ya'ni darslik yoki dars ishlanmalari, texnik vositalar, ko'rgazmali qurollar, o'quv qo'llanmalari bilan ta'minlashga erishish talab etiladi. Bunda asosiy e'tibor o'qituvchining qaysi metod yoki pedagogik texnologiyani qo'llaganligiga emas, balki o'quv dasturi doirasida taqdim etilayotgan o'quv materiallarining samaradorligini aniqlashga qaratiladi. Chunonchi, tajriba-sinov jarayoniga jalb etilgan nazariyalar hamda tajriba sinflaridan olingan natijalar statistik jihatdan ishlanishi va amalga oshiriladigan tajriba-sinov ishlari jarayoni va ularning natijasi ekspertizasiga nufuzli ilmiy-pedagogik jamoalar hamda yetakchi mutaxassislar jalb etilishi talab qilinadi.

Bugungi kunda jamiyatimiz rivojlanishida pedagogik prognostika o'zining aniq belgilab olingan maqsad va vazifalari, obyekti va predmeti, tadqiq etayotgan muammolarning mantiqiy asoslari, rivojlanish qonuniyatlari, o'zining tayanch metodologiyasiga ega bo'lgan pedagogika fanining muhim tarmog'i sifatida namoyon bo'ladi. Pedagogik prognostika ilmning ustuvor sohasi sifatida davlat va jamiyat taraqqiyotiga xizmat qiladigan uzluksiz ta'lim tizimini yangidan-yangi pedagogik nazariyalar negizida vujudga kelgan ta'lim modellari va texnologiyalari bilan qurollantirish asosida kadrlar tayyorlash sifatini oshirishga yo'naltirilgandir.

Pedagogik prognostika o'quvchi shaxsining yosh xususiyatlari va rivojlanish dinamikasini hisobga olgan holda ta'lim texnologiyalarini tanlaydi. Tanlab olingan muayyan ta'lim texnologiyalari doirasida o'quvchi-talabalarga turli darajadagi tushunchalarni hamda mujassamlashgan bilimlarni taqdim etish yo'llarini, shakl va vositalarini taklif qiladi. Muayyan bir pedagogik texnologiyani nazariy jihatdan asoslaganda pedagogik prognostika o'quvchi hamda o'qituvchining jonli faoliyat ko'rsatishini ta'minlashga, uning erkin fikrlash, ijodkorlik qobiliyatini rivojlantirishga yo'naltirilgan ta'lim jarayonini tashkil etishni nazarda tutmog'i lozim.

Ta'lim jarayoniga tatbiq qilinadigan har qanday pedagogik texnologiya, uning komponentlari xoh ta'lim mazmuni, xoh o'quv dasturi yoki darslik, xoh o'qituvchi faoliyati orqali o'tishidan qat'iy nazar, o'quvchining jonli tarzdagi erkin va ijodiy faoliyatini jadal rivojlantirishga xizmat qilishiga erishish talab qilinadi. Bunda pedagogik texnologiyalar, birinchi navbatda, har bir o'quvchi-talabaning boshqa o'quvchi-talabalar, dars materiallari hamda o'qituvchi (pedagog) bilan erkin tarzda muloqot qilishini, fikr almashishini ta'minlaydi.

Pedagogik texnologiyaning asosiy mohiyati har bir shaxsda mavjud bo'lgan uning ehtiyoji, qiziqishi, iqtidori va imkoniyatlari asosida ularda ijobiy xislat va fazilatlarni shakllantirish, rivojlantirish sanaladi.

Bu o'rinda ta'lim mazmuni shaxsning shakllanishi va rivojlanishi uchun muhit sanaladi. Shuning uchun ta'lim mazmuni insonparvarlikka yo'naltirilgan gumanistik g'oya va me'yorlarni o'zida mujassamlashtirgan bo'lishi lozim.

Ushbu pedagogik texnologiyada ta'lim tizimi markazida barkamol inson shaxsini shakllantirish va rivojlantirishga qaratilgan insonparvarlik g'oyasi muhim o'rin tutadi. Bu g'oya qay darajada amalga oshirilganligi ta'lim jarayonining asosiy natijasi pedagogik jamoa mehnatining sifatiga berilgan baho asosida aniqlanadi. Pedagogik munosabatlarni insonparvarlashtirish va demokratlashtirishda o'quv-tarbiyaviy jarayonning asosiy natijasini aniqlovchi muhim omil shaxsga bo'lgan munosabat hisoblanadi.

Usullarni ma'lum bir uslubda qo'llash jarayonida har bir harakat maqomi muayyan maqsad ko'rsatkichlariga bo'ysundiriladi. Undan tashqari, inson maqsadga yetish jarayonida bir qator qonuniyatlarga ham tamoyil sifatida amal qiladi.

Ta'lim uslubi – pedagog bilan talabalar orasida bilim berish va uni olish maqsadida amalga oshiriladigan o'zaro aloqalarni tizimga soluvchi pedagogik tadbiridir. O'qitish uslublari o'quv jarayonining asosiy qismi hisoblanadi. Tegishli uslublarsiz pedagogik faoliyatni amalga oshirib bo'lmaydi.

Uslublar bilimlarni uzatish va qabul qilish xarakteriga qarab so'z orqali ifodalash, ko'rgazmali va amaliyga bo'linadi. Ta'lim mazmunini o'zlashtirishda talabalarning ta'lim faoliyatiga munosib ravishda quyidagi uslublar: tushuntirish – illyustrativ, reproduktiv, muammoli bayon, xususiy qidirish yoki evristik hamda yarim tadqiqot uslublari qo'llaniladi.

Ta'limning og'zaki uslublariga: hikoya, ma'ruza, suhbat va boshqalar kiradi. Bu uslublarni qo'llashda o'qituvchi (pedagog) so'z vositasida o'quv materialini bayon qiladi, tushuntiradi, o'quvchi-talabalar esa tinglash, eslab qolish orqali uni faol qabul qiladi.

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EUGENE ONEGIN AS AN IMAGE OF THE "SUPERFLUOUS MAN" IN RUSSIAN LITERATURE

Abstract : *Eugene Onegin, the protagonist of Alexander Pushkin's Eugene Onegin, is a quintessential representation of the "superfluous man" archetype in Russian literature. Despite his intelligence and education, Onegin remains alienated from society and feels redundant in the world. Pushkin reveals that Onegin's apathy and cynicism stem from a deeper inner emptiness and personal crisis. This article examines Eugene Onegin's role as a 19th-century "superfluous man" and explores how this concept influenced other characters in Russian literature.*

Key words: Superfluous man, Eugene Onegin, inner emptiness, alienation from society, Pushkin, 19th-century Russian literature, apathy, cynicism, philosophical crisis, social crisis, literary hero, Russian Romanticism, human tragedy, love and alienation, self-identity exploration

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EVGENIY ONEGIN RUS ADABIYOTIDA "ORTIQCHA ODAM" OBRAZI SIFATIDA

Annotatsiya: A.S. Pushkinning Evgeniy Onegin asarida Evgeniy Onegin obrazi rus adabiyotidagi "keraksiz odam" arxetipining klassik namunasi sifatida talqin etiladi. Ushbu obraz bilimli va aqlli bo'lishiga qaramay, jamiyatdan begonalashgan va o'zini ortiqcha deb hisoblaydi. Pushkin Oneginning hayotga befarqligi va ichki bo'shligini ochib berib, uning shaxsiy fojiasini chuqurlashtiradi. Ushbu maqolada Evgeniy Oneginning 19-asr "keraksiz odam" obrazidagi o'rni tahlil qilinadi va bu tushunchaning boshqa rus adabiyoti qahramonlariga ta'siri o'rganiladi.

Kalit so'zlar: Keraksiz odam, Evgeniy Onegin, ichki bo'shliq, jamiyatdan begonalashish, Pushkin, 19-asr rus adabiyoti, apatiya, kinoya, falsafiy krizis, ijtimoiy inqiroz, adabiy qahramon, rus romantizmi, insoniy fojia, sevgi va begonalik, o'zlikni anglash.

Introduction

The figure of the “superfluous man” represents a unique archetype in Russian literature: a person who, despite being part of society, remains profoundly detached from it. This alienation often stems from disillusionment, purposelessness, and a lack of connection to both social structures and personal aspirations. Eugene Onegin, the protagonist of Pushkin’s novel in verse *Eugene Onegin*, epitomizes this archetype.

In the early 19th century, Russian nobility faced an identity crisis. Disconnected from the common people and skeptical of traditional societal norms, they found themselves adrift, unable to enact meaningful change or find fulfillment. Pushkin’s depiction of Onegin encapsulates this existential struggle, portraying him as a man burdened by intelligence and education yet unable to find a purpose in life.

Methods

The analysis in this study is based on a close reading of Pushkin’s *Eugene Onegin* and comparative literature techniques. Scholarly interpretations, including the works of Vladimir Nabokov, Caryl Emerson, and Charles Moser, are used to contextualize Onegin’s character within the broader literary tradition. The methodology also involves tracing the evolution of the “superfluous man” archetype in works by Lermontov, Turgenev, and Goncharov to highlight Pushkin’s influence.

Results

The study finds that Onegin’s apathy and disillusionment stem from a deep disconnect between his intellectual capacity and societal expectations. His inability to act or form meaningful relationships leads to a cycle of self-imposed isolation. This detachment is most poignantly illustrated in his rejection of Tatyana’s love and his later realization of the consequences.

Furthermore, the archetype of the “superfluous man” as established by Pushkin served as a model for subsequent literary figures, including Pechorin in Lermontov’s *A Hero of Our Time* and Oblomov in Goncharov’s *Oblomov*. These characters, while distinct, share a similar inability to reconcile their inner ideals with external realities, highlighting a persistent theme in Russian literature.

Discussion

The “superfluous man” represents a universal struggle with identity, purpose, and societal norms. Pushkin’s *Eugene Onegin* captures the existential dilemma of his time while also addressing timeless questions about human fulfillment. Onegin’s tragedy lies not only in his personal failings but also in the systemic constraints of his social class, which limited avenues for meaningful engagement.

The concept of the “superfluous man” continues to be relevant in modern contexts, as individuals face similar challenges in navigating complex societal structures. Pushkin’s exploration of alienation, love, and self-awareness offers profound insights into the human condition, making *Eugene Onegin* a timeless literary masterpiece.

Apathy and Disillusionment as Traits of the Superfluous Man

One of the central manifestations of the “superfluous man” in *Onegin* is his apathy. He is tired of life without fully understanding what disappoints him.

According to many literary critics, this sense of emptiness and disillusionment reflects the crisis of the Russian nobility in the 19th century. The educated class found itself alienated from the common people and, at the same time, had few real avenues for social or political engagement.

Onegin attempts to change his life by moving to the countryside after his uncle's death. Initially, it seems that a simpler life in touch with nature might bring him meaning. However, rural life also fails to give him inner peace. Onegin soon tires of this lifestyle as well, as his habits and worldview prevent him from finding genuine harmony.

Onegin and Tatyana: The Impossibility of Being Understood

An essential element in the development of Onegin as a “superfluous man” is his approach to love and relationships. Onegin cannot—or does not wish to—be understood, and this is evident in his relationship with Tatyana Larina. Tatyana is a pure, sincere girl, unaccustomed to societal conventions, and she naively falls in love with Onegin, openly expressing her feelings. But Onegin rejects her. His refusal is not just a nod to social cynicism; he is unable to accept simple, sincere love, as he does not believe in its value or future.

Later, meeting Tatyana again as a married woman, Onegin realizes that he has missed something important. His earlier cynicism and detachment turn into a personal tragedy. However, this does not change his character. Onegin remains the same “superfluous man”—disillusioned and lost, though now aware of the cost of his mistakes. His tragedy lies in the fact that, even upon understanding his error, he cannot return to the past or change his outlook on life.

Conclusion:

The image of Eugene Onegin is more than just a personal story. Onegin symbolizes an entire generation of people who could not find themselves within the confines of their society. His inner crisis and discontent reflect not only a personal drama but a deep conflict between the individual and the world around him. Onegin's tragedy is that he possesses intelligence and talent but, unable to find a worthy purpose, becomes “superfluous.”

Thus, Eugene Onegin as a “superfluous man” is not only a character created by Pushkin but a symbol that remains relevant even today.

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TIJORAT BANKLARIDA KREDIT PORTFELI SAMARADORLIGINI OSHIRISH ISTIQBOLLARI

Annotatsiya: Mazkur maqola tijorat banklari faoliyatida muhim o‘rin tutuvchi kredit portfeli samaradorligini oshirish masalalariga bag‘ishlangan. Maqolada kredit portfeli tushunchasi, uning tuzilishi, samaradorligini baholash mezonlari va unga ta’sir etuvchi omillar tahlil etilgan. O‘zbekiston tijorat banklarining kredit portfeli holati va rivojlanish tendensiyalari, shuningdek, xalqaro tajriba asosida kredit portfeli samaradorligini oshirishning istiqbolli yo‘nalishlari yoritib berilgan. Maqolada kredit risklarini boshqarish, diversifikatsiya, innovatsion texnologiyalarni joriy etish, mijozlar bilan ishlash sifatini oshirish kabi muhim omillar alohida ta’kidlangan.

Kalit so‘zlar: Kredit portfeli, samaradorlik, kredit riski, diversifikatsiya, innovatsiyalar, moliyaviy barqarorlik, risklarni boshqarish, bank aktivlari, kredit siyosati.

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PROSPECTS FOR INCREASING THE EFFICIENCY OF THE CREDIT PORTFOLIO OF COMMERCIAL BANKS

Annotation: This article is devoted to the issues of increasing the efficiency of the loan portfolio, which plays an important role in the activities of commercial banks. The article analyzes the concept of the loan portfolio, its structure, criteria for assessing its efficiency and factors affecting it. The state and trends of the loan portfolio of commercial banks of Uzbekistan, as well as promising areas for increasing the efficiency of the loan portfolio based on international experience are covered. The article highlights such important factors as credit risk management, diversification, implementation of innovative technologies and improving the quality of work with clients.

Key words: Loan portfolio, efficiency, credit risk, diversification, innovation, financial stability, risk management, bank assets, credit policy.
Kredit portfeli samaradorligini oshirishning asosiy yo‘nalishlari

1. Kredit riskini boshqarishning takomillashtirilishi: Kredit riskini boshqarish kredit portfeli samaradorligini oshirishning muhim tarkibiy qismidir. Bu borada quyidagi amaliyotlar muhim ahamiyatga ega:

- Kredit scoring sistemalarini yaxshilash: Mijozlarning kredit layoqatini baholashda zamonaviy statistik usullar va algoritmik modellar qo'llash, kredit riskini aniqroq baholashga imkon beradi.

- Risklarni diversifikatsiya qilish: Kreditlarni turli sektorlar, mijozlar toifalari va geografik hududlar o'rtasida taqsimlash, konsentratsiya riskini kamaytiradi.

- Kredit monitoringi: Kreditlarni muntazam monitoring qilish, yuzaga kelishi mumkin bo'lgan muammolarni erta aniqlash va o'z vaqtida choralar ko'rishga imkon beradi.

- Kredit siyosatini takomillashtirish: Kredit berish mezonlari va shartlarini doimiy ravishda qayta ko'rib chiqish va takomillashtirish, kredit riskini kamaytirishga yordam beradi.

Texnologik innovatsiyalarni qo'llash: Raqamli texnologiyalarni joriy etish, kredit portfeli samaradorligini oshirishda katta imkoniyatlar ochadi. Bu borada quyidagi yo'nalishlar muhim ahamiyatga ega:

Onlayn kreditlash platformalarini yaratish: Mijozlarga masofadan turib kredit olish imkoniyatini beradigan onlayn platformalar, kredit berish jarayonini tezlashtiradi va xarajatlarni kamaytiradi.

Avtomatlashtirilgan kredit jarayonlari: Kredit ariza berish, baholash, tasdiqlash va monitoring kabi jarayonlarni avtomatlashtirish, xarajatlarni kamaytiradi va samaradorlikni oshiradi.

Mijozlar bilan ishlashni yaxshilash: Kredit portfeli samaradorligini oshirish uchun mijozlar bilan o'zaro munosabatlarni yaxshilash muhimdir:

Mijozlarga yo'naltirilgan xizmatlar: Mijozlarning ehtiyojlarini qondiradigan moslashuvchan kredit mahsulotlarini taklif qilish, mijozlar sodiqligini oshiradi.

Mijozlarga maslahat berish: Moliyaviy savodxonlik dasturlari orqali mijozlarga kreditlarni to'g'ri boshqarish bo'yicha maslahat berish, kredit riskini kamaytiradi.

Mijozlarning ehtiyojlarini o'rganish: Kredit mahsulotlarini takomillashtirish va yangi mahsulotlar yaratish uchun mijozlarning ehtiyojlarini muntazam ravishda o'rganib borish muhimdir.

Kredit portfelini diversifikatsiya qilish: Kredit portfelini diversifikatsiya qilish orqali, risklarni kamaytirish va barqaror daromad olishga erishish mumkin:

Kichik va o'rta biznesni qo'llab-quvvatlash: Kichik va o'rta biznesga kreditlar berish orqali, iqtisodiyotning rivojlanishiga hissa qo'shish va bankning kredit portfelini diversifikatsiya qilish.

Iste'mol kreditlarini kengaytirish: Iste'mol kreditlari, bankka barqaror daromad keltirishi va kredit portfelini diversifikatsiya qilishga yordam beradi.

Yangi sektorlarga kredit berish: Iqtisodiyotning yangi rivojlanayotgan sektorlariga investitsiyalar kiritish, bankning kredit portfelini diversifikatsiya qilish va rentabelligini oshirishga yordam beradi.

Tijorat banklarining kredit portfelini samaradorligini oshirish istiqbollari

Raqamli bank xizmatlarining yana ham rivojlanishi: Raqamli texnologiyalarning rivojlanishi kredit portfelini boshqarishda yanada samaraliroq yechimlarni taqdim etadi. Sun'iy intellektga asoslangan kredit qarorlarini qabul qilish tizimlari, blokcheyn texnologiyasi va katta ma'lumotlar tahlili, kredit risklarini kamaytirish va operatsion xarajatlarni pasaytirishga yordam beradi.

Kredit portfelini boshqarishning Global standartlarini joriy etish: Kredit portfelini boshqarishda global standartlarni (masalan, Bazel qo'mitalari tavsiyalari) joriy etish orqali xalqaro moliya bozorlariga integratsiya jarayonini jadallashtirish va kredit riskini kamaytirish mumkin.

Yangi kredit mahsulotlarini ishlab chiqish: Banklar innovatsion kredit mahsulotlarini ishlab chiqish orqali, mijozlarning turli xil ehtiyojlarini qondirish va o'z raqobatdoshligini oshirishi mumkin. Masalan, yashil kreditlar, ta'lim kreditlari va mikrokreditlar kabi yangi kredit mahsulotlari talabga ega.

Tijorat banklari kredit portfeli samaradorligini oshirish, risklarni kamaytirish va raqobatbardoshligini ta'minlash uchun muhim ahamiyatga ega. Kredit riskini boshqarish, texnologik innovatsiyalarni joriy etish, mijozlar bilan ishlashni yaxshilash, va diversifikatsiya kabi yo'nalishlar orqali banklar o'z kredit portfeli samaradorligini oshirishlari mumkin. Kelajakda raqamli texnologiyalarning yanada rivojlanishi, ekologik va ijtimoiy mas'uliyat tamoyillariga rioya qilish, va innovatsion kredit mahsulotlarini ishlab chiqish banklarga yanada ko'proq imkoniyatlar yaratadi. Bu esa, o'z navbatida banklarning moliyaviy barqarorligini va rentabelligini ta'minlashga xizmat qiladi.

Tijorat banklarining kredit portfelida samaradorlikni oshirishning asosiy yo'nalishlari

Raqamli transformatsiya: Raqamli texnologiyalarning jadal rivojlanishi banklar uchun kredit jarayonlarini optimallashtirishda yangi imkoniyatlar ochmoqda:

Barqaror kreditlash: Barqaror kreditlash tamoyillarini joriy etish, banklarning ijtimoiy mas'uliyatini oshiradi va uzoq muddatli o'sishni ta'minlaydi:

Kredit risklarini prognozlash: Kredit risklarini aniq prognoz qilish, banklarning moliyaviy barqarorligini ta'minlashning muhim shartidir:

Kredit riskini baholash modellarini yaxshilash: Zamonaviy statistik modellar, mashinali o'qitish algoritmlari va neyron tarmoqlardan foydalanish, kredit riskini aniq baholashga imkon beradi.

Makroiqtisodiy omillarni hisobga olish: Makroiqtisodiy omillar (inflyatsiya, ishsizlik darajasi, valyuta kursi) kredit riskiga ta'sirini tahlil qilish, risklarni oldindan baholashda muhimdir.

Mijozlarning xulq-atvorini tahlil qilish: Mijozlarning kredit to'lovlari bo'yicha o'tmishdagi xulq-atvorini tahlil qilish, kelajakda to'lovlarni amalga oshirish ehtimolini prognozlashga yordam beradi.

Ma'lumotlar xavfsizligi va maxfiyligi: Mijozlarning ma'lumotlarini himoya qilish uchun zamonaviy kiberxavfsizlik texnologiyalari va ma'lumotlar maxfiyligini

ta'minlash, banklarning obro'sini saqlash va ishonchni oshirishda muhim ahamiyatga ega.

Xulosa:

O'zbekiston tijorat banklari aktivlarining tarkibida kreditlar eng yuqori salmoqni egallaganligi sababli banklarning likvidliligi va moliyaviy barqarorligini ta'minlash bevosita kredit portfelini sifatiga bog'liq. O'z navbatida, banklar kredit portfelining sifatini yaxshilash kredit riskini boshqarish amaliyotini takomillashtirish zaruriyatini yuzaga keltiradi. Kredit operatsiyalarini amalga oshirishda muammoli kreditlarning yuzaga kelishi, ularning buxgalteriya hisobini xalqaro standartlari talablari asosida tartibga solishni zaruriyat qilib qo'yimoqda. Ushbu zaruriyatdan kelib chiqib, tijorat banklarida kreditlar bo'yicha to'lash va ehtimoliy yo'qotishlar zahiralarini jarayolari hisobini takomillashtirish dolzarb masalalardan biri hisoblanadi.

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NUTRITIONAL BENEFITS OF BIOACTIVE COMPOUNDS FROM WATERMELON: A COMPREHENSIVE REVIEW

Abstract. According to the latest statistics, the major problem that predominates in the contemporary world today is chronic disorders, which account for deaths greater than 40 million annually. Further, 74% of all deaths in the world are due to cardiovascular disorders (CVD), cancer, chronic respiratory diseases, and diabetes-related kidney disease. It is well-established that chronic inflammation is associated with oxidative stress and thrombo-inflammatory manifestations. This helps to propagate and develop these disorders, while it has also been observed that switching to healthy dietary habits plays a vital anti-inflammatory role in the prevention of these chronic disorders, improving thus life quality.

Keyword: Fruits, watermelon, flesh, healthy fruit, antioxidant, nutritional composition, bioactive content, amino acids.

Introduction. Fruits and vegetables play a vital role in healthy dietary patterns, as they possess a wide variety of micronutrients with antioxidant, anti-inflammatory, and antithrombotic properties. The consumption of diverse fruit species relates to a lower chance of acquiring certain diseases, particularly cancer and cardiovascular disease, due to the potential for bioactivity.

Citrullus lanatus (CL), commonly known as a watermelon, seems rich in bioactive and healthy fruit. Watermelons belong to the Cucurbitaceae family of tropical fruits (Kyriacou, Leskovar, Colla, & Rouphael, 2018) and are one of the world's most cultivated fruits of significant economic importance. Watermelons are primarily grown in Asia (79.5%), Africa (7.5%), and America (6.9%). Although fruit production and consumption are gradually expanding in the Mediterranean basin, China produces 67% of the total quantity (FAO, 2018), reaching 60.9 million tons per annum (FAO, 2020) with the highest consumption rates.

Watermelon consumption is increasing due to its refreshing taste, sweetness, appealing color (red, yellow, and pink), and high-water content. As a fruit, it is low in calories, salt, cholesterol, and fat fruit (Nishat et al., 2024; Yadav, Prasad, Singh, & Singh, 2022; Żyżelewicz & Oracz, 2022), and thus a popular and widely consumed fruit (Dammak et al., 2019), due also to being thirst-quenching and nutritious, with an abundant content of nutrients, minerals, and phytochemicals

(Yadav et al., 2022) With numerous biological benefits that are linked to healthy eating and improved human health (Manivannan, Lee, Han, Lee, & Kim, 2020; Tlili et al., 2023). Subsequently, several health benefits from the intake of watermelon have been reported, such as improving cardiovascular health, high blood pressure in hypertensive patients, decreasing LDL (low-density lipoproteins) oxidation, and fighting against age-related degenerative diseases and certain types of cancer (Bianchi, Provenzi, & Rizzolo, 2020; Dammak et al., 2019; Tlili et al., 2023).

Nevertheless, an increased demand from consumers for watermelon and fruits has increased the byproduct production. Several food processing facilities generate serious amounts of peels and seeds as byproducts (Boukid, Pera, Parladé, & Castellari, 2022; Samota et al., 2023). There is an increasing concern about agri-food byproducts generated by the fruit and vegetable sectors, as they can jeopardize food security and cause economic and environmental issues (Sagar, Pareek, Sharma, Yahia, & Lobo, 2018; Silva, Gonçalves Albuquerque, Alves, Oliveira, & Costa, 2018).

Search strategy. A comprehensive literature survey was performed using scientific databases such as Google Scholar, Web of Science, and Scopus. Data were gathered from scientific publications in English from 2018 to 2024 using the following keywords: watermelon, byproducts, nutritional composition, bioactive compounds, health, and food application. The inclusion criteria were based on the contents such as (i) the design of the experimental study, (ii) health benefits, and (ii) food application.

Nutritional composition, bioactive content, and associated health benefits of watermelon. Watermelon has a plethora of micronutrients crucial for the physiological functions of the human body (Nkoana et al., 2022). A chunky rind and a fleshy middle (i.e., pulp) containing lycopene and beta-carotene contributing diverse colors characterize watermelon (Yıkımsı, 2020). Oberoi and Sogi (2017) found that watermelon fruits produce 55.3% juice, 10.4% pomace and 31.5% rind. Several studies have evaluated the nutritional composition of flesh, juice, rind/peel, rind powder, and watermelon.

Antioxidant and anti-inflammatory properties and associated health-promoting effects. *Citrullus lanatus* is an excellent functional food, and its various sections are great sources of a variety of antioxidant bioactive, such as vitamins, phenolic compounds, and carotenoids (Alemika et al., 2018; Imran et al., 2020; Jibril et al., 2019; Mirahmadi et al., 2020). According to Tlili et al. (2023), as well as citrulline, a non-essential amino acid with significant antioxidant effects (Dawoud, Malinski, Malinski, & Malinski, 2020).

Potential food application of watermelon byproducts that improve food functionality and health-promoting effects. Watermelon and its byproducts can be applied in some food products such as cookies, dairy, and meat products and can be considered environmentally friendly for food packaging systems. Moreover, the chemical composition of watermelon byproducts (rind and seeds) exhibits a potential source of nutrients and bioactivity to be utilized as functional ingredients

for developing novel valuable products in several applications with a relevant impact on the food industry.

The unique composition of watermelon, including its minerals, vitamins, and phytochemicals, reportedly has specific therapeutic and pharmacological significance (Banurek and Mahendran, 2011; Jiang et al., 2020; Nkoana et al., 2021; Ubbor and Akobundo, 2009; Zhao et al., 2021). Watermelon seeds are rich in proteins, oil, and unsaturated fatty acids, such as stearic, palmitic, linoleic, and oleic acids. It is also a rich reservoir of natural organic sugars including glucose, sucrose, and fructose and it contains carotenoids such as β -carotene (Khan et al., 2020). Watermelon fruits are comprised of phytochemical compounds, such as cucurbitacins and their glycoside derivatives which exhibit a peculiar medicinal significance in terms of potent biological activities, such as hepatoprotective, anti-inflammatory, anti-tumor, antimicrobial and anthelmintic effects (Biswas et al., 2017; Nkoana et al., 2021).

In Sudan, watermelon is used for the treatment of various ailments including gastrointestinal disorders, rheumatism, inflammation, and gout. In South Africa, the leaves and fruits of the watermelon plant are employed in conventional healing and alternative medicinal therapies to treat hypertension (Aderiye et al., 2020; Nkoana et al., 2021; Rashid et al., 2020). Furthermore, the roasted seeds of watermelon are utilized by consumers as an appetite stimulant and to alleviate constipation (Biswas et al., 2017). In recent years, the interest of consumers in natural plant-derived food products as alternatives to pharmacological drugs for the treatment of human diseases and ailments has increased (Ahmad et al., 2020; Biswas et al., 2017; Nkoana et al., 2021). This review summarizes our current knowledge of the phytochemical profile and therapeutic effects of watermelon, including the limited information available regarding the ethno-medicinal benefits. This review indicates that watermelon has a superb nutritional profile, contains numerous phytochemicals, and exhibits beneficial therapeutic effects.

Carotenoids. Watermelon is the world's third most popular fruit consumed during hot weather. The color of the watermelon's flesh is an essential characteristic. White, salmon yellow, orange, crimson red, scarlet red, pale yellow, canary yellow, and green are the eight defined flesh colors for watermelon. Except for the green flesh color, watermelon contains a variety of carotenoids that are responsible for the various flesh hues. Carotenoids are important functional components and micronutrients in watermelon. The carotenoid composition and concentration have both become a major focus during watermelon quality assessments (Zhao et al., 2013). The majority of β -carotene and lycopene were found in red-fleshed watermelons. Lycopene accounted for most of the total carotenoids (84%-97%). Carotenoid composition and content in watermelons of varying flesh colors are linked to cultivars and growing conditions (Tadmor et al., 2005).

Lycopene, β -carotene, phytofluene, phytoene, lutein, and neurosporene are some of the carotenoids that have been identified in watermelon. Lycopene is comprised of 13 double bonds two of which are non-conjugated and 11 which are,

and it is characterized by an acyclic open-chain structure. The antioxidant property of lycopene and its bright red color are attributed to its unique conjugated polyene structure (Holzapfel et al., 2013; Shi and Maguer, 2000; Stahl and Sies, 1996). In foods, the most widespread and natural lycopene configuration is the all E-isomer. During the oxidation and thermal processing, the lycopene Z and E isomerizations may exist in foodstuffs. The potent antioxidant is composed of only E-isomers, while the 5Z-lycopene is reportedly the most biologically active form. Lycopene is a suitable target for electrophilic reagents, presuming that there is an electron-rich organization due to its polyene structure. In the case of free radicals for oxygen scavenging, it has extreme reactivity (Holzapfel et al., 2013). As a free radical scavenger, the carotenoid's lycopene is reported to be the most effective and potent antioxidant and singlet oxygen quencher, and the risk of cancers and cardiovascular diseases are subsequently reduced (Holzapfel et al., 2013; Perkins-Veazie et al., 2001; Shi and Maguer, 2000; Stahl and Sies, 1996). The most important function of carotenoids is to neutralize compounds produced throughout photosynthesis (Table 4, 5). The structure of lycopene is shown in Fig. 1.

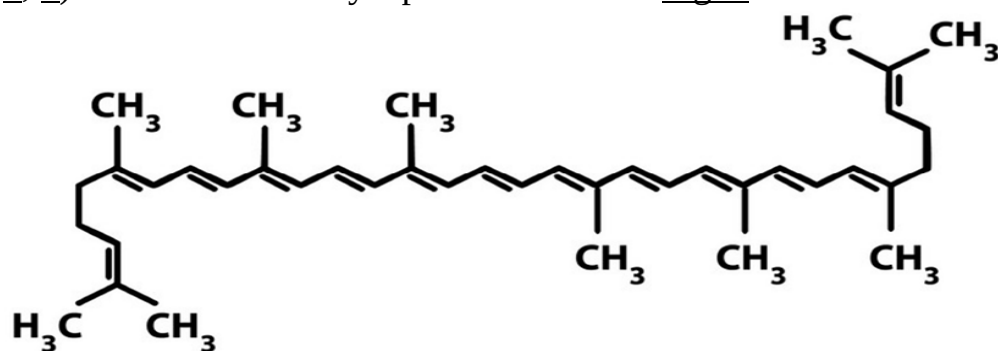


Fig. 1. Structure of lycopene.8

Amino acids. The organic constituents comprised of both amino and acid groups are designated as amino acids (AA). All AAs have optical activity and an asymmetric carbon excluding glycine. The arrangement with reference to the glyceraldehydes of AA isomers is nominated as an absolute configuration. All protein AAs allied to the α -carbon atom (hence α -AA) have a carboxyl group and a primary amino group excluding proline (Galli, 2012). AAs have an extraordinarily diverse range of biochemical properties and functions due to the differences in their side chains (Brosnan, 2009; Wu et al., 2007; Yamane et al., 2009). At biological pH, except for (1) cysteine which suffers from rapid oxidation to cystine and (2) other is progressively to pyroglutamate cyclized at 1%/day at 1 mM is glutamine (25°C). All AAs are normally constant in aqueous solution.

The isoforms can substitute entire AAs, except for glycine. Furthermore, except for D-lysine, D-histidine, D-threonine, D-arginine, and D-cystine in animals, the maximum D-AA via extensive transaminases and oxidases can be converted into AA (Baker and Cameron, 1999; Fang et al., 2009). Dependent on substrates and species, the effectiveness of AA consumption may be 20%-100%, based on isomer (Baker and Cameron, 1999).

In nature, there are more than 300 AAs. However, only 20 of these function as the building blocks of protein. Significant roles in cell metabolism are performed by non-AA (such as β -alanine and taurine) and non-protein AA such as (ascitrulline, homocysteine, and ornithine) (Huh et al., 2014; Manna et al., 2009; Perla-Kaján et al., 2007). In the body for both free AAs and those that are peptide-bound, the chief reservoir is the skeletal muscle since it consists of 40%-45% of an individual's body weight (Davis and Fiorotto, 2009). Watermelon is an admirable source of citrulline (an amino acid), which is utilized to help produce another amino acid called arginine. The effectiveness of citrulline and arginine in cardiovascular health, immune function, wound soothing, and sickle cell anemia has been emphasized in previous studies (Tong and Barbul, 2012). For citrulline, 80% of the ingested aggregate was found to be absorbed quickly into the blood, and it has better bioavailability when compared with arginine (Mandel et al., 2005). The structures of citrulline and arginine are shown in Fig. 2 (Collins et al., 2007; Rimando and Perkins-Veazie, 2005).

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LEXICAL-SEMANTIC FEATURES OF THE TERMINOLOGY OF AGRICULTURE IN ENGLISH AND UZBEK LANGUAGES

Abstract: *The article examines the lexical-semantic features of agricultural terms in English. This article purpose is explaining the linguistic features of agricultural terms used in the field of plant growing in the Uzbek language and identifying ways of making and translating the terminology.*

Key words: *agriculture, lexical units, agricultural terms, English, Uzbek, language comparison, communication, agriculture terminology.*

Currently, a lot of work is being done to develop the country's economy. In particular, we are witnessing rapid changes in the field of agriculture, which is one of the main links in economic development.

Terminology is one of the specific layers of vocabulary, which, due to the special structural organization of components, close internal interrelation of parts, the peculiarity of the formation and development of semantics, relationships within terminology and its relationship with other categories of vocabulary, functioning, relationship with the object of nomination, differs from commonly used words and thus occupies a special place in the structure of the lexical system of the language.

The main linguistic features of terms and the system of terms are covered quite well in a special section of lexicology called terminology. The existing studies on the problems of terminology are numerous and multifaceted. For the purposes of this study, those studies are especially important that characterize » questions about systemic relationships in terminology and in vocabulary.

Lexical motivation (significance, differential paradigmatic meaning) is a set of semantic differential features revealed when comparing terms belonging to the same lexical-semantic group or category. Significance indicates the place of the term in the network of "similarity" / "difference" relations established on the basis of contrasting terms that are similar in some respect.

Lexical-semantic groups of terms are terms united by a common meaning. There are 3 large groups of terms based on a common meaning:

- I. terms - nouns (subject);
- II. terms - adjectives, (subject feature);
- III. Terms - nouns.

Agricultural terms can vary based on context, but here's a list of common agricultural terms in English and their corresponding translations in Uzbek:

- Agriculture - Qishloq xo'jaligi
- Farm - Ferma
- Crop - Ekin
- Harvest - Hasil qilish
- Field - Maydon
- Soil - Yer osti
- Fertilizer - Dekorativ o'zgarmaydigan qo'yish
- Irrigation - Suq bilan suv osti
- Plow - Oqi
- Seeder - Ekin o'tkazuvchi
- Harvester - Hasil olish mashinasi
- Livestock - Baland darajada hayvonlar
- Cattle - Go'shtsotar hayvonlar
- Poultry - Toyuq uskunalari
- Greenhouse - Yashilxonalar
- Crop rotation - Ekinlar almashtirish
 - Pesticide - Ilon
 - Organic farming - Ekologik qishloq xo'jalik
 - Gardening - Bog'cha ishlari
 - Drought - Kuraklik
 - Flood - Su basishi
 - Agronomist - Agronom
 - Cultivation - Ekinlarni ekish
 - Weeding - O'tkir yig'ish
 - Compost - Kompost
 - Tractor - Traktor
 - Rural - Qishloq
 - Horticulture - Bag'riqlik
 - Sustainable agriculture - Mustaqil qishloq xo'jalik
 - GMO (Genetically Modified Organism) - GMI (Genetik tarzda o'zgarib chiqqan organism)

Please note that translations may vary based on regional dialects. If you need more specific terms or have any other questions, feel free to ask!

In modern linguistics, much attention is paid to understanding and studying language as a system. One of the main principles in linguistics is a systematic approach to studying language and its levels. At the same time, in modern linguistics there is still no unity in describing and studying the systemic relationships of levels and units of language. The diversity of approaches to the perception of the systematicity of language primarily indicates the complexity, multidimensionality and multi-aspect, contradictory and variable nature of the language system itself and its levels and units.

Linguistic features of vocabulary - its direct correlation with objective reality and dependence on it, openness, mobility characterize vocabulary as the least organized system. Therefore, the idea of the systematicity of vocabulary penetrated linguistics much later.

The idea of systematicity in vocabulary is reflected in the study of semantically interconnected groups, the so-called lexical fields, built on paradigmatic and syntagmatic principles, identifying the structural organization of vocabulary based on the above principles, establishing semantic differences in the hierarchy of species and subspecies relationships. However, to date, lexicology lacks a sufficiently consistent and generally accepted classification of type-species relationships between the identified semantic associations, the so-called semantic fields, lexical-semantic and thematic groups, paradigms, etc. The principles of gradation and hierarchical organization and correlation of semantic groupings are the weakest side of modern research on the systematic study of vocabulary. Even the most widely accepted semantic associations of words identified in lexicology are based on different principles. Summarizing lexical-semantic phenomena in vocabulary based on paradigmatic relations, it becomes possible to propose the following classification of semantic associations: paradigmatic fields, divided into logical-conceptual fields: (a) lexical-thematic and (b) lexical-semantic groups) and semasiological fields (synonymous, antonymous, homonymous, etc. series).

Features of the systemic-semantic organization of terminological vocabulary determine the specifics of its comparative-typological study.

Terminology, as a system of reflection of the conceptual structure of a certain branch of science, is initially characterized by systemic orientation and strict structural and componential organization. The specificity of expressing a certain system of scientific concepts determines the features of the functioning of terminology in vocabulary as a special semasiological system. The term reflects the concepts of scientific fields, therefore its meaning is defined, internally organized and limited by the framework of definitive correlation with the scientific concept. The conceptual correlation of the term determines its features, such as the relationship between form and actual meaning, the narrowness of syntagmatic relations in the vocabulary, the spheres of its use, the specialization of word formation and word usage. The terminology is limited in the manifestation of

synonymy, homonymy, does not allow polysemy. The named features of the terminological vocabulary characterize it as a special lexical-semantic association and determine the features of construction terminology as a lexical-thematic group with some specific organizational features.

The most important functions of terminology in the language system - to express scientific concepts as accurately as possible by means of the national language and to comply with international standards - determine the sources of terminology formation due to its own resources, as well as through borrowing.

Construction terminology is a system of terms used in the science and practice of construction. Covering the diversity of sections of this science and its practical application, construction terminology is heterogeneous and multifaceted. In this work, the analysis involved that part of the terminological vocabulary that is associated with the designation of concepts of types of building structures and design features of residential civil buildings.

As the object of the study itself shows, in the semantic analysis of terminology, the most productive method of analysis is the study of the thematic organization of vocabulary, since on the one hand it ensures coverage of most of the material on languages, on the other hand, it facilitates the analysis of semantic relationships between the compared languages within the general categorical and specific thematic groups.

Thematic analysis shows that the construction terminological vocabulary in both languages is systematically strictly organized. It is an integral system, structurally subdivided into components that are related to each other on the basis of the unity of relations. The basis of the systemic relations between the components of the terminological vocabulary is the general conceptual correlation with those realities that are the object of study in construction science and practice.

In conclusion, the development of science and technology, production is also reflected in the language. This is especially true for terminology. Conducting research within the framework of the botanical terminological system from the point of view of two languages (English and Uzbek) is one of the new directions for Uzbek linguistics, and much work remains to be done in this area. The study of the botanical terminological system in Uzbekistan in its holistic form is one of the unexplored issues of cognitive linguistics from the perspective of translation studies, in particular, the lexical-semantic features of translation from a foreign language into our national language. This topic is being specially analyzed for the first time.

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TURK XOQONLIGI HAQIDA

Annotatsiya: Turk xoqonligi, eng qadimiy va mashhur o'rta asr imperiyalaridan biri bo'lib, uning tarixiy merosi butun dunyo madaniyati va siyosatiga katta ta'sir ko'rsatgan. Bu imperiyaning kelib chiqishi, rivojlanishi va qulashining tarixiy jarayonlari juda murakkab bo'lib, bir qator siyosiy, ijtimoiy va iqtisodiy omillar bilan bog'liqdir. Ushbu maqolada Turk xoqonligi haqida batafsil ma'lumot beramiz, uning shakllanishi, tarixi, boshqaruv tizimi, madaniyati, iqtisodiyoti va xarakterli xususiyatlari haqida so'z yuritamiz.

Kalit so'zlar: Turk xoqonligi, tarix, madaniyat, imperiya, Osiyo, qabila.

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ABOUT TURKISH KHAGANATE

Annotation: Turkish Khaganate, one of the most ancient and famous medieval empires, whose historical heritage has had a great influence on the culture and politics of the whole world. The historical processes of origin, development and collapse of this empire are very complex and are associated with a number of political, social and economic factors. In this article we will tell in detail about the Turkish Khaganate, talk about its formation, history, management system, culture, economy and characteristic features.

Keywords: Turkish Khaganate, history, culture, empire, Asia, tribe.

Turk xoqonligi Tarixi

Turk xoqonligi o'rta asrlarda Turklarning qadimiy davlatlaridan biri sifatida shakllangan. Uning tarixiy manbalari, arxeologik topilmalar va qadimgi yozma manbalar orqali yoritilgan bo'lib, bu davrning tarixiy ahamiyatini yaxshiroq tushunishga yordam beradi.

Turklarning dastlabki tarixi

Turklar, asosan, Markaziy Osiyo hududida yashagan qadimiy qabila va xalqlardan biridir. Turklar haqida eng dastlabki ma'lumotlar miloddan avvalgi davrga oid manbalardan kelib chiqadi. Ular, asosan, turli qabilalar va urug'lardan iborat bo'lib, o'zlarining hayot tarzini ko'plab nomadizmga asoslagan. Dastlabki Turk qabilalari, tatarlar, kichik Turklarning alohida guruhlar shaklida tashkil topgan.

Turk xoqonligi shakllanishi

Turk xoqonligi – bu milodiy VI asrda Markaziy Osiyoda tashkil topgan davlat bo‘lib, uning markazi qadimgi Turkiston hududida joylashgan edi. Uning asoschisi va ilk xoqoni Bumin qo‘rqon hisoblanadi. Bumin qo‘rqon o‘zining muddatli kurashlari va diplomatik faoliyati orqali Turk xoqonligini yaratishda muhim rol o‘ynagan. Keyinchalik, Turk xoqonligi o‘zining kengayishi va mustahkamlanishida katta muvaffaqiyatlarga erishgan.

Turk xoqonligi tarixi va uning rivojlanishi

Turk xoqonligi, dastlab, Markaziy Osiyoda, so‘ngra Sharqiy Turkiston va Xitoyning g‘arbiy hududlariga qadar kengaygan. Bu davrning siyosiy xususiyatlarini yoritishda turklarning o‘ziga xos madaniyati va harbiy strategiyasi katta ahamiyatga ega edi. Turk xoqonligi o‘zining mustahkam siyosiy tizimi, kuchli armiyasi va rivojlangan iqtisodiyoti bilan tarixda yuksalgan.

Turk xoqonligi boshqaruv tizimi

Turk xoqonligida boshqaruv tizimi monarxik bo‘lib, xoqon hukmronlikni amalga oshirgan. Xoqon – Turk xoqonligi davlatining oliy rahbari, eng yuqori hokimiyatga ega bo‘lgan shaxs edi. Xoqonning hokimiyati davlatning ichki va tashqi siyosatini belgilovchi asosiy omil edi. Xoqonni tanlash yoki taxtga ko‘tarish jarayoni odatda elatlar orasida tuzilgan ittifoqlar va kelishuvlar asosida amalga oshirilgan.

Harbiy tizim va elatlararo munosabatlar

Turk xoqonligi kuchli harbiy tizimga ega bo‘lgan. Armiyani tashkil etishda ko‘plab Turk elatlari o‘rtasida ittifoqlar va aloqalar muhim rol o‘ynagan. Armiyaning tarkibida yurituvchi qo‘shinlar, otliq va piyoda askarlar, shuningdek, maxsus birliklar mavjud edi. Boshqa Turk elatlar bilan bo‘lgan ittifoqlar, ko‘p hollarda diplomatik va harbiy jihatdan o‘zaro manfaatlar asosida shakllangan.

Adliya va soliq tizimi

Turk xoqonligida adliya tizimi ham yaxshi rivojlangan edi. Hukumat tomonidan qo‘llanilgan qonunlar, asosan, urf-odatlariga va qadimiy an‘analarga asoslanar edi. Soliq tizimi esa iqtisodiy barqarorlikni saqlashda muhim rol o‘ynagan. Turk xoqonligi aholisi uchun soliq to‘lash, shuningdek, davlatning qo‘llab-quvvatlovini olish uchun majburiyat bo‘lib xizmat qilgan.

Turk xoqonligi madaniyati

Turk xoqonligi madaniyati, uning siyosiy va harbiy muvaffaqiyatlari kabi, o‘zining xilma-xilligi va boyligi bilan ajralib turadi. Madaniy faoliyatlar, asosan, adabiyot, san‘at, musiqiy ijod va me‘morchilik sohalarida o‘z aksini topgan. Bu davrning eng mashhur asarlaridan biri – qadimiy Turklarning yozma yodgorliklari va shaxsiyatlarining hayotiga oid tarixiy manbalar hisoblanadi.

Adabiyot

Turk xoqonligi davrida adabiyot katta rivojlanish jarayonini boshdan kechirdi. Turk yozuvchilari va shoirlari o‘zlarining asarlarini asosan og‘zaki an‘analar va mustahkam xotira asosida yaratgan. Turk adabiyoti, ayniqsa, epik asarlar va dostonlar bilan boyidi. Ular, ko‘pincha, Turklarning urushlaridagi

g'alabalar va yutuqlari, elatlararo kurashlar va siyosiy xususiyatlar haqida hikoya qilgan.

San'at va me'morchilik

Turk xoqonligi madaniyatida san'at va me'morchilik ham alohida o'rin tutgan. O'sha davrda qurilgan inshootlar, asosan, diniy va siyosiy maqsadlarda foydalanilgan. Me'morlik uslubi esa Turklarning qadimiy an'alarini aks ettirgan. Shuningdek, rang-barang va o'ziga xos san'at asarlari, zargarlik buyumlari va keramika ishlanmalari turk madaniyatining o'ziga xosligini namoyish etgan.

Musika va folklore

Turk xoqonligi madaniyatida musika va folklor ham muhim ahamiyatga ega edi. Musika, ko'pincha, elatlararo aloqalar va diniy marosimlar bilan bog'liq bo'lgan. Turklarning folklor san'ati, shu jumladan, raqslar, kuylash va boshqa an'anaviy san'at shakllari, ularning ijtimoiy hayoti va madaniy qadriyatlarini aks ettirgan.

Turk xoqonligi iqtisodiyoti

Qishloq xo'jaligi va savdo

Turk xoqonligi iqtisodiyoti asosan qishloq xo'jaligi va savdo bilan shug'ullangan. Turklar, asosan, chorvachilik va dehqonchilik bilan bog'liq faoliyatlarni olib borgan. Qishloq xo'jaligi mahsulotlari, jumladan, bug'doy, arpa va paxta ishlab chiqarishlari hamda chorvachilikka oid mahsulotlar, Turk xoqonligi iqtisodiy tizimining asosini tashkil etgan. Shuningdek, Turk xoqonligi savdosi o'rta asrlar davrida Markaziy Osiyo va Yaqin Sharq o'rtasida bo'lib, ulkan savdo yo'llarida markaziy nuqta bo'lib xizmat qilgan.

Pul va moliyaviy tizim

Turk xoqonligi davrida pullik tizim ham rivojlanib, davlat ichki va tashqi savdosini qo'llab-quvvatlash uchun zarur bo'lgan valyutalarni joriy etgan. Zargarlik va ko'plab boshqa kasb sohalari ham rivojlangan edi. Davlat tomonidan chiqarilgan tangalar, iqtisodiy faoliyatlarning muhim vositasi bo'lib xizmat qilgan.

Turk xoqonligi va uning merosi

Turk xoqonligi o'zining ulkan tarixiy merosi bilan butun dunyoga ta'sir ko'rsatgan. Uning siyosiy va madaniy yutuqlari, xususan, o'zbek xalqining tarixiy taraqqiyoti va qadriyatlari bilan chambarchas bog'liqdir. Turk xoqonligi davridan qolgan yodgorliklar va ma'lumotlar, nafaqat Markaziy Osiyo, balki butun dunyo tarixining muhim qismini tashkil etadi. Bu davrni o'rganish, bugungi kunda ham ko'plab ilmiy tadqiqotlar va tarixiy izlanishlar uchun katta ahamiyatga ega.

Xulosa

Turk xoqonligi o'rta asrlarning eng muhim siyosiy va madaniy strukturalaridan biri bo'lib, uning ta'siri nafaqat Turk xalqlari, balki butun dunyo tarixiga sezilarli darajada ta'sir ko'rsatgan. Uning tarixi, boshqaruv tizimi, madaniyati va iqtisodiyoti bizga qadimiy Turk xalqlarining murakkab va boy hayotini yoritishga yordam beradi.

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INGLIZ VA O'ZBEK TILLARIDAGI FAUNA VA FLORA BILAN IFODALANGAN PAREMALARNING QIYOSIY TAHLILI

Annotatsiya: Ushbu ilmiy fauna va floraga oid atamalarning ishlatilishi, ularning ingliz va o'zbek tillardagi qiyosiy o'rganilishi haqida ma'lumotlar keltirilgan.

Kalit so'zlar: fauna, flora, tahlil, atama, fikr, tillarning o'zaro ta'siri, iboralar, lingvistik interferensiya, maqol.

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COMPARATIVE ANALYSIS OF PARAMEMS RELATING TO FAUNA AND FLORA IN ENGLISH AND UZBEKISTAN

Abstract: Abstract: This scientific article presents information on the use of terms related to fauna and flora, their comparative study in English and Uzbek.

Key words: fauna, flora, analysis, term, idea, interaction of languages, idioms, linguistic interference, proverb.

Kirish. O'zbek va ingliz tilidagi fauna va floraga oid terminlar tizimini yaratish va tahlil qilish tilshunoslik va lingvistika mutaxassislari uchun muhim tajriba hisoblanadi. Bunday tadqiqotlar lug'at zahirasi boyitishga, lingvistikadagi jarayonlar va hodisalarni tushunishga, o'simlikshunoslik fani bilan tanishishga, unga oid atamalar xususiyatlarini o'rganishga, ularning tuzilishi va qo'llanish sohasini bilib olishga xizmat qiladi.

Terminologik tizim deganda ta'riflarning tartibga solingan tuzilmasi tushuniladi. Atamalar tizimi maxsus, biron-bir sohaga yoki tarmoqqa oid adabiyotlar bilan ishlashda, muhim vosita bo'lib xizmat qiladi. Terminologik bazani yaratish jarayoni bir nechta bosqichdan iborat: terminlarni tashkil etuvchi so'zlarni ajratish, so'z yasovchi usullardan foydalanish, olingan so'zlarni mavzularga oid bloklarga taqsimlash, bazadagi elementlar mavzular bo'yicha taqsimlangan jadvallarni tuzish.

Xalq maqollarida hayvon nomlari ya'ni zoonimlarning qo'llanilishi juda ko'p uchraydi. Zoonimlar qo'llangan maqollarning deyarli barchasida majoziy xarakter ifodalanadi. Hayvon obrazlarini keltirish orqali insonga xos xususiyatlar hayvonlar

orqali ko'rsatiladi, ya'ni maqollarda keltirilgan ibratli fikr aynan maqolda keltirilgan hayvonga qarata emas, aksincha, insonlarga qarata aytiladi. Ko'pincha, hayvonlar vositasida, salbiy xarakterli insonlarga dashnom beriladi, tanqid qilinadi. Har bir millatning o'ziga xos xususiyatlarini namoyon qiluvchi maqollari mavjud. Biz ushbu kichik tadqiqotimizda o'zbek va ingliz xalq maqollarini tuzilish hamda semantik jihatdan qiyosiy tahlil qilamiz.

Adabiyotlar tahlili va metodologiya. Ushbu ilmiy maqolada Rasulova M.I., Shukurova Z.I. "Comparative typology of English, Uzbek and Russian languages" nomli maqolasidagi ingliz va o'zbek tillarida terminlar bo'yicha terminologik lug'at tuzish tamoyillarining tadqiq jarayonida ushbu ayrim leksikografik prinsiplar qo'llanilgani tahlil qilingan. B.X.Omonov ingliz va o'zbek tillarida geologiyaga oid terminlarining qiyosiy tadqiqini o'rgangan.

Tahlil va natijalar. Ingliz va o'zbek tillarida o'simlik va hayvonot dunyosiga oid frazeologik birliklar bu iboralarning har ikki tildagi ma'nolari va madaniy ma'nolarini o'rganishni nazarda tutadi.

Zoonimlar qatnashgan maqollar ingliz tilida ham o'zbek tilida ham ikki xil maqsadda, ya'ni salbiy jihatlarni yoritish yoki tarbiyaviy maqsadga yo'naltirilganligi bilan ham birlashuvchi xususiyatga ega. Buni quyidagi maqollarning semantik tahlili orqali ham ko'rib o'tishimiz mumkin:

1. *"To kill two birds with one stone"* - "Bir o'q bilan ikki qushni o'ldirish". Bu idiom bitta harakat bilan ikkita vazifa yoki maqsadga erishishni anglatadi. Bu samaradorlik va bir vaqtning o'zida bir nechta maqsadlarga erishish g'oyasini bildiradi.[5]

2. *"A snake in the grass"* - "ikki yuzlamachi, do'st niqobi ostidagi dushman". Bu ibora o'zining haqiqiy niyatlarini yoki harakatlarini yashiradigan xiyonatkor yoki yolg'onchi odamga ishora qiladi.

Ingliz va o'zbek tillarida o'simlik va hayvonot dunyosiga oid bu frazeologik birliklar mavhum fikr yoki kechinmalarni ifodalash uchun tabiat olamidan olingan metafora va tasvirlardan foydalanadi. Semantik tahlil shuni ko'rsatadiki, so'zma-so'z tarjimalar farq qilishi mumkin bo'lsa-da, asosiy ma'nolar va madaniy uyushmalar ko'pincha ikkala tilda o'xshashdir. Ushbu mavzu bo'yicha ko'proq misollar:

1. *"To have butterflies in one's stomach."* Bu ibora ko'pincha muhim yoki hayajonli narsalarni kutayotganda asabiylashish yoki tashvishlanishni anglatadi. *"A leopard can't change its spots."* Bu iborada odamning xarakteri yoki tabiati vaqt o'tishi bilan o'zgarmasligini anglatadi.

2. *"To be a lone wolf."* Bu idiom mustaqil bo'lishni afzal ko'radigan va guruh yoki jamoaning bir qismi bo'lishni yoqtirmaydigan odamni anglatadi.

3. *"To hold one's horses."* Bu ibora sabr bilan kutishni va harakatga shoshilmaslikni anglatadi.

4. *"To sow the seeds"*: buning ma'nosi kelajakdagi natijalarga olib keladigan jarayon yoki harakatni boshlash yoki boshlash. Bu ibora qishloq xo'jaligida tuproqqa urug'larni ekish amaliyotiga tayanadi, ular oxir-oqibat o'simliklarga aylanadi. Bu metaforik tarzda kelajakda ijobiy natijalar beradigan harakatlar yoki rejalarini boshlashni anglatadi.

5. *"To be a night owl"*: Kech qoladigan yoki tunda faol bo'lishni afzal ko'radigan odam bo'lish. Bu ibora tungi qushlar bo'lgan boyqushlarning xatti-harakatlaridan foydalanib, tungi soatlarda eng faol va hushyor bo'lgan shaxslarni tasvirlaydi.

6. *"To bark up the wrong tree"*: O'z harakatlari yoki ayblovlarini noto'g'ri yo'nalishga yo'naltirish. Semantik tahlil: Bu iborada biror narsa yoki kimdir haqida noto'g'ri taxminlar yoki ayblovlar qo'yishni tasvirlash uchun noto'g'ri daraxtni nishonga olgan hurayotgan it tasviridan foydalaniladi. [5]

Hayvon obrazlari qatnashgan ingliz va o'zbek maqollarining har ikkala tildagi variantida har doim ham bir xil hayvonlar ifodalanmasligi mumkin. Yuqoridagi maqolda inglizcha variantda "dog", ya'ni "it" ishlatilgan bo'lsa, o'zbekcha variantida "ilon" obrazidan foydalanilgan. Lekin bu o'zgarish bilan maqolning mazmuni o'zgarib qolmagan, har ikkalasida ham ehtiyotsizlik, e'tiborsizlik ma'nosi ifodalangan. O'zbek va ingliz xalq maqollarini solishtirib ko'rildanda "it", "mushuk", "baliq" zoonimlari nisbatan ko'proq uchraydi.

Xulosa. Xulosa o'rnida aytish mumkinki, o'simlik va hayvonot dunyosiga oid frazeologik birliklarning ingliz va o'zbek tillarida o'rganilishi til, madaniyat va tabiat dunyosi o'rtasidagi chuqur bog'liqlikni ochib berdi. Semantik tahlil va qiyosiy yondoshuv orqali murakkab ma'no va his-tuyg'ularni ifodalash uchun o'simlik va hayvonlar tasviriga tayangan idiomatik iboralarning boyligi va rang-barangligiga guvoh bo'ldik.

Paremik birliklarda qo'llangan zoonimlar ularning hududiy joylashuvi, milliy mentaliteti, diniy qarashlari bilan bog'liq holatda bir-biridan farqlanadi. Ammo semantik jihatdan bir xil ma'no ifodalaydiganlari ham talaygina. Tilshunoslik nuqtai nazaridan tahlil etilganda, asosiy e'tibor paremalarning shakl xususiyatiga emas, balki semantikasiga qaratiladi. Hayvon nomlari turlicha bo'lishi mumkin, biroq ma'noviy jihatdan bir xil bo'lgan birliklar mavjud.

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BIOGEOGRAFIYA FANINI O'QITISHDA INNOVATSION TEXNOLOGIYALAR

Annotatsiya: Ushbu maqolada biogeografiya fanini o'qitishda innovatsion texnologiyalarning ahamiyati va ulardan samarali foydalanish usullari muhokama qilinadi. Innovatsion texnologiyalar, xususan, raqamli resurslar va interaktiv metodlar orqali o'quvchilarga biogeografiya fanining murakkab tushunchalarini o'rgatish jarayoni yengillashtiriladi. Maqolada, zamonaviy texnologiyalarning ta'lim jarayoniga kiritilishi orqali talabalarning faolligini oshirish, bilish qobiliyatini rivojlantirish va bilimlarni amaliyotda qo'llash imkoniyatlari ko'rsatilgan. Innovatsion texnologiyalar yordamida geograflar va biogeografiya fanining yangi o'qitish metodikasi shakllanayotgani haqida tahlil va misollar berilgan. Maqola, biogeografiya o'qituvchilari uchun metodik maslahatlar va texnologiyalarni o'z darslarida qo'llashga oid tavsiyalarni taqdim etadi.

Kalit so'zlar: Biogeografiya, innovatsion texnologiyalar, ta'lim metodikasi, interaktiv o'qitish, raqamli resurslar, o'quv jarayoni, ta'limda innovatsiyalar, geografiya o'qitish.

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INNOVATIVE TECHNOLOGIES IN TEACHING BIOGEOGRAPHY

Annotation: this article discusses the importance of innovative technologies and methods of their effective use in teaching biogeography. Through innovative technologies, in particular digital resources and interactive techniques, the process of teaching students the complex concepts of the science of Biogeography is relaxed. The article shows the possibilities of increasing student activity, developing cognitive abilities and applying knowledge in practice through the inclusion of modern technologies in the educational process. With the help of innovative technologies, analysis and examples are given that a new teaching methodology of geographers and biogeography is being formed. The article provides methodological advice for teachers of biogeography and recommendations on the application of technologies in their lessons.

Keywords: Biogeography, innovative technologies, educational methodology, interactive teaching, digital resources, educational process, innovative in education

Biogeografiya — bu biologiya va geografiya fanlarini birlashtirgan soha bo'lib, organizmlarning tarqalishi va ularning atrof-muhit bilan bog'liqligini o'rganadi. U organizmlar qanday geografik hududlarda yashashini, bu hududlarning ekologik sharoitlarini, iqlim, yer yuzasi, va boshqa tabiat faktorlari bilan bog'liqligini o'rganadi.

Biogeografiya fani ikki asosiy yo'nalishda rivojlanadi:

Tarqalish biogeografiyasi – bu yo'nalish organizmlarning qayerda yashashini va ularning tarqalishining sabablarini o'rganadi.

Ekologik biogeografiya – bu yo'nalish organizmlar va ularning yashash muhitlari o'rtasidagi o'zaro ta'sirlarni o'rganadi.

Biogeografiya ekologiya, evolyutsiya va genetikadan ham foydalangan holda, turli hayvonlar va o'simliklar turlarining qanday tarqalishini, ularning bir-biri bilan o'zaro aloqalarini va tabiiy resurslar bilan qanday munosabatda bo'lishlarini tahlil qiladi. Biogeografiya va geografiya fanlari o'rtasida yaqin aloqalar mavjud, chunki ikkalasi ham yer yuzidagi tabiiy jarayonlarni va tabiiy resurslarni o'rganadi, lekin ularning o'rganish doirasi va fokuslari farqlidir. Geografiya — bu fan yerning yuzasini, undagi tabiiy va ijtimoiy jarayonlarni, shuningdek, geografik hududlarning shakllanishi va rivojlanishini o'rganadi. Geografiya tabiatning shakllanishini, yer yuzasining rel'efini, iqlimni, va insonning tabiat bilan o'zaro munosabatlarini tahlil qiladi. Biogeografiya — bu geografiyaning bir bo'limi bo'lib, organizmlarning geografik hududda tarqalishini, ularning ekologik sharoitlar va iqlimga qanday moslashishini o'rganadi. Biogeografiya hayvonlar va o'simliklar dunyosining geografik taqsimotini va turli hududlarda qanday yashash sharoitlari mavjudligini tushuntiradi. Ularning o'zaro aloqalari: Tabiiy sharoitlar: Biogeografiya iqlim, yer yuzasining shakllanishi, va geologik jarayonlarni o'rganish orqali geografiya bilan bog'lanadi. Misol uchun, iqlim zonalari va yerning geologik tuzilishi o'simliklar va hayvonlarning tarqalishiga bevosita ta'sir qiladi.

Geografik taqsimot: Geografiya fanidagi xaritalar va hududlar tasviri biogeografiya uchun zarur bo'lib, organizmlarning qanday tarqalishini tushunishga yordam beradi. Ekologik omillar: Biogeografiya geografik xususiyatlarni, masalan, tog' tizmalari, daryolar va dengizlarni, ekologik sharoitlar bilan birga tahlil qiladi, chunki bu omillar organizmlarning yashash joylariga ta'sir qiladi. Shu tarzda, biogeografiya va geografiya bir-birini to'ldiradi, geografiya tabiatning umumiy xususiyatlarini o'rganar ekan, biogeografiya organizmlarning joylashuvi va tarqalishini ekologik va geografik nuqtai nazardan tushuntiradi.

Biogeografiya fanini o'qitishda innovatsion texnologiyalardan foydalanish, ta'lim sifatini oshirishga yordam berishi mumkin. Bu texnologiyalarni qo'llash orqali talabalarga yangi va interaktiv o'quv materiallari taqdim etish, ular bilan muloqot qilish, va o'rganishni yanada qiziqarli qilish mumkin. Quyidagi innovatsion texnologiyalarni biogeografiya darslarida qo'llash mumkin:

Geoinformatsion tizimlar (GIS) – Biogeografiyaning muhim qismi bo'lgan hududiy taqsimot va tabiat manzaralarini o'rganish uchun GIS dasturlaridan foydalanish mumkin. Bu dasturlar talabalarga turli hududlarning o'simlik va hayvonlar dunyosini, geografik o'zgarishlarni o'rganishga imkon beradi. Virtual

laboratoriyalar va simulyatsiyalar – Talabalar biologik tizimlar va geografik jarayonlarni virtual muhitda simulyatsiya qilib o'rganishlari mumkin. Bu ular uchun tabiatning murakkab jarayonlarini tushunishga yordam beradi.

Interaktiv xaritalar va 3D modellar – Biogeografik xususiyatlarni 3D modellar orqali ko'rish, ekologik tizimlarning o'zgarishini kuzatish uchun foydalidir. Interaktiv xaritalar yordamida o'quvchilar turli regionlar bo'yicha ekologik ma'lumotlarni ko'rib chiqishlari mumkin.

Onlayn o'quv platformalar va videolar – Biogeografiya faniga oid videolar, ma'ruzalar va onlayn kurslar orqali talabalarga ko'proq vizual va audiovizual materiallar taqdim etish o'qish jarayonini yanada qiziqarli va samarali qiladi.

Mobil ilovalar – Biogeografiya bo'yicha maxsus mobil ilovalar yaratish, talabalar tomonidan ekologik jarayonlarni yoki biologik turlarni kuzatib borish uchun foydali bo'lishi mumkin. Shu tarzda innovatsion texnologiyalar yordamida biogeografiya fanini yanada samarali va interaktiv o'rgatish mumkin. Bu metodlar talabalarni ilmiy fikrlash va ekologik masalalarga ijtimoiy mas'uliyat bilan yondoshuvga o'rgatadi.

Biogeografiya fanini geografiya talabalariga o'qitishdan maqsad bir nechta asosiy nuqtalarga bog'liq: Tabiiy va ekologik jarayonlarni tushuntirish: Biogeografiya orqali talabalar organizmlarning tarqalishiga ta'sir qiluvchi tabiiy jarayonlarni, masalan, iqlim, yer yuzasi tuzilishi va geologik jarayonlarni o'rganadilar. Bu jarayonlar geografik bilimlarni chuqurlashtirishga yordam beradi. Tabiiy resurslarni boshqarish: Geografiya talabalariga biogeografiyani o'rgatish, tabiiy resurslar va ekosistemalarning o'zgarishini va ularga qanday ta'sir etishini tushunishga imkon beradi. Bu, o'z navbatida, resurslarni samarali boshqarish va ekologik muammolarni hal etish uchun zarur bo'lgan bilimlarni shakllantiradi. Iqlim va ekologik o'zgarishlarni tushunish: Biogeografiya ekologik tizimlar va ularning iqlim bilan o'zaro ta'sirini tahlil qilishga yordam beradi. Geografiya talabalariga bu jarayonlarni o'rgatish, iqlim o'zgarishi va boshqa ekologik inqirozlarni qanday oldini olish yoki ularga moslashish mumkinligini tushunishga yordam beradi. Geografik va ekologik sharoitlarni tahlil qilish: Biogeografiya geografik hududlarning tabiiy va ekologik xususiyatlarini tahlil qilishda muhim rol o'ynaydi. Talabalar bu fan orqali har xil hududlarda qanday ekosistemalar mavjudligini, ularning o'zgarishini va o'zaro aloqalarini tushunadilar.

Biogeografiya orqali talabalar biologik xilma-xillikni saqlash va uni ta'sir qiluvchi omillarni o'rganadilar. Bu ekologik barqarorlikni ta'minlash va tabiatni himoya qilish bo'yicha bilim va ko'nikmalarni rivojlantirishga yordam beradi. Shu tarzda, biogeografiya geografiya talabalariga tabiiy jarayonlar, iqlim o'zgarishi, ekologik barqarorlik va resurslarni boshqarish kabi sohalarda chuqur bilimlar berish orqali, ularning umumiy geografik va ekologik tafakkurlarini kengaytiradi.

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ZAMONAVIY TRANSPORT VOSITALARINI KUZATISH VA OPERATSION SAMARADORLIKDA TELEMATIKADAN FOYDALANISH ROLI

Annotatsiya: Telematika bugungi kunda bu atama odatda tijorat transportida ishlatiladigan echimlarga murojaat qilish uchun ishlatiladi. Telematik ma'lumotlar joylashuv, tezlik, bo'sh turish vaqti, to'satdan tezlashuv yoki tormozlanish, yoqilg'i sarfi, avtomobil nosozliklari va boshqalarni ko'rsatishi mumkin. Telematika eksponentsial o'sishga zamonaviy GPS qurilmalari va mobil qurilmalarning hamma joylaridan foydalanish uchun yangi ilovalar ishlab chiqilgan. Xarajatlarni nazorat qilish, samaradorlikni oshirish, hisobotlarni yaxshilash va hukumat qoidalariga to'liq rioya qilishni ta'minlash uchun operatsiyalarni kuzatish zarurligi tushuniladi.

Kalit so'zlar: Telematika, telematika telekommunikatsiyasi, telematik tizim, transport vositalari, kuzatish moslamalari, GPS trekerlari, GPRS tarmoqlari, GPS qurilmasi.

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THE ROLE OF TELEMATICS IN MODERN VEHICLE TRACKING AND OPERATIONAL EFFICIENCY

Abstract: Telematics is today a term commonly used to refer to solutions used in commercial vehicles. Telematics data can show location, speed, idling time, sudden acceleration or braking, fuel consumption, vehicle malfunctions, and more. Telematics is growing exponentially with modern GPS devices and new applications being developed to take advantage of the ubiquity of mobile devices. Understands the need to monitor operations to control costs, improve efficiency, improve reporting and ensure full compliance with government regulations.

Keywords: Telematics, telematics telecommunications, telematics system, vehicles, tracking devices, GPS trackers, GPRS networks, GPS device.

Keng ma'noda telematika telekommunikatsiya (jumladan, telefon va boshqa aloqa turlari) va informatika (turli xil kompyuter tizimlari) birikmasidir. Bugungi

kunda bu atama odatda tijorat transportida ishlatiladigan echimlarga murojaat qilish uchun ishlatiladi.

Simsiz telematik qurilmalar avtomobil ma'lumotlarini to'playdi va uzatadi. Zamonaviy kompaniyalar avtoparkni boshqarish uchun - transport vositalarining ishini muvofiqlashtirish va transport vositalarining holati, rentabelligi va ishlashi haqida har tomonlama ko'rinishga ega bo'lish uchun telematik dasturlardan foydalanadilar.

Telematika qanday ishlaydi?

Telematik tizim transport vositalarini kuzatish moslamalarini o'z ichiga oladi. Ular odatda to'g'ridan-to'g'ri mashinalarga o'rnatiladi va telemetriya ma'lumotlarini yuborish, qabul qilish va saqlash imkonini beradi. Ular avtomobilning bort diagnostika tizimi (ODBII) yoki SIM-karta bilan CAN-BUS porti orqali ulanadi va o'rnatilgan modem simsiz aloqani ta'minlaydi.

Qurilmalar GPS ma'lumotlarini, shuningdek, avtomobilga tegishli boshqa ko'plab ma'lumotlarni to'playdi va ularni GPRS (Umumiy paketli radio xizmati), 4G va uyali tarmoq yoki sun'iy yo'ldosh aloqalari orqali markazlashtirilgan serverga uzatadi. Server ma'lumotlarni sharhlaydi va ularni smartfon va planshetlar uchun optimallashtirilgan xavfsiz veb-saytlar va ilovalar orqali oxirgi foydalanuvchilarga (logistika yoki menejerlar) ko'rsatishga imkon beradi.

Telematik ma'lumotlar joylashuv, tezlik, bo'sh turish vaqti, to'satdan tezlashuv yoki tormozlanish, yoqilg'i sarfi, avtomobil nosozliklari va boshqalarni ko'rsatishi mumkin. Muayyan hodisalar va naqshlarni tahlil qilish orqali ushbu ma'lumot butun flot haqida batafsil ma'lumot berishi mumkin.

Telematik qurilmalar qanday o'rnatiladi?

Ko'pgina zamonaviy tijorat avtomobil ishlab chiqaruvchilari o'z avtomobillarida telematik qurilmalarni yig'ish liniyasida o'rnatadilar. Agar avtomobil o'rnatilgan telematika bilan ta'minlanmagan bo'lsa, o'rnatish uchun bozordan keyingi birliklar mavjud. Ular akkumulyator yoki avtomobilning ichki elektr tizimidan quvvatlanishi mumkin. Volvo, Mack, Hino, Ford va GM kabi bir nechta OEM kompaniyalari ham oxirgi foydalanuvchi tajribasini taqdim etish uchun telematik xizmat ko'rsatuvchi provayderlar bilan hamkorlik qilmoqda. Kelgusi yillarda avtosanoat o'z mijozlari uchun yaxshi natijalarni taqdim etish uchun telematikadan foydalanadigan "aqlli avtomobillar" ni ishlab chiqishda davom etadi.

Ushbu tizimlar, shuningdek, avtomobillarni aqlli shahar tizimlariga va intellektual transport texnologiyalariga ulash imkoniyatiga ega bo'lgan yangi narsalar Interneti (IoT) dan ham foyda ko'radi.



1-rasm. Avtomobil monitoringi uchun echimlarga misollar

Mening parkim telematik tizimlardan qanday foydalanishi mumkin?

Telematika mavjud ilovalar va tizimlarga har qanday o'lchamdagi parklar uchun turli xil foydalanish holatlarini ta'minlash uchun birlashtirilishi mumkin, jumladan:

1. Avtomobilni kuzatish. Avtomobillarni GPS sun'iy yo'ldoshlari va qabul qiluvchilar, GPRS tarmoqlari va bulutli hisoblashlar kombinatsiyasi yordamida kuzatish mumkin. Qabul qiluvchi ma'lumotni sun'iy yo'ldoshlardan yuklab oladi va uni haydovchining navigatsiya tizimi foydalanish uchun qayta ishlaydi. Shuningdek, u ushbu ma'lumotni GPRS orqali ofis xodimlari tomonidan foydalaniladigan veb-xizmatlarga uzatadi, u erdan eng yaqin haydovchini yangi buyurtmaga jo'natish uchun foydalanish mumkin.

2. Treylerlar va boshqa aktivlarni kuzatib boring: Filolar yo'qolib ketmasligi uchun treylerlar va boshqa motorsiz aktivlarga GPS trekerlarini biriktirishi mumkin. Shuningdek, haydovchilarni to'g'ridan-to'g'ri statsionar treylerlarga yo'naltirish uchun trekerlardan foydalaning. Haydovchilar treylerni ochishda GPS qurilmasida joylashuvni belgilashlari mumkin va bu koordinatalar boshqa yuk tashuvchilar bilan osongina bo'lishishi mumkin, bu ularga to'g'ridan-to'g'ri treylarga yo'l olish imkonini beradi. Tizim, shuningdek, treyler yoki aktiv ruxsatsiz ko'chirilganda menejerning mobil qurilmasiga tezkor ogohlantirish yuborish uchun ham sozlanishi mumkin.

3. Texnik xizmat ko'rsatishni yaxshilash: Avtomobillarga texnik xizmat ko'rsatish va aktivlarning hayot aylanishini boshqarish, foydalanish soatlarini kuzatish va profilaktik xizmat ko'rsatishni rejalashtirish, shuningdek, kafolatlarni tiklash, dvigatel soatlarini kuzatish va xizmat ko'rsatish yozuvlarini kuzatish uchun flot telematikasi yordamida takomillashtirilishi mumkin. Avtopark menejerlari dvigatel diagnostikasini, jumladan akkumulyator kuchlanishi, sovutish suvi harorati, transmissiya nosozliklari, suv olish klapanlari bilan bog'liq muammolar, kislorod sensori bilan bog'liq muammolar va boshqalarni kuzatish orqali

xarajatlarni kamaytirishi va transport vositalarini xavfsiz ish holatida saqlashi mumkin.

4. Xavfsizlikni kuzatish: Menejerlar avtomobil tezligi va joylashuvini, shuningdek, xavfsizlik kamarlarini taqmaslik kabi xavfli haydash va qoidabuzarliklarni kuzatish uchun flot telematikasidan foydalanishlari mumkin. Telematika avtomobil ishlashining har bir jihatini bo'yicha ma'lumotlarni taqdim etib, park rahbarlariga baxtsiz hodisalarning oldini olish uchun qayerda chora ko'rish kerakligini tushunishga yordam beradi.

5. Sug'urta xavfini baholash: sug'urta kompaniyalari haydovchilarning xatti-harakatlarini kuzatish uchun telematikadan foydalanishlari mumkin, bu ularga xavf omillarini aniqroq aniqlash va shunga mos ravishda tariflarni o'zgartirish imkonini beradi. Telematik qurilmalar, shuningdek, transport vositasi belgilangan geografik chegaradan tashqarida foydalanilganda ham xabar berishi mumkin.

Avtoparkni boshqarishda telematikaning qanday afzalliklari bor?

Telematika texnologiyasi parklarga asosiy sohalarda operatsion yaxshilanishlarga erishishga yordam beradi.

Yoqilg'i sarfini kamaytirish: Telematika yoqilg'i samaradorligini oshirishga yordam beradi, masalan, bo'sh turgan transport vositalarining yoqilg'i sarfini kuzatish va park boshqaruvchisiga tarmoqni boshqarish imkonini beradi, bu esa yoqilg'i samaradorligi va tozaligiga ijobiy ta'sir qiladi. Bu menejerlarga yugurishni kamaytirish uchun har bir bola uchun eng samarali marshrutni rejalashtirishga yordam beradi.

Xavfsizlikni oshirish: Haydash xulq-atvorining doimiy monitoringi avtopark rahbarlariga haydovchilarni o'rgatish va tezlikni oshirish yoki qattiq tormozlash kabi nomaqbul odatlarni kamaytirish imkonini beradi.

Yaxshilangan mahsuldorlik: GPS ma'lumotlari haydovchilarga tirbandlikdan qochish va noqulay ob-havoni rejalashtirishga yordam beradi. Menejerlar har qanday yangi yoki qo'shimcha sayt tashriflarini tez va osonlik bilan eng yaqin avtomobilga bog'lashlari va haydovchilarga u erga borish uchun eng samarali yo'nalish bo'yicha ko'rsatmalar berishi mumkin.

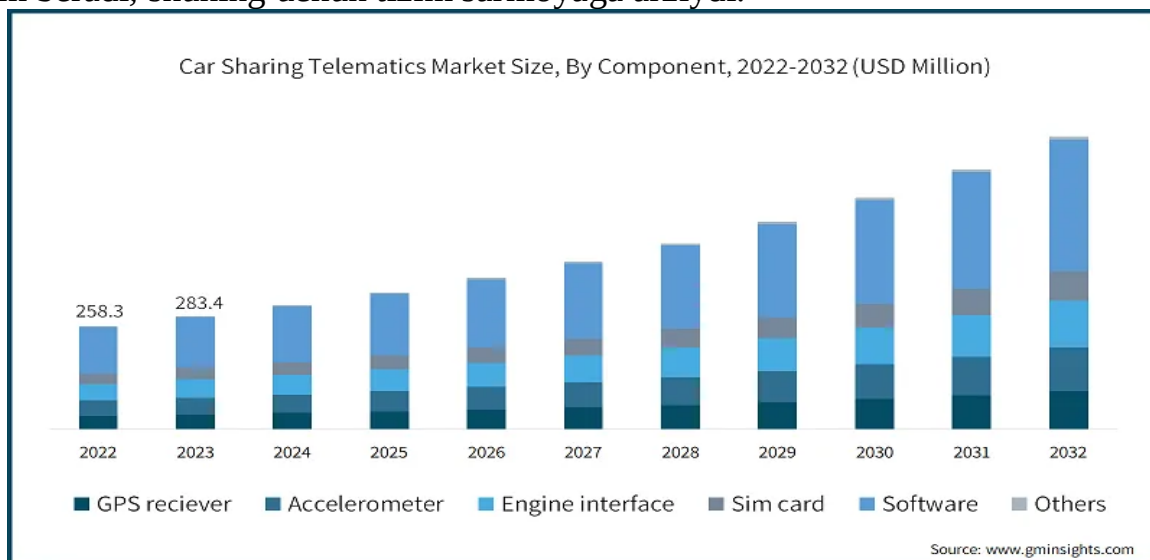
Ish haqini yaxshiroq boshqarish: Avtotransportning kun boshidan to to'xtashgacha bo'lgan aniq vaqtini kuzatib, park menejerlari xodimning qancha vaqt ishlaganligi to'g'risida aniq, avtomatlashtirilgan yozuvga ega bo'ladi. Bu biznes egalari xodimlarga ishlagan soatlari uchun to'g'ri to'lanishiga ishonch hosil qilishda yordam beradi va ish chiptalari bilan rejalashtirishga sarflangan vaqtni tejaydi.

Telematik uskunalar qanchalik qimmat?

Bu parkni boshqarish yechimiga bog'liq. Xaritada oddiy GPS kuzatuvini nisbatan arzon variant bo'lib, u juda kam amaliy tushuncha beradi. To'liq integratsiyalangan telematik yechimni takograflar, kameralar, navigatsiya tizimlari va haydovchilarni kuzatish kabi boshqa qurilmalar bilan birlashtirish ko'proq xarajat qiladi, lekin sarmoyadan ancha yuqori daromad keltiradi.

Bu parkning ishlashini chuqurroq tahlil qiladi va barcha resurslardan qanday foydalanilayotganini baholashga yordam beradi. Moslashtirilgan asboblarning paneli

asosiy ishlash ko'rsatkichlari yoki byudjetlar bo'yicha taraqqiyotni kuzatishni osonlashtiradi. Uzoq muddatda, GPS parkini kuzatish yashirin xarajatlarni va butun tashkilot bo'ylab mahsuldorlik va samaradorlikni oshirish potentsialini aniqlashga yordam beradi, shuning uchun tizim sarmoyaga arziydi.



2-rasm. Car Sharing Telematics bozori tahlili

Telematikaning kelajagi

Telematika eksponentsial o'sishga tayyor, chunki zamonaviy GPS qurilmalari va mobil qurilmalarning hamma joylaridan foydalanish uchun yangi ilovalar ishlab chiqilmoqda. Ko'proq avtopark egalari xarajatlarni nazorat qilish, samaradorlikni oshirish, hisobotlarni yaxshilash va hukumat qoidalariga to'liq rioya qilishni ta'minlash uchun operatsiyalarni kuzatish zarurligini tushunib yetmoqda.

Egalari o'z flot operatsiyalari jihatlarini, jumladan, inson resurslari va biznes boshqaruvi dasturiy ta'minotini borgan sari avtomatlashtirar ekan, telematika eng yaxshi natijalarni ta'minlash uchun ushbu operatsiyalarning ajralmas qismiga aylanib bormoqda.

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EXPERIENCE OF DEVELOPED COUNTRIES IN REDUCING EMISSIONS FROM MOTOR VEHICLES (ON THE EXAMPLE OF ELECTRIC VEHICLES)

Annotation: *This article analyzes the experience of developed countries in reducing carbon emissions in the field of motor transport using the example of electric vehicles. The negative impact of motor vehicles on the environment, including the initiatives and measures taken by the European Union to reduce greenhouse gas emissions and other pollutants, are highlighted. Programs for supporting electric vehicles, the use of renewable energy sources, and the results observed in this regard are discussed. The problems limiting the popularity of electric vehicles and ways to eliminate them in the future are also considered.*

Keywords: *electric cars, carbon emissions, greenhouse gas emissions, renewable energy, sustainable transport, European Green Deal, environmental protection, transport policy, smart cities, low emission zones, Renewable Energy Directive (RED)*

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AVTOTRANSPORT VOSITALARINIDAN CHIQAYOTGAN EMISSIYANI KAMAYTIRISH BO'YICHA RIVOJLANGAN DAVLATLAR TAJRIBASI (ELEKTROMOBILLAR MISOLIDA)

Annotatsiya: *Mazkur maqolada avtomobil transporti sohasida uglerod chiqindilarini kamaytirish bo'yicha rivojlangan davlatlar tajribasi elektromobillar misolida tahlil qilingan. Avtotransport vositalarining atrof-muhitga salbiy ta'siri, jumladan, issiqxona gazlari emissiyasi va boshqa ifloslantiruvchi moddalar miqdorini kamaytirish bo'yicha Yevropa Ittifoqining tashabbuslari va amalga oshirilgan choralar yoritilgan. Elektr transport vositalarini qo'llab-quvvatlash*

dasturlari, qayta tiklanadigan energiya manbalaridan foydalanish va bu borada kuzatilayotgan natijalar muhokama qilingan. Shuningdek, elektromobillarning ommalashuvini cheklovchi muammolar va istiqbolda ularni bartaraf etish yo'llari ko'rib chiqilgan.

Kalit so'zlar: elektromobillar, uglerod chiqindilari, issiqxona gazlari emissiyasi, qayta tiklanadigan energiya, barqaror transport, yevropa yashil kelishuvi, atrof-muhitni himoya qilish, transport siyosati, aqlli shaharlar, kam emissiya zonalari, qayta tiklanadigan energiya direktivasi (RED)

Kirish. Avtomobil sanoati global iqtisodiyotda ham, tadqiqot va ishlanmalar dunyosida ham asosiy o'yinchiga aylandi. Texnologiyaning doimiy rivojlanishi bilan transport vositalari endi yo'lovchilar va piyodalar xavfsizligini birinchi o'ringa qo'yadigan xususiyatlar bilan jihozlangan. Bu bizga tez va qulay sayohat qilish qulayligini ta'minlab, yo'lda transport vositalari sonining ko'payishiga olib keldi. Biroq, bu taraqqiyot qimmatga tushdi. Shahar hududlarida oltingugurt dioksidi (SO_2), azot oksidi (NOX), uglerod oksidi (CO) va zarrachalar (PM) kabi atrof-muhitni ifloslantiruvchi moddalarning keskin o'sishi kuzatildi. Avtomobil sanoati kundalik hayotimizga ijobiy va salbiy ta'sir ko'rsatganini tan olish kerak. Sanoat texnologiya va transportda sezilarli yutuqlarga erishgan bo'lsa-da, atrof-muhitning yomonlashishiga ham hissa qo'shdi.

Yer yuzida uglerod chiqindilari va neftning mavjudligi sababli ortib borayotgan xavf-xatarlar mavjudligi odatda e'tirof etiladi. Energiya iste'molchilariga kelsak, transport sanoati eng katta ekologik ta'sirga ega bo'lib, dunyodagi energiya iste'moli va issiqxona gazlari emissiyasining 25% dan ortig'iga hissa qo'shadi. Avtomobil transporti sohadagi chiqindilarning 70% dan ortig'ini tashkil qiladi.



1-rasm. Elektromobil avzaligining ko'rsatgichlari

Biroq, elektromobillardan foydalanishning ommaviy o'sishi bir qator qiyinchiliklar, muammolar, noaniqliklar va xavotirlarni keltirib chiqardi, jumladan, infratuzilmaning yuqori narxi, elektr transport vositalarining narxi, zaryadlash stantsiyalarining etishmasligi va elektr transport vositalarining cheklangan doirasi. Batareyalar eng muhim muammo bo'lib qolmoqda. Keyingi yillarda elektr transport

vositalari o'zaro bog'langan transport, jamoat transporti va boshqa elementlar bilan bir qatorda aqlli shaharlarning muhim tarkibiy qismi bo'ladi. Shuning uchun batareyalarni yaxshilash va zaryadlash jarayonini soddalashtirish uchun ko'proq harakat qilish kerak. Elektr transport vositalari ning asosiy muammosi ularning avtonomligidir. Olimlar og'irlik, narx va zaryadlash vaqtini qisqartirish bilan birga haydash masofasini oshirish uchun yaxshiroq batareya texnologiyasini ishlab chiqmoqdalar. Bu omillar oxir-oqibat elektr transport vositalari yo'nalishini aniqlaydi. Ushbu tadqiqotda aqlli shaharlarda elektr avtomobillardan foydalanish bilan bog'liq jiddiy xavf va qiyinchiliklar ushbu muammolarni hal qilish bilan birga yoritilgan.

Asosiy qism. Evropa Ittifoqiga a'zo davlatlarda joriy va rejalashtirilgan siyosat choralari bilan transportdan issiqxona gazlari chiqindilari 2022 yil darajasiga nisbatan 2030 yilda taxminan 14 foizga va 2050 yilda 37 foizga kamayishi prognoz qilinmoqda. Shuning uchun Yevropa Ittifoqining 2050 yilga borib transport chiqindilarini 90 foizga kamaytirish maqsadiga erishish uchun yanada kuchliroq harakatlar talab etildi. Evropada elektr transport vositalarining soni yil sayin ortib bormoqda. 2023 yilda elektr transport vositalari yangi avtomashinalarni ro'yxatga olishning 22,7 foizini va mikroavtobuslarning 7,7 foizini tashkil etdi. Umuman olganda, 2022 yilda 2 milliondan 2023 yilda 2,4 million yangi elektromobil ro'yxatga olingan.

Elektr transport vositalarining soni ortib borish hisobiga **EEA (Yevropa Atrof-Muhit Agentligi)** tomonidan e'lon qilingan vaqtinchalik ma'lumotlarga ko'ra, 2023 yilda Evropada ro'yxatdan o'tgan barcha yangi avtomobillardan o'rtacha CO₂ emissiyasi pasayishda davom etdi va 2022 yilga nisbatan 1,4 foizga past bo'ldi. Xuddi shunday, yangi furgonlardan chiqadigan o'rtacha CO₂ emissiyasi pasayishda davom etdi va 2022 yilga nisbatan 1,6 foizga past bo'ldi. Yangi avtomobillar va furgonlar chiqindilarining qisqarishi to'liq elektr transport vositalarining ulushi ortib borayotgani bilan bog'liq.

Ma'lumot uchun: Elektr transport vositalari bo'yicha EEA (Yevropa Atrof-Muhit Agentligi) hisobotiga ko'ra elektr transport vositalarining GG (issiqxona gazlari) emissiyasi benzin va dizel avtomobillari chiqindilariga qaraganda 17-30% ga kam.

Metadalogiyasi. Elektr transport vositalarini qabul qilishni qanday oshirish mumkinligi. Evropa yashil kelishuvi 2050 yilga kelib transport bilan bog'liq issiqxona gazlari emissiyasini 90 foizga qisqartirishga erishishni maqsad qilgan va elektr transport vositalarini qabul qilishni tezlashtirish uchun Evropa bo'ylab qo'llaniladigan quyidagi choralarni ishlab chiqdi.

- elektromobil sanoatini moliyaviy qo'llab-quvvatlash;
- infratuzilmani quvvatlantirishga davlat investitsiyalari yoki uy zaryadlovchi qurilmalari uchun subsidiyalar;
- elektr transport vositalar davlat xaridlaridan ozod qilish (masalan, shahar avtotransport parklari uchun);
- elektr jamoat transporti uchun davlat yordami;

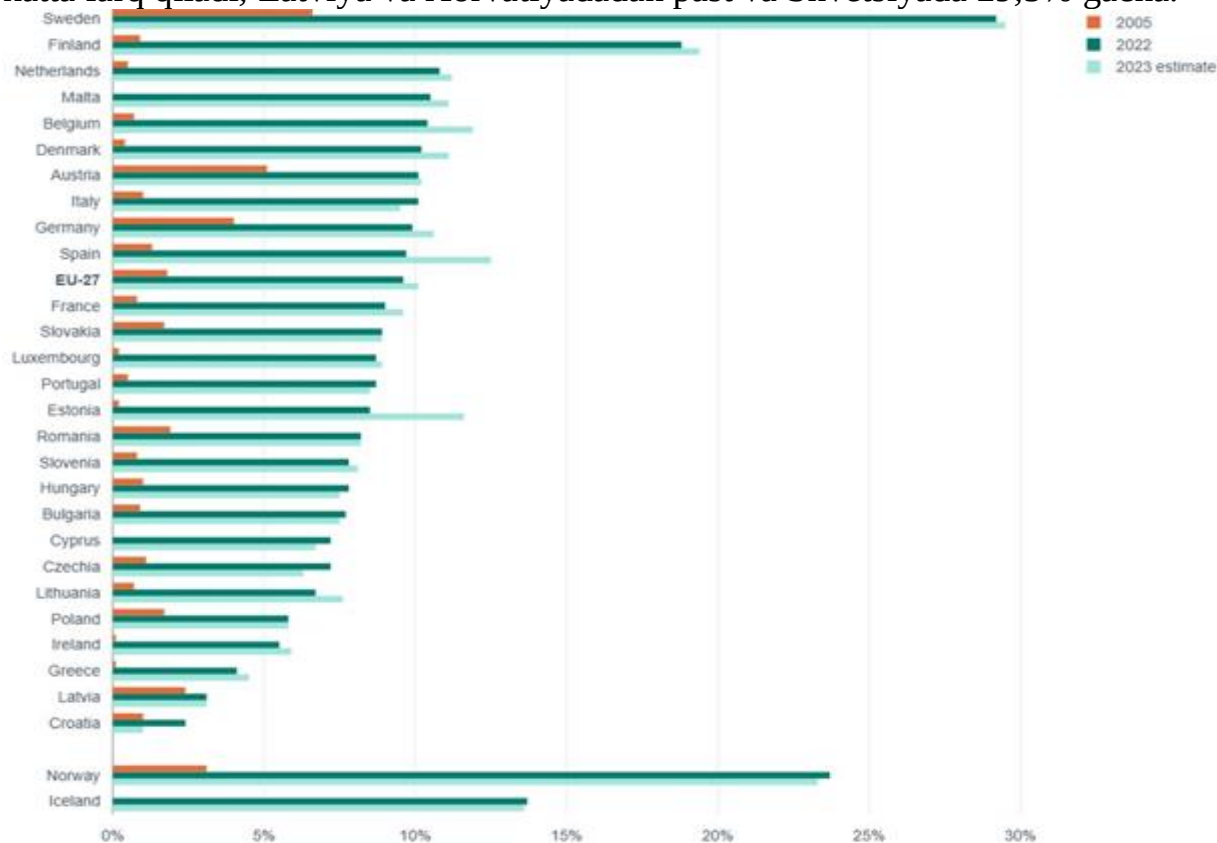
- avtobus yo'laklariga imtiyozli kirish, bepul yoki imtiyozli to'xtash joyi, kam emissiya zonalariga kirish, jamoat stantsiyalarida bepul to'lov va yo'l haqini to'lashdan ozod qilish kabi bilvosita iste'molchilarni rag'batlantirish;

- elektromobil ishlab chiqaruvchilari uchun sotish maqsadlari yoki ichki yonuv dvigatelli transport vositalarini sotishni taqiqlash kabi tartibga soluvchilarni rag'batlantirish.

Transportda qayta tiklanadigan energiya. Transport sektorida bioyoqilg'idan tortib shamolda ishlab chiqariladigan elektr energiyasigacha turli qayta tiklanadigan energiya manbalaridan foydalaniladi.

Evropa Ittifoqida transport uchun ishlatiladigan qayta tiklanadigan manbalardan energiya ulushi 2005 yildagi 2% dan 2020 yilda 10,2 foizgacha oshdi. Bu shuni anglatadiki, Evropa Ittifoqiga a'zo davlatlar birgalikda qayta tiklanadigan manbalardan energiya ulushi bo'yicha 10 foizlik maqsadni qo'ygan. transport sohasida.

Evropada transport uchun qayta tiklanadigan energiyadan foydalanish va uning natijalari. EEA (Yevropa Atrof-Muhit Agentligi)ning dastlabki ma'lumotlariga ko'ra, Evropa Ittifoqida avtomobil va temir yo'l transportida foydalaniladigan qayta tiklanadigan manbalardan olinadigan energiya ulushi 2005 yildagi 2% dan 2023 yilda 10,1 foizgacha oshdi. Ushbu manbalarga bioyoqilg'i, qayta tiklanadigan elektr energiyasi yoki qayta tiklanadigan manbalardan vodorod va sintetik yoqilg'i kiradi. Transportda foydalaniladigan qayta tiklanadigan manbalardan olinadigan energiya ulushi Yevropa Ittifoqiga a'zo davlatlar orasida katta farq qiladi, Latviya va Xorvatiyadadan past va Shvetsiyada 29,5% gacha.



2-rasm. Mamlakat bo'yicha transportda foydalaniladigan qayta tiklanadigan manbalardan energiya ulushi

2005 yildan beri transport sohasida qayta tiklanadigan manbalarning ulushi ortib, EEA (Yevropa Atrof-Muhit Agentligi)ning dastlabki hisob-kitoblariga ko'ra, 2023 yilda 10,1% ni tashkil etdi. Transportda qayta tiklanadigan energiya iste'molining davom etayotgan o'sishi, asosan, qayta tiklanadigan energiya bo'yicha Direktiv tomonidan belgilangan tobora kuchayib borayotgan maqsadlar bilan bog'liq. 2009 yildagi Qayta tiklanadigan energiya bo'yicha **Direktiv RED** (Yevropa Ittifoqi tomonidan qabul qilingan yangilanishi mumkin bo'lgan energiya to'g'risidagi direktiva). barcha a'zo davlatlarda avtomobil va temir yo'l transporti uchun maqsadni belgilab qo'ydi, bunda transportda foydalaniladigan barcha energiyaning 10% 2020 yilgacha qayta tiklanadigan manbalardan olinishi kerak. transport sektori qayta tiklanadigan manbalardan kelib chiqqan bo'lib, bu ulush 2005 yildan beri barqaror o'sib bormoqda, o'sha paytda u 2% dan sal kamroq edi. Shunday qilib, Evropa Ittifoqi darajasida 2020 yilga mo'ljallangan 10% maqsadiga erishildi.

Xulosa

Avtomobil sanoati inson hayotida muhim ahamiyat kasb etib, transport qulayligi va samaradorligini oshirgan bo'lsa-da, bu rivojlanish atrof-muhitga jiddiy salbiy ta'sir ko'rsatmoqda. Ayniqsa, avtotransport vositalaridan chiqayotgan uglerod dioksidi va boshqa issiqxona gazlari emissiyasi global iqlim o'zgarishining asosiy sabablaridan biri hisoblanadi. Ushbu muammoni bartaraf etish uchun rivojlangan davlatlar elektromobillarning jadal ommalashuvi yo'lida muhim qadamlar qo'ymoqda.

Evropa Ittifoqi misolida ko'rilgan chora-tadbirlar, jumladan, yashil energiyaga o'tish, elektromobil infratuzilmasini rivojlantirish, moliyaviy rag'batlantirish va davlatning qo'llab-quvvatlash dasturlari chiqindilarni sezilarli darajada kamaytirishga yordam bermoqda. Elektr transport vositalari benzin va dizel avtomobillarga nisbatan kamroq uglerod chiqindisi bilan ajralib turadi va shovqin hamda tebranishni kamaytiradi. Biroq, elektromobillarni ommalashtirish yo'lida bir qator muammolar, jumladan, zaryadlash infratuzilmasining yetishmasligi, batareyalar texnologiyasidagi cheklovlar va ularning yuqori narxi mavjud. Kelgusida bu muammolarni hal etish va transport tizimini yanada ekologik va barqaror qilish uchun ko'proq sa'y-harakatlar talab qilinadi.

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TURLI O'RILISHLARLI TO'QIMALARDA IPLARNING DEFORMATSIYALANISH XUSUSIYATLARI

Annotatsiya: Maqolada mualliflarning Turli o'rinishli to'qimalar va ularni ishlab chiqarishda xomashyo ta'siri hamda turli o'rinishli to'qimalarda arqoq va tanda iplarini deformatsiyalanish xususiyatlarini tahlil qilish bo'yicha natijalari

Kalit so'zlar: to'qima, xomashyo, o'rinish, turli tolaviy, deformatsiya, ip, arqoq, tanda.

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DEFORMATION CHARACTERISTICS OF YARNS IN FABRICS WITH DIFFERENT WEAVES

Abstract: The article presents the authors' results on the analysis of the influence of raw materials on different types of fabrics and their production, as well as the characteristics of the warp and wool threads in different types of fabrics.

Key words: fabric, tsyra, weaving, nit, warp, weft.

Jahonda to'qimachilik matolari ishlab chiqarish tajribasida yangi assortimentdagi yo'l-yo'l naqshli matolarni ishlab chiqarish, mahalliy tabiiy tolalarni chuqur qayta ishlash hisobiga ulardan foydalanishni ko'lamini kengaytirish, shuningdek, to'quv dastgohlarini texnologik ko'rsatkichlarini tahlil qilish, yo'l-yo'l naqshli gazlamalarda turli o'lchamdagi naqsh shakllantirishga yo'naltirilgan ilmiy-tadqiqot ishlari olib borilmoqda. Dunyo tajribasida to'qimachilik sanoatida turli xildagi kiyim-kechak va buyumlarga bo'lgan talabning ortib borishi va ushbu talablarni amalga oshirishda yangi texnika va texnologiyalarni qo'llash yetakchi o'rinlardan birini egallamoqda. Dunyo miqyosida to'qimachilik bozorining hajmi 2023 yildan 2030 yilgacha yillik o'sish sur'ati (CAGR) 7,6% ga¹⁸ o'sishi kutilmoqda.

Bu borada, to'quv dastgohi assortimentlik imkoniyatlaridan samarali foydalanish yo'llarini qidirish, yangi o'rinish turlarini taklif etish va sifat

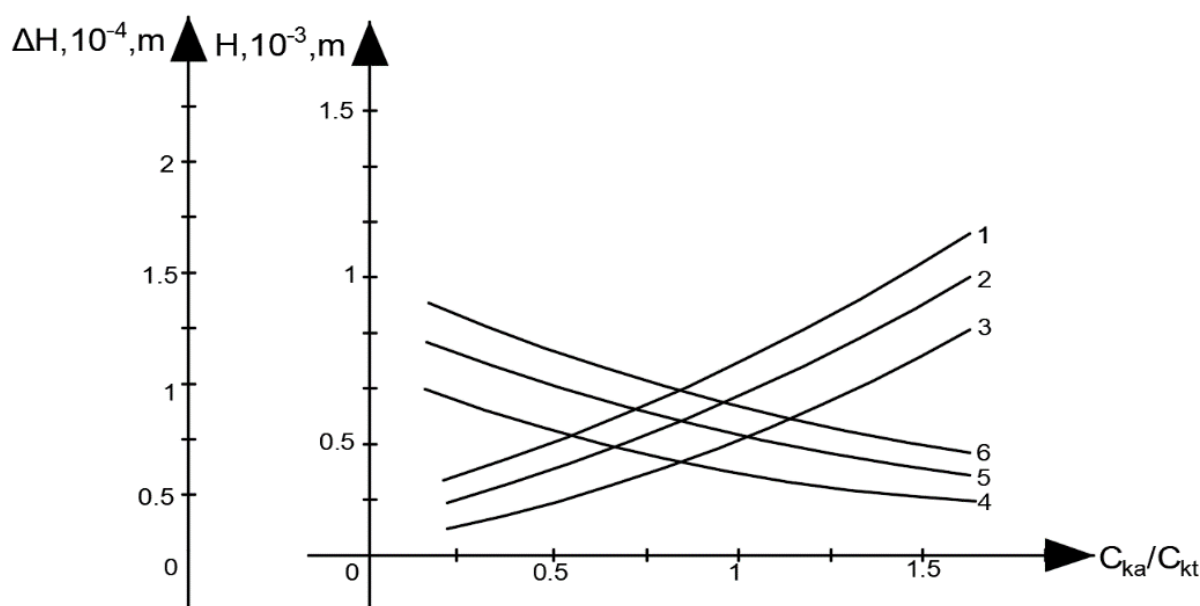
ko'rsatkichlarini tadqiq etish yo'li bilan matoning iste'mol xususiyatlarini yaxshilashga doir tadqiqotlar ustivor hisoblanmoqda. Shu bilan birga yo'l-yo'l naqshli gazlamalar ishlab chiqarishda tanda va arqoq iplarini to'quv dastgohiga taxtlash ko'rsatkichlari hamda ularning naqsh o'lchamlariga ta'sirini aniqlashga alohida e'tibor berilmoqda.

O'zbekiston Respublikasi Prezidentining 2022 yil 21 yanvardagi PF-53-son "To'qimachilik va tikuv-trikotaj korxonalarida chuqur qayta ishlash va yuqori qo'shilgan qiymatli tayyor mahsulotlar ishlab chiqarishni hamda ularning eksportini rag'batlantirish chora-tadbirlari to'g'risida"gi Farmoni, 2019 yil 12 fevraldagi PQ-4186-son "To'qimachilik va tikuv-trikotaj sanoatini isloh qilishni yanada chuqurlashtirish va uning eksport salohiyatini kengaytirish chora-tadbirlari to'g'risida"gi qarori va 2019 yil 16 sentabrdagi PQ-4453-son "Yengil sanoatni yanada rivojlantirish va tayyor mahsulotlar ishlab chiqarishni rag'batlantirish chora-tadbirlari to'g'risida" gi Qarorlari hamda mazkur faoliyatga tegishli boshqa me'yoriy-huquqiy hujjatlarda belgilangan vazifalarni amalga oshirishga ushbu dissertatsiya ishi muayyan darajada xizmat qiladi [2].

Respublikamiz Milliy iqtisodiyotida to'qimachilik sanoati ulushini oshirish, to'quv dastgohlarining texnologik imkoniyatlarini tahlil qilish orqali yangi turdagi to'qima matolarini taxtlash ko'rsatkichlarini ishlab chiqish va ilmiy tadqiqot natijalarini ishlab chiqarishga keng joriy etish yuzasidan keng qamrovli chora-tadbirlar amalga oshirilib, muayyan natijalarga erishilmoqda

Ko'rilayotgan to'qimada arqoq va tanda iplari siqilishdagi bikrlilik koeffitsientlarini ularni deformatsiyasiga, hamda to'qima qalinligiga ta'sirini o'rganish muhim hisoblanadi. 1-rasmda keltirilgan qurilgan grafiklariga asosan, C_A/C_T qiymatlarini 0,2 dan 1,5 gacha oralig'ida va $r_1=r_2$ bo'lganida to'qima qalinligi deformatsiyalar hisobiga $0,03 \cdot 10^{-3}$ m gacha nochiziqli qonuniyatda ortib boradi.

Agarda, $r_1 > r_2$ qilib olinsa, H qiymatlari $0,23 \cdot 10^{-3}$ m dan $0,96 \cdot 10^{-3}$ m gacha ortsa, mos ravishda $r_1 < r_2$ qilib olinganida C_A/C_T ortishi bilan to'qima qalinligi qiymatlari nochiziqli bog'lanishda $0,012 \cdot 10^{-3}$ m dan $0,077 \cdot 10^{-3}$ m gacha ortib boradi. Chunki iplar bikrliklari qancha yuqori bo'lsa ularning deformatsiya hisoblari shuncha kichik bo'ladi va to'qima qalinligi ortadi.



1-rasm. Bir qatlamli to‘qima qalinligi va uning notekisligini o‘zgarishini arqoq va tanda iplari ezilishga bikrlilik koeffitsientlari nisbatiga bog‘liqlik grafiklari.

$$1,2,3 - H = f(C_A/C_T); \quad 4,5,6 - \Delta H = f(C_A/C_T);$$

$$1,4 - r_1 = r_2;$$

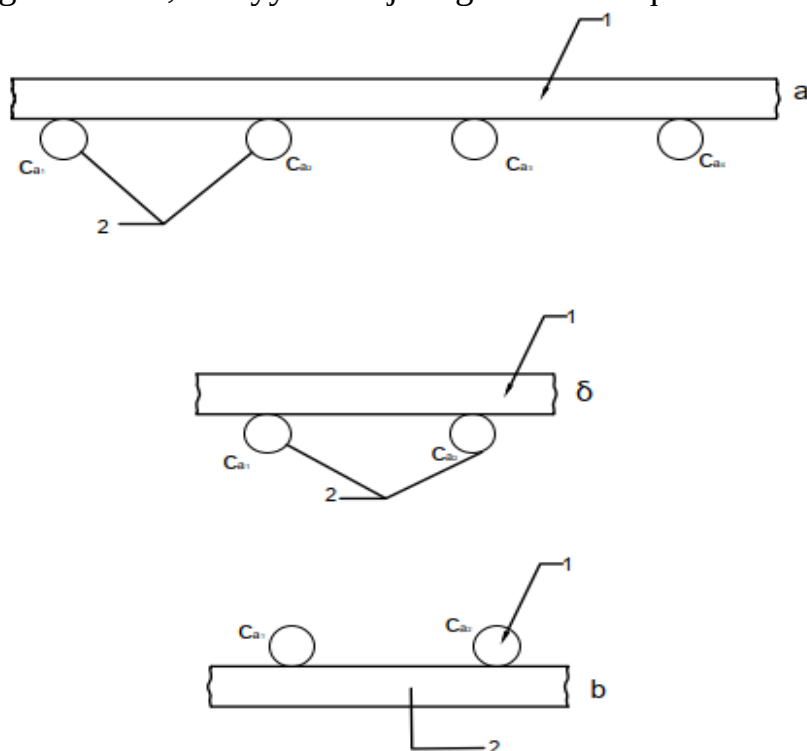
$$2,5 - r_1 > r_2;$$

$$3,6 - r_1 < r_2$$

Mos ravishda to‘qima qalinligi o‘zgarishi C_A va C_T qiymatlariga bog‘liqdir. Tanda va arqoq iplari radiuslari qiymatlari o‘zaro teng bo‘lsa, to‘qima qalinligi notekisligi minimal bo‘ladi. Jumladan, 1-rasmdagi grafiklar tahliliga ko‘ra C_A/C_T qiymatlari 0,25 dan 1,5 gacha o‘zgaradi. ΔH qiymatlari $r_1 = r_2$ bo‘lganda $0,9 \cdot 10^{-4}$ m dan $0,4 \cdot 10^{-4}$ m gacha chiziqsiz bog‘lanishda kamaysa, $r_1 > r_2$ bo‘lganida ΔH qiymatlari $1,2 \cdot 10^{-4}$ m dan $0,6 \cdot 10^{-4}$ m gacha kamayadi. Mos ravishda $r_1 < r_2$ bo‘lganida ΔH qiymatlari $1,49 \cdot 10^{-4}$ m dan $0,39 \cdot 10^{-4}$ m gacha chiziqsiz qonuniyatda kamayadi. Tahlillarga asosan, C_A va C_T qiymatlari o‘zgarsa va to‘qima strukturasi variantlarini tanlash hisobiga ΔH o‘zgarishini to‘qima sirtida tegishli ornament sifatida shakllantirish mumkin. Tavsiya qilingan o‘rilishdagi to‘qimada rapporti bo‘yicha, yoki umuman tegishli uzunlikdagi mato bo‘yicha arqoq va tanda iplarini ezilishdagi deformatsiyalari o‘zgaruvchan bo‘lib, ma’lum shakllarni hosil qiladi. Ushbu shakllarni loyihalash imkoniyatlari mavjud bo‘ladi. Shuning uchun ko‘rilayotgan to‘qimaning o‘zaro farq qiladigan elementlarini alohida ko‘rib chiqib, ezilishdagi deformatsiyasini aniqlash muhim hisoblanadi. 1-rasmda ko‘rilayotgan to‘qima orilishlaridagi o‘zaro farq qiladigan alohida qilib variantlarda keltirilgan [3].

Respublikamiz Milliy iqtisodiyotida to‘qimachilik sanoati ulushini oshirish, to‘quv dastgohlarining texnologik imkoniyatlarini tahlil qilish orqali yangi turdagi to‘qima matolarini taxtlash ko‘rsatkichlarini ishlab chiqish va ilmiy tadqiqot

natijalarini ishlab chiqarishga keng joriy etish yuzasidan keng qamrovli chora-tadbirlar amalga oshirilib, muayyan natijalarga erishilmoqda.



2-rasm. Arqoq va tanda iplarini o‘zaro joylashuvi to‘qima rapportidagi variantlari namunasi.

1-tanda ipi; 2-arqoq ipi

Har bir variant uchun iplarni bikrliklarini inobatga olinadi, uning natijasidagi qalinliklarini o‘zaro farqini aniqlaymiz. Shuningdek, tanda va arqoq iplarini tegishli o‘rilishdagi to‘qimada bir xil qalinlikdagi tekis to‘qima sirtlarini hosil qilish uchun iplarni bikrliklarini tanlash hisobiga amalga oshirish uchun matematik modullarini olish muhimdir.

Birinchi variant (2-rasm, a) bo‘yicha bu zonada tanda ipi 4 ta arqoq ipi bilan ta’sirlashadi. Bunda har bir arqoq ipi bir tekis kuchlar ta’sirida bo‘ladi va ularning vertikal deformatsiyalanish qiymatlari o‘zaro teng bo‘ladi.

$$\delta_{A1} = \delta_{A2} = \delta_{A3} = \delta_{A4}$$

bu yerda:

δ_{A1} , δ_{A2} , δ_{A3} , δ_{A4} - arqoq iplari deformatsiyalanish qiymatlari.

Arqoq iplari o‘zaro parallel va bir xil ta’siri bo‘lgani uchun ularning to‘qima raportining shu zonasidagi umumiy bikrliklari:

$$C_R = C_{A1} + C_{A2} + C_{A3} + C_{A4}$$

bu yerda:

C_R -keltirilgan bikrlik koeffitsienti (parallel bog‘lanishda);

C_{A1} , C_{A2} , C_{A3} , C_{A4} - har bir arqoq ipi bikrlik koeffitsientlari.

U holda arqoq iplarini deformatsiya qiymatlari:

$$\delta_a = \delta_A = \frac{P_b + m_T \cdot g}{C_{A1} + C_{A2} + C_{A3} + C_{A4}} = r_A (1 - \cos \beta_1)$$

bu yerda:

r_A -arqoq ipi radiusi,

β_1 - iplarni o'zaro joylashuvidagi qamrov burchagi.

Agarda arqoq iplari o'zaro bir xil olinsa,

$$C_A^I = \frac{P_b + m_T \cdot g}{4r_A (1 - \cos \beta_1)}$$

Ushbu olingan 2- ifodadan foydalanib bir xil tekis to'qima hosil qilish uchun arqoq ipini bikrligini aniqlash mumkun bo'ladi.

Ikkinchi variant bo'yicha (2-rasm) yuqorida keltirilgan tartib bo'yicha qaraganda 2 ta arqoq ipi o'zaro parallel, shuning uchun ushbu zonalar uchun quyidagi ifodalar o'rinli bo'ladi;

$$\Delta_a = \delta_A = \frac{P_b + m_T \cdot g}{C_{A1} + C_{A2}} = r_A (1 - \cos \beta_2)$$

bu yerda, β_2 -tanda va arqoq ipini (2-rasm) o'zaro qamrov burchaklari.

Shuningdek,

$$C_A^{II} = \frac{P_b + m_T \cdot g}{2r_A (1 - \cos \beta_2)}$$

Demak, ushbu zonada arqoq iplarini bikrliklari yuqoridagi birinchi variantdagi arqoq iplari bikrliklariga nisbatan deyarli ikki marta katta bo'ladi. Shuning uchun birinchi variantdagi va ikkinchi variantdagi arqoq iplarini bir tekisda qilish uchun:

$$C_A^{II} = 2C_A^I$$

ya'ni, ikkinchi zonadagi arqoq iplarini ezilishdagi bikrliklari birinchi zonaga nisbatan ikki marta katta qilib tanlanishi kerak bo'ladi.

Uchunchi variant bo'yicha (2-rasm) Ushbu to'qilish zonasida tanda ipi yuqorida va ikkita arqoq ipi pastda joylashadi. Shuning uchun, quyidagilar mos keladi:

$$\delta_A = \frac{P_\delta + m_T \cdot g}{C_A^{III}} = r_A (1 - \cos \beta_3)$$

shuningdek,

$$C_a^{III} = \frac{P_b + m_T \cdot g}{r_A (1 - \cos \beta_3)}$$

U holda har uchchala variant zonolari (rapport bo'yicha) arqoq iplari bir tekisda deformatsiyalanishi, hamda to'qima bir tekisda bo'lishini ta'minlashi uchun uchinchi zonadagi arqoq ipi bikrlilik koeffitsientini quyidagicha ifoda orqali aniqlanib qo'yilishi maqsadga muvofiqdir:

$$C_A^{III} = \frac{C_A^I (P_b + 2m_T \cdot g)}{P_b + m_T \cdot g}$$

Demak, to'qima o'rilishi raportidagi sxemaga asosan bir tekisdagi to'qimani olish uchun arqoq iplari bikrliklariga mos qilib tanlanishi maqsadga muvofiq bo'ladi.

To'quvchilik jarayonida deformatsiya tufayli tanda va arqoq iplari ko'ndalang kesim yuzalarining o'zgarishi ularning bikrlklari o'zgarishiga olib keladi. Tanda va arqoq iplari bikrlk koeffitsientlari asosida to'qima qalinligini hisoblash formulasi ishlab chiqildi. Iplar bikrlklari qancha yuqori bo'lsa ularning deformatsiya hisoblari shuncha kichik bo'ladi va to'qima qalinligi ortadi [4]. Bir qatlamli to'qima qalinligini arqoq va tanda iplari yo'g'onliklari va bikrlk koeffitsientlariga bog'liqlik grafiklari qurildi. Tanda va arqoq iplari vertikal yo'nalishdagi bikrlk koeffitsientlari 0,2 dan 1,5 gacha oralig'ida va tanda va arqoq iplari ko'ndalang kesim yuzalari radiuslari teng bo'lganida to'qima qalinligi deformatsiyalar hisobiga $0,03 \cdot 10^{-3}$ m gacha nochiziqli qonuniyatda ortib boradi. Tanda va arqoq iplari radiuslari qiymatlari o'zaro teng bo'lsa, to'qima qalinligi notekisligi minimal bo'ladi. Arqoq iplari bikrlk koeffitsienti tanda iplari bikrlk koeffitsientidan kam bo'lganda, to'qimaning qalinligi $0,245 \cdot 10^{-3}$ m dan $1,41 \cdot 10^{-3}$ m gacha chiziqli bog'lanishda ortib boradi.

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QANDOLAT MAHSULOTLAR ISHLAB CHIQARISH UCHUN ISHLATILADIGAN XOM ASHYOLARNING SIFAT VA EKSPERTIZASI

Annotatsiya: ushbu maqolada qandolat mahsulotlar tarixi hamda qandolat mahsulotlar ishlab chiqarish uchun ishlatiladigan xom ashyolarning sifat va ekspertizasi haqida ma'lumotlar keltirilgan.

Kalit so'zlar: qandolatchilik, korxonalar, qandolat fabrikalari, karamel, uglevodlar, oqsillar va yog'lar.

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QUALITY AND EXPERTISE OF RAW MATERIALS USED FOR THE PRODUCTION OF CONFECTIONERY PRODUCTS

Annotation: this article provides information about the history of confectionery products and the quality and expertise of raw materials used for the production of confectionery products.

Keywords: confectionery, enterprises, confectionery factories, caramel, carbohydrates, proteins and fats.

Yurtimizda qandolatchilik sanoati 1922-yildan boshlab qayta tiklana boshlandi. Davlat va koorperativ korxonalar tomonidan ishlab chiqarilgan qandolat mahsulotlarining hajmi o'ttizinchi yillarga kelib ancha kengaytirildi. Dastlabki beshyilliklar ichida qandolatchilik sanoati mavjud korxonalarni rekonstruksiyalash va yangilarini qurish bo'yicha ham davom ettirildi.

Asosiy ishlab chiqarish jarayonlari mexanizatsiyalashtirildi, ishlab chiqarishning texnologik rejimlari hamda xom ashyo tayyor mahsulotlarni nazorat usullari ishlab chiqarildi. Qandolatchilik sanoatini texnik qayta jihozlash va ishlab chiqarish jarayonlarini mexanizatsiyalashtirish yangi tuzilgan ilmiy asoslangan ishlab chiqarish texnologiyalari va qandolat fabrikalarida laboratoriya nazoratini tashkil etish yordamida o'tkazildi.

Qandolat mahsulotlari qabul qilingan klassifikatsiya bo'yicha qo'llaniladigan xom-ashyoga, ishlab chiqarish texnologiyasiga va tayyor mahsulotga qarab, ikkita katta guruhga va bir qator kichik guruhlarga bo'linadi:

a) shakarli qandolat mahsulotlari:	b) unli qandolat mahsulotlari:
1) karamel 2) konfetlar 3) shokolad va shokolad mahsulotlari 4) pastilomarmeladli mahsulotlar 5) holva, sharq shirinliklari 6) iris 7) draje	1) pechene 2) pryaniklar 3) tortlar, pirojniylar, (kekklar, ruletlar) 4) vafli.

Qandolat mahsulotlarining assortimenti nihoyatda xilma-xil bo'lib, 800 dan ortiq turlari bor. Quyida keltirilgan ma'lumotlardan ko'rinib turibdiki, qandolat mahsulotlarining ozuqaviy qiymati yuqori bo'lib, 1 kg mahsulotda insonning to'la qonli oziqlanishi uchun muhim bo'lgan elementlar – uglevodlar, oqsillar va yog'larning ko'pligi bilan tavsiflanadi.

Qandolat tovarlariga tarkibida ko'p miqdorda qand yoki boshqa shirin moddalar (asal, ksilit, sorbit), ya'ni, patoka, har xil mevalar, rezavor mevalar, sut, sariyog', yong'oq xom ashyolari bo'ladigan tovarlar kiradi. Qandolat tovarlari standartga muvofiq qandli hamda unli qandolat tovarlariga bo'linadi. Qandli qandolat mahsulotlariga karamellar, konfetlar, shokolad, marmelad, pastila, holva, iris, draje, sharq shirinliklari kiradi. Unli qandolat mahsulotlariga esa pechenelar, pryaniklar, tort, pirojniylar, kekklar va vafllilar kiradi. Shuningdek, kraxmal va kraxmal mahsulotlari ham kimyoviy tarkibi bo'yicha qand moddalariga yaqin bo'lganligi uchun qandolat mahsulotlari guruhida alohida o'rganiladi. Kraxmal va kraxmal mahsulotlarining sifat ekspertizasi Kraxmal ishlab chiqarish uchun kartoshkaning tarkibida kraxmalning miqdori 14 % dan kam bo'lmagan texnik navlari ishlatiladi. Makkajo'xori kraxmali olish uchun esa makkajo'xorining oqdonli navlaridan keng foydalaniladi.

Kartoshka kraxmalining sifati 7694-78 nomerli, makkajo'xori kraxmalining sifati esa 7697-82 nomerli davlat standarti talablariga javob berishi lozim. Organoleptik ko'rsatkichlari, tozaligi va kimyoviy tarkibi bo'yicha kartoshka kraxmali ekstra, a'lo, 1 va 2-navlarga, makkajo'xori kraxmali a'lo va 1-navga, bug'doy kraxmali esa ekstra, a'lo va 1-navlarga bo'linadi. Kraxmalning organoleptik ko'rsatkichlari bo'yicha uning tashqi ko'rinishi, rangi, hidi va ta'mi aniqlanadi. Kraxmal tashqi ko'rinishi bo'yicha qo'l bilan ishqalay olish mumkin bo'lgan kukun holatida bo'ladi. Kraxmalning rangi uning tozaligiga, turiga hamda naviga ham bog'liq. Kartoshka kraxmali oppoq rangda bo'ladi. Ekstra va a'lo nav kartoshka kraxmali yaltirab turishi kerak. Agar kraxmalda begona aralashmalar bo'lsa, uning rangi kulrangroq ham bo'ladi. Kraxmalning o'ziga xos hidi bo'lib, unda begona va shuningdek, ko'lansa, po'panak, baliq hidlari bo'lmasligi kerak. Ta'mi bo'yicha kraxmal ozroq shirinroq bo'ladi. Kraxmalda boshqa ta'mlar ham

bo'lmashligi kerak. Standart talabi bo'yicha fizik-kimyoviy ko'rsatkichlar orqali kraxmalning namligi, nordonligi, umumiy kulining va 10% li xlorid kislotasida erimaydigan kulining miqdori, begona mayda zarrachalarning soni bilan aniqlanadi. Bug'doy va makkajo'xori kraxmali uchun esa oqsil moddasining (protein) miqdori ham asosiy ko'rsatkichlardan biridir. Kartoshka kraxmalining namligi 20% dan, makkajo'xori, bug'doy va guruch kraxmallari namligi esa 13% dan oshmasligi kerak. Kraxmalning nordonligi uning asosiy ko'rsatkichlaridan biri hisoblanadi. Nordonligiga qarab kraxmalning qanchalik tozalanganligi, qancha saqlanganligi, yangi yoki eskiligini bilish mumkindir. Kraxmalning nordonligi deganda 100 g mutloq quruq kraxmalni neytrallashga sarflanadigan 0,1 normalli ishqor eritmasining miqdori tushuniladi. Naviga qarab nordonlik me'yorlari: kartoshka kraxmali uchun 7,5 dan 15, makkajo'xori kraxmali uchun -20, bug'doy kraxmali uchun esa 15 dan 18 millilitrgacha etib belgilanadi. Ekstra nav kartoshka kraxmalining 1 dm² yuzasida 60 tagacha, a'lo navida 200 tagacha, 1-navida 700 tagacha mayda zarrachalar bo'lishi chegaralanadi. Makkajo'xori kraxmalining a'lo navida bu ko'rsatkich 300 tagacha, 1 navida esa 500 tagacha etib belgilanadi. Bundan ko'rinadiki, kraxmalda mayda zarrachalar soni qancha ko'p bo'lsa, uning navi shuncha past darajada bo'ladi. Mayda zarrachalar sonining standartda ko'rsatilganidan ortiq bo'lishi, kraxmal ishlab chiqarish bosqichida uning ifloslanib qolganligidan va yaxshi yuvilmaganligidan ham dalolat beradi.

Kraxmal mahsulotlarining sifat ekspertizasi. Bugungi kunda oziq-ovqat sanoatida quyidagi kraxmal mahsulotlari ishlatililib kelinmoqda: sun'iy sago, modifikatsiya qilingan kraxmal, kraxmalni gidrolizlab olinadigan qandsimon moddalar (patoka, glyukoza, maltodekstrinlar va boshqalar). Shakar va qandning sifat ekspertizasi. Qand-tez hazm bo'ladigan yuqori kaloriyali (100 g va 375 kkal energiya beradi) shirin mahsulotdir, insonning asab sistemasini mustahkamlaydi, organizmda energiya manbai hisoblanadi va glikogen hosil bo'lishi uchun asosiy xom ashyodir. Sog'lom odam bir sutkada 60-80 g qand iste'mol qilish lozim. Organizmda ortiqcha qand moddasi hazm bo'lmasdan yog'ga aylanib, odamning semirishini ham keltirib chiqaradi. Shu sababli qand va shakarni ortiqcha iste'mol qilmaslik qat'iy talab etiladi. Qand va shakar kimyoviy tarkibi bo'yicha – bu butunlay saharoza (C₁₂H₂₂O₁₁) hisoblanadi. Qand asosan qand lavlagidan va shakarqamishdan olinadi. Qand asosan shakar va qand-rafinad holatlarida ishlab chiqariladi.

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FOYDALI QAZILMALARNING SANOAT TURLARINI O'RGANISHGA DOIR MA'LUMOTLARNI QISQACHA TAHLIL QILISH

Annotatsiya. Maqolada foydali qazilmalarning sanoat turlarini o'rganishga doir ma'lumotlarni qisqacha tahlil qilingan bo'lib. Foydali qazilma konlarini razvedka va ekspluatatsiya qilishning geologik va texnik-iqtisodiy muammolarini o'rganish orqali ularni geologik-sanoat turlariga guruhlashga oid masalalar muhokama qilingan va tegishli xulosalar qilingan.

Kalit so'zlar: razvedka, texnik-iqtisodiy, tabiat, sanoat, kon, mineral yoqilg'i, qora metal, rangli metal, asil metal, radioaktiv elementlar, nodir elementlar, kimyo sanoati, texnik xom-ashyolar, flyuslar, qurilish materiallari.

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BRIEF ANALYSIS OF INFORMATION ON THE STUDY OF MINERAL INDUSTRIES

Abstract. The article briefly analyzes information on the study of industrial types of minerals. By studying the geological and technical-economic problems of exploration and exploitation of mineral deposits, issues related to their grouping into geological-industrial types were discussed and appropriate conclusions were made.

Key words: exploration, technical and economic, nature, industry, mining, mineral fuel, ferrous metal, non-ferrous metal, precious metal, radioactive elements, rare elements, chemical industry, technical raw materials, fluxes, construction materials.

KIRISH (ВВЕДЕНИЕ / INTRODUCTION). Foydali qazilma konlarini razvedka va ekspluatatsiya qilishning geologik va texnik-iqtisodiy muammolarini o'rganish, ularni geologik-sanoat turlariga guruhlash ehtiyojini tug'diradi.

Foydali qazilma konlarining geologik tuzilishidagi xilma-xillik umume'tirof etilgan. Aytish mumkinki, tabiatda hech qachon ikki turdagi foydali qazilmaning bir hil koni mavjud bo'lmaydi. Shu bilan birga, tog' sanoati amaliyoti shundan darak beradiki, faqat eng samarali qazib olinadigan kon guruhlarinigina ajratib ko'rsatish mumkin. Ular geologik-sanoat parametrlarning qulay kombinatsiyalari bilan harakterlanadi. Agar konlarni mahsus qulay konlar guruhiga ajratish mumkin bo'lsa, unda qolgan konlar ulardan foydalanish samaradorligi nuqtai nazaridan boshqa guruhlarga bo'linadi. Shunday qilib, konlarni sanoat guruhlariga ajratish g'oyasi paydo bo'ladi.

Keyinchalik bu masalani o'rganishda konning sanoat va genetik turlari orasidagi juda aniq korrelyatsiyasi kuzatiladi. Shuning uchun konlarni guruhlashda ularning yaxshisi sanoat ahamiyati bo'yicha geologik-sanoat turlari deb atash maqsadga muvofiq.

MUHOAMA (ОБСУЖДЕНИЕ/DISCUSSION). Konlarni ma'lum bir geologik-sanoat turlarini o'rganishning boshlang'ich bosqichlarida, u haqidagi ma'lumotlar hali yetarli bo'lmagan vaqtdayoq to'g'ri aniqlash ayniqsa muhim. Bu uning istiqbolini va keyingi razvedka ishlarini baholashni ma'lum darajada belgilab beradi. Razvedkaning keyingi bosqichlarida konning geologik-sanoat turini aniqlashtirish katta ahamiyatga ega.

Umumlashtirilgan na'munaviy ma'lumotlardan kelib chiqib, razvedka ishlari rajalashtiriladi va loyihalashtiriladi, loyiha rejalari va kesmalari tuziladi, razvedkaning oqilona tizimi, razvedkalash tarmoqlarining quyuqligi va o'tkaziladigan ishlar ketma-ketligi tanlanadi. Razvedka ma'lumotlarining interpolyatsiyasi va ekstrapolyatsiyasi ma'lum darajada razvedka ma'lumotlarini solishtirishga va bir xil tipli konlarning ekspluatatsiyasiga tayanadi.

Shunday qilib, yaxshi ishlab chiqilgan foydali qazilma konlarining geologik-sanoat tasnifi konni o'rganishning barcha bosqichlarida judayam muhim. Qidirish va razvedka qilishning umumlashtirilgan yechimi bu geologik asoslashning muhim manbaidir, chunki qiyoslash usuli geologiya tizimida katta ahamiyatga ega.

Konlarning ayrim geologik-sanoat turlarining ahamiyati konlarni ishga tushirish va tog' sanoatini (texnika, texnologiyalar va iqtisodiyot) rivojlantirish davomida va yangi konlarni ochilishi yoki avval ma'lum bo'lganlarini qayta ishlanishi bilan bog'liq ravishda o'zgaradi.

Foydali qazilma boyliklarning tabiiy hilma-hilligi va ulardan foydalanishning turli tumanligi juda murakkab xolatni yuzaga keltiradi. Shuning uchun, ilmiy-nazariy jixatdan hali to'liq ishlab chiqilmagan bo'lsada, foydali qazilma boyliklarning sanoat turlarini tasniflash muhim ahamiyatga ega. Konlarning sanoat turlari razvedka ma'lumotlarini tahlil qilish va konni ma'lum guruhlarga ajratish imkonini beradi. Konlarning sanoat uchun yaroqli turlari, shunga o'xshash sanoat turiga doir razvedka obyektlarini qiyoslash va baholash imkoniyatini bera oladigan razvedka ma'lumotlarini qiyosiy tahlili uchun asos bo'lib xizmat qiladi.

Konlarni sanoat turlariga qarab ajratish haqidagi fikrlar V.M.Kreter va V.I.Smirnovning “Foydali qazilmalarni qidirish va razvedka qilish”ga doir bir qator kitoblarida o‘z ifodasini topgan. Bir vaqtning o‘zida foydali qazilma konlarini sanoat turlariga ajratish va mos ravishda bir tizimga solish-qidirish, razvedka qilish va ekspluatatsiya amaliyotida yanada mukammallashtirilgan va geologiya-razvedka ishlarini olib borish, foydali qazilmalar zahiralarini hisoblash, ishlanmalarni bir tizimga solish bo‘yicha ishlab chiqilgan turli xil yo‘riqnomalarda va uslubiy qo‘llanmalarda o‘z ifodasini topgan.

Foydali qazilma konlarining sanoat tasnifi, bir tomondan, ularning tabiiy xususiyatlariga, boshqa tomondan, qazib olinadigan mineral xom-ashyoning foydalanish yo‘nalishlari va imkoniyatlariga asoslanadi. Qattiq, suyuq va gazsimon foydali qazilmalar sanoat maqsadlariga mos ravishda guruhlariga bo‘linadi.

Quyida turli hil foydali qazilmalarning sanoat turlari keltirilgan:

1. Mineral yoqilg‘ilar – ko‘mir, neft va gaz;
2. Qora metallar – temir, marganets, xrom, titan;
3. Rangli metallar – alyuminiy, mis, qo‘rg‘oshin, qalay, rux, simob;
4. Asil metallar – oltin, kumush va platinoidlar;
5. Radioaktiv elementlar – asosan uran;
6. Nodir elementlar – litiy, berelliy, tantal, niobiy, sirkoniy;
7. Kimyo sanoati xom-ashyolari – fosforitlar, apatitlar, oltingugurt, flyuorit;
8. Texnik xom-ashyolar – olmosli kemberlitlar, asbest, talk, optik minerallar (island shpati), grafit;
9. Flyuslar o‘tga chidamli materiallar, oxaktosh, dolomit, magnezit, kvars. gil va boshqalar.
10. Qurilish materiallari – marmar, qum, shag‘al va boshqalar;
11. Yer osti suvlari, ichimlik suvlari, davolash suvlari va texnik suvlar.

Yuqorida keltirilgan guruxlar ichida bir qator belgilariga qarab yana mayda tabiiy kon turlarini ajratilish mumkin. V.M.Kreyter foydali qazilmalarni sanoat turlarining asosiy belgilari sifatida ularning shakli, o‘lchamlari, sifati, ma‘dan tanasining yotish holatini qabul qiladi. Chunki bu belgilar konlarni razvedka qilish va qayta ishlash usullariga xal qiluvchi ta‘sir ko‘rsatadi. V.M.Smirnov ma‘danli konlarni sanoat turlarini guruhlashda ularning quyidagi belgilariga: konlar tabiatini belgilovchi genetik sinfiga; konlarning shakliga ta‘sir ko‘rsatuvchi strukturasi; konlar sifatini belgilovchi ma‘danning maddiy tarkibiga va yon atrofdagi tog‘ jinslar tarkibiga urg‘u beradi.

Demak, foydali qazilma konlarining sanoat turi deb qalinligi, sifati, shakli, o‘lchami va yotish sharoitlari bilan tog‘ - kon sanoati va xom ashyolarni qayta ishlovchi korxonalar talablarini qoniqtiradigan tabiiy geologik ma‘dan tanalariga aytiladi.

XULOSA (ЗАКЛЮЧЕНИЕ/CONCLUSION). Juda ko‘plab ma‘danlar namoyon bo‘lgan joylardan faqat ayrimlarigina sanoat obyektlari bo‘lishlari mumkin. Shartli ravishda, qayta ishlash natijasida ulardan olinadigan mahsulot Dunyo bo‘yicha konlardan qazib olinadigan u yoki bu mineral xom ashyolarning miqdoriga nisbatan o‘xshash konlardan qazib olinadigan mineral xom ashyolar

miqdori 1% dan kam bo'lgan taqdirda ularni sanoat turidagi konlar deb hisoblash qabul qilingan.

Konlarni ishga tushirish va qayta ishlash sanoat korxonalarining taraqqiy etib borishi bilan foydali qazilma konlarining sanoat tasniflari ham o'zgarib boradi. Ba'zi bir konlar o'zining avvalgi ahamiyatini yo'qotadi yoki tugab qoladi (mis va qo'rg'oshinga boy bo'lgan ma'danli tomirlar, qimmatbaho toshlar). Shu bilan bir vaqtda avvallari foydali qazilmalar sifatida qazib olinmagan, yangi konlarni qayta ishlashga e'tibor qaratiladi. Xuddi shunday, mineral o'g'itlarga, radioaktiv xom ashyolarga, nodir elementlarga bo'lgan ehtiyojning ortib borishi bilan apatit, uran, nodir metall ma'danlarining yangi sanoat turlari vujudga keldi.

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INTERCULTURAL COMMUNICATION AS A MODEL OF EDUCATIONAL CONTENT IN LINGUACULTURAL COMPETENCE

Abstract: *With the development of cultural and economic ties between countries and peoples, the role of studying foreign languages increases. Every year, the demand for specialists who speak foreign languages increases. Currently, one of the most important areas of educational development is the use of a competency-based approach in the development of skills and abilities related to the practical application of a person's communicative abilities, his cultural, social and information competencies.*

Key words: *Linguistic competence, foreign language, communicative competence, communication situation, speech and socio-cultural knowledge, skills and abilities.*

The pragmatic aspect of the goal of teaching foreign languages is associated with the formation of knowledge, skills and abilities in students, the possession of which allows them to join the ethnocultural values of the country of the language being studied and practically use a foreign language in situations of intercultural understanding and cognition. The totality of such knowledge, skills and abilities constitutes the communicative competence of students. The concept of communicative competence was the result of an attempt to draw a line between academic and basic interpersonal communicative skills of a person. Based on the communicative approach, in the process of teaching foreign languages it is necessary to develop the ability to communicate in a foreign language, or in other words, to acquire communicative competence. Communicative competence implies the ability to use all types of speech activity: reading, listening, speaking (monologue, dialogue), writing. The process of communication in a foreign language is studied not only as a process of transmitting and receiving information, but also as a regulation of relations between partners, the establishment of various types of interaction, as the ability to evaluate, analyze a communication situation, subjectively evaluate one's communicative potential and make the necessary decision. [7]

The leading component in communicative competence is speech (communicative) skills, which are formed on the basis of:

- language skills and abilities;
- linguistic and cultural knowledge.

The following essential skills are included in communicative competence:

- read and understand simple, authentic texts (with understanding of the main content and with full understanding);
- communicate orally in standard situations in the educational, work, cultural, and everyday spheres.

This is how the minimum level of communicative competence is defined in the state educational standard for foreign languages. [5]

Foreign language communicative competence is a certain level of mastery of linguistic, speech and socio-cultural knowledge, skills and abilities, allowing the learner to communicatively acceptably and appropriately vary his speech behavior depending on the communication situation.

Foreign language communicative competence is necessary and sufficient for the correct solution of communicative and practical tasks by students in the studied situations of everyday, pedagogical, scientific, business, political and socio-political communication, the development of abilities and qualities necessary for communicative and socio-cultural self-development.

Linguistic competence is one of the main components of communicative competence. Its content is the ability of a person to correctly construct grammatical forms and syntactic constructions in accordance with the norms of a particular language.

Linguistic competence consists of the following types:

The importance of educational competence for students:

- organizes and optimizes independent work of students on the language;
- reduces time, physical and mental costs when working on a foreign language;
- improves the quality of mastery of foreign language communication;
- increases interest in the subject.

The content of the process of developing educational competence includes:

- knowledge of the methods of rational performance of educational work existing in generalized experience, of the available options for performing an educational action in the absence of a given algorithm.
- skills to diagnose one's own initial state in the field of rational organization of educational activities; select a method of educational activity that best suits individual personal characteristics; form an individualized set of individually -- rational educational skills and actively use it, independently monitor the correctness of this choice.

Compensatory competence is the ability to overcome difficulties in generating foreign language statements, i.e. its formation involves developing the ability and readiness to overcome the deficit of one's foreign language knowledge, skills and abilities.

The meaning of compensatory competence:

- allows one to overcome the inevitable difficulties associated with ignorance of language units, with misunderstanding of language, socio-cultural units;

- liberates, allows one to remove the language barrier;
- develops one's own communicative competence in one's native language.

[1]

The content of the process of compensatory competence formation:

- knowledge of verbal and non-verbal means of compensating for communication deficiencies (synonyms, periphrasis, facial expressions, gestures, body movements); compensatory strategies - speech behavior models, a set of speech actions for repeated achievement of the set communicative task.

- skills and abilities to use synonyms, periphrasis, generic names, generalized words, use analogies, associations, verbosity, knowledge of word formation, make a description, transformation, repetition of a phrase, ask questions, ask for help from a communication partner.

Sociocultural competence - the ability to build speech and non-speech behavior taking into account the norms of societies speaking the studied language.

The importance of sociocultural competence:

- knowledge of the national mentality, picture of the world;
- removal of cultural difficulties;
- awareness of the expansion of one's own worldview, ideas about another sociocultural community.

Sociocultural competence is divided into the following types:

1. Sociolinguistic competence involves the ability to choose a linguistic form and method of linguistic expression that is adequate to the conditions of the communication act, i.e. the communication situation, goals and intentions, and social roles of communication partners.

2. Cultural competence involves students mastering the national and cultural specifics of the country of the language being studied and the ability to structure their speech and non-speech behavior in accordance with these specifics. It involves mastering information about the country of the language being studied, its geographical location, natural conditions, attractions, government structure, national characteristics of everyday life and culture of the country of the language being studied, and the specifics of speech and non-speech behavior of native speakers of a foreign language.

3. Linguistic and cultural competence involves mastering non-equivalent vocabulary (within the framework of the topics being studied, subjects of speech) and ways of conveying it in the native language; background vocabulary, realities characteristic of the texts used in the learning process; methods of conveying the realities of the native language in a foreign language (within the framework of the topics studied, subjects of speech). [1]

In the process of communication, there is an orientation towards the social characteristics of the speech partner: his status, position, situational role, which is

manifested in the choice of alternative speech means with stratifications and speech constraints.

Thus, communicative competence is an integrative concept, including both the skills and abilities to perform actions with language material, and regional geographic knowledge, abilities and abilities. Knowledge, abilities and abilities of only one part cannot indicate the ability to communicate, i.e. to receive and transmit information using different types of speech activity. Therefore, in relation to the specifics of the subject "foreign language", the concept of training means the acquisition by students of one or another level of communicative competence.

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INGLIZ TILIDA SO'ZLASHMAYDIGAN MAMLAKATLARDA INGLIZ TILINI O'RGANISH MUAMMOLARI

Annotatsiya: Ingliz tilining globallasuvi uni turli madaniyatlar va millatlar o'rtasida muloqot qilish imkonini beruvchi dominant lingua franca sifatida òrin egallashiga sabab bòldi. Biroq, bu keng miqyosda qòllanish ingliz tilida so'zlashmaydigan mamlakatlardagi o'quvchilar uchun katta qiyinchiliklar tug'diradi. Ushbu maqola ingliz tilini o'zlashtirishda duch keladigan ko'p qirrali to'siqlarni tahlil qiladi va asosiy e'tiborni to'rtta asosiy yo'nalish: grammatik murakkabliklar, talaffuz va fonologik o'zgarishlar, immersiv muhit yetishmasligi va òqitish texnikasiga qaratadi. Resurslar mavjudligiga qaramay, o'rganuvchilar, ko'pincha, o'z ona tillaridan sezilarli darajada farq qilishi mumkin bo'lgan ingliz grammatikasida qiynalishadi. Bundan tashqari, ingliz tilidagi turli xil aksentlar va fonetik tizimlar talaffuz va tushunishda qo'shimcha qiyinchiliklar yaratadi. Shuningdek, immersiv lingvistik muhitning yo'qligi amaliyotda qo'llanish va ravonlik imkoniyatlarini cheklaydi, bu esa o'quvchilarning til bilan haqiqiy munosabatda bo'lish qobiliyatiga to'sqinlik qiladi. Nihoyat, ko'pincha an'anaviy yondashuvlarga asoslangan talabga javob bermaydigan o'qitish metodologiyalari talabalarning ushbu kontekstdagi o'ziga xos ehtiyojlarini qondira olmaydi. Ushbu muammolarni ta'kidlagan holda, ushbu maqola mahalliy bo'lmagan mamlakatlarda ingliz tilini o'rganish bilan bog'liq murakkabliklarni chuqurroq tushunishga hissa qo'shish va ushbu qiyinchiliklarni yengib o'tishga harakat qilishga da'vatni maqsad qiladi.

Kalit so'zlar: global lingua franca, tilni o'zlashtirishdagi to'siqlar, grammatika murakkabligi, talaffuz, muhit va o'qitish usullari.

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CHALLENGES OF LEARNING ENGLISH IN NON-ENGLISH- SPEAKING COUNTRIES

Abstract: The globalization of English has positioned it as a dominant lingua franca, enabling communication across diverse cultures and nations. However, this widespread use presents significant challenges for learners in non-English-speaking countries. This article examines the multifaceted obstacles encountered in the acquisition of English, focusing on four primary areas: grammatical complexities, pronunciation and phonological variations, the lack of immersive

environments and techniques in educating. Despite the availability of resources, learners often struggle with the English grammar, which can differ markedly from their native languages. Additionally, the diverse accents and phonetic systems of English create further hurdles in pronunciation and comprehension. Moreover, the absence of immersive linguistic environments limits opportunities for practical application and fluency, hindering learners' ability to engage with the language authentically. Finally, inadequate teaching methodologies, often rooted in traditional approaches, fail to address the specific needs of students in these contexts. By highlighting these challenges, this article aims to contribute to a deeper understanding of the complexities surrounding English language acquisition in non-native countries and to propose a call to try to overcome these challenges.

Key words: *global lingua franca, language acquisition barriers, complexity of grammar, pronunciation, environment and teaching methods*

Speaking about a language and speaking in a language are different things. In this contemporary era, English has been so widespread that a vast global community has used for any purposes, particularly in academic settings. Mastering English has been being crucial for people's educational advancement. Its importance is not limited to international contexts, it also plays a significant role in local settings. The rise of English as a global lingua franca has transformed its status, enabling effective communication and collaboration across different cultures and regions. Consequently, individuals are increasingly aware of significance of learning English, not only for engaging on an international level but also for accessing local educational and career opportunities, making teaching and learning English prevalent on a large scale.

However, being a proficient in English is not as straightforward as its widespread recognition around the globe. There are so many language barriers and challenges we face and must overcome, including differences in language structures compared to native ones, lack of immersive environments, teaching system, students' characteristics and so on. By taking into account these issues, solutions and actions must be identified.

Complexity of grammar

One of the most significant difficulty in learning English lies in its complex grammar. Unlike certain languages that adhere to clear and uniform grammatical structures, English is characterized by numerous exceptions and irregularities. For instance, the various tenses in English and the existence of irregular verbs and noun pluralization rules can be especially confusing, as they express subtle differences in meaning and demand both memorization and contextual comprehension. Moreover, the language features an extensive and often complicated vocabulary, where many words possess multiple meanings based on their context. The presence of homophones—words that sound alike yet have different definitions—adds another layer of complexity to the learning experience.

Pronunciation

Among the challenges, pronunciation stands out as a crucial hurdle that can hinder effective communication and language acquisition. English does not consistently match written words with their spoken forms, demanding logical pronunciation patterns. This may discourage a new learner to continue the learning. For example, the words "bear" and "beer" are spelled somehow similarly, but pronounced differently. This can confuse learners who expect a one-to-one correspondence between letters and sounds. Furthermore, in English phonetics we can witness that there are several versions of only one vowel sound, depending on the context which might not exist in learner's native language. Take the words "plot" and "storm" as an example of versions of "o" sound, one of them is short "o" sound, another one is long, making the process challenging. Additionally, English relies heavily on intonation and stress patterns to convey meaning. Misplacing stress can lead to misunderstandings, as in the difference between 'record (noun) and re'cord (verb).

Environment

Another most significant and main challenge for learners of English in non-English-speaking countries is the lack of exposure to the language in everyday life. Actually, the surrounding environment serves as a vital resource for students, providing opportunities for various activities, recreation, and innovation. It fosters the development of new ideas and behaviors through exploration and experimentation, effectively transforming the environment into a "laboratory" where students can engage in self-expression and acquire new knowledge and concepts.

Nevertheless, in many cases, English is taught primarily in formal educational settings, where students engage with textbooks and classroom exercises but have few opportunities for real-world application. There is little chance for learner to communicate with other people in English outside of classrooms and some other formal settings, such as meetings or conferences, because the society is not yet ready; most of the population lacks sufficient knowledge or experience to speak, especially family environment, where nearly all conversations occur, has not been conducive to language use either, since most parents aren't aware of English, but other languages, such as Russian. As a result, learners often struggle to develop their listening and speaking skills, which are crucial for effective communication.

The absence of an immersive environment means that students are not regularly exposed to natural conversations, idiomatic expressions, or cultural nuances that enrich language learning. However, if a person can create a comfort zone for themselves by prioritizing English use in their daily routine—such as watching videos and movies in English, listening to English music and interacting more with individuals who know the language, the process will be easier and enjoyable.

Teaching methods

Teaching serves as a means of guiding, facilitating learning, and motivating students while creating an environment productive of education. Having a good

understanding of how students learn enables educators to shape their educational philosophy, teaching style, approach, methods, and classroom strategies. That's why, whether the learning experience will be easier or not depends on teaching techniques too. Although there are several teachers who conduct the lessons with effective methods, unfortunately, we can also witness the opposite case. Most of the teachers and institutions focused on only grammar and the acquisition of linguistic knowledge in educating the language, often neglecting the development of communicative skills. Additionally, the examination-driven culture places excessive emphasis on testing, which can hinder learners' ability to achieve practical English language proficiency for real-life situations. This adherence to a native-speaker model, coupled with a grammar-centric and exam-oriented approach, limits students' opportunities to effectively utilize their language skills in everyday contexts. Furthermore, unclear instructions from teachers is a main problem, as some of them fail to convey their ideas and express their exceptions due to lack of knowledge or experience, causing students's misunderstandings and frustration. Large class sizes present another challenge in English language instruction. In overcrowded classrooms, teachers often struggle to provide individualized attention to each student. This limitation can prevent learners from receiving the support they need to develop their skills effectively. In large groups, shy or less confident students may feel intimidated and less willing to participate in discussions or activities. As a result, valuable opportunities for practice and interaction are lost.

Conclusion

To sum up, learning English as a second language can be challenging yet rewarding experience that opens up numerous personal and professional avenues. Admittedly, during the learning journey, coming across obstacles and difficulties is natural, as there is not a major factor, I mean the environment in every non-English-speaking countries, simultaneously, complexity of grammar and its phonology also inadequate instructions make life difficult for learners. Although the path can be challenging, non-native speakers also can attain proficiency in English through dedication, consistent practice, and appropriate support.

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NANOZARRACHALARNING HOSIL BO'LISH TEZLIGINI ANIQLASH

Anotatsiya: Nanozarrachalar ishlab chiqarishda ularning hosil bo'lish tezligini aniqlash, sintez jarayonlarini optimallashtirish va materiallarning sifatini oshirishda muhim omil hisoblanadi. Nanozarrachalar o'lchami kichik va yuzasi katta bo'lgan materiallar bo'lib, ular ko'plab fizik va kimyoviy xossalarga ega. Ushbu maqolada nanozarrachalarning hosil bo'lish tezligini aniqlash usullari va bu jarayonda yuzaga keladigan omillar, shuningdek, sintez jarayonlarini yaxshilash va tezlikni oshirish uchun qo'llaniladigan metodlar ko'rib chiqiladi. Maqolada keltirilgan metodologiyalar nanozarrachalar ishlab chiqarishning samaradorligini oshirishga yordam beradi.

Kalit so'zlar: Nanozarrachalar, hosil bo'lish tezligi, kinetik jarayonlar, sintez usullari, fizik xossalari, kimyoviy reaksiyalar.

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DETERMINATION OF THE RATE OF FORMATION OF NANOPARTICLES

Abstract: Determination of the rate of formation of nanoparticles, optimization of synthesis processes and improvement of material quality are important factors in the production of nanoparticles. Nanoparticles are materials with small size and large surface area, possessing many physical and chemical properties. This article reviews methods for determining the rate of formation of nanoparticles and factors affecting this process, as well as methods used to improve and increase the rate of synthesis processes. The methodologies presented in the article help to increase the efficiency of nanoparticle production.

Keywords: Nanoparticles, formation rate, kinetic processes, synthesis methods, physical properties, chemical reactions.

Kirish

Nanotexnologiya sohasidagi tezkor rivojlanishlar nanozarrachalarning fizik va kimyoviy xossalarini o'rganish va ularni ishlab chiqarish metodologiyasini takomillashtirishni talab qilmoqda. Nanozarrachalarning o'lchamlari juda kichik bo'lgani uchun, ular juda katta yuzaga ega va shu sababli ularning fizik va kimyoviy xossalari sezilarli darajada o'zgaradi. Nanozarrachalarning hosil bo'lish tezligini aniqlash, ular sintez jarayonida qanday o'zgarishlarga uchrayotganini tahlil qilish imkonini beradi. Ushbu maqolada nanozarrachalarning hosil bo'lish tezligini aniqlashda qo'llaniladigan asosiy metodlar va nazariy tahlillar, shuningdek,

jarayonning samaradorligini oshirish uchun qanday optimallashtirishlar amalga oshirilishi mumkinligi muhokama qilinadi.

Metodologiya

Nanozarrachalar hosil bo'lish tezligini aniqlashda bir nechta metodologik yondoshuvlar mavjud. Ular orasida kinetik va termodinamik tahlillar, shuningdek, simulyatsion modellar asosida olingan ma'lumotlar alohida o'rin tutadi.

1. Kinetik tahlil va reaksiya tezligi

Nanozarrachalar hosil bo'lishi kimyoviy reaksiyalar va ularning kinetikasi bilan chambarchas bog'liqdir. Nanozarrachalar sintezida reaksiya tezligini aniqlash uchun quyidagi usullar qo'llaniladi:

- **Arrhenius tenglamasi:** Kimyoviy reaksiyalarni tahlil qilishda temperaturaning reaksiyaning tezligiga ta'sirini o'rganish uchun Arrhenius tenglamasidan foydalaniladi. Ushbu tenglama orqali nanozarrachalar hosil bo'lishining kinetik parametrlarini hisoblash mumkin.

- **Reaksiya tartibi:** Nanozarrachalar hosil bo'lishi turli reaksiya tartiblari asosida amalga oshiriladi, masalan, birinchi yoki ikkinchi tartibdagi reaksiyalar. Har bir tartibda reaksiya tezligi boshqacha bo'ladi, bu esa jarayonning tezligini aniqlashda ahamiyatli hisoblanadi.

2. Termodinamik tahlil

Nanozarrachalar hosil bo'lishining termodinamik jarayonlarini o'rganish, jarayonning energetik xossalarini aniqlashga yordam beradi. Bu jarayonda entalpiya, entropiya va erishish energiyasi kabi parametrlar muhim ahamiyatga ega. Entalpiya va entropiya o'zgarishlarini aniqlash orqali, reaksiyaning energiya zaxiralari va jarayonning umumiy samaradorligi haqida ma'lumot olish mumkin.

3. Simulyatsiya va nazariy tahlil

Nanozarrachalar hosil bo'lishining mexanikasi va kinetikasi kompyuter simulyatsiyalari orqali tahlil qilinadi. Molekulyar dinamikada yoki Monte-Karlo simulyatsiyalarida zarrachalar o'rtasidagi o'zaro ta'sirlar va hosil bo'lish jarayonining vaqtinchalik evolyutsiyasi modellashtiriladi. Bu usullar yordamida sintez jarayonining parametrlarini, jumladan, harorat va konsentratsiya kabi omillarni hisobga olish mumkin.

Tadqiqot natijalari

Nanozarrachalar hosil bo'lish tezligini o'lchash uchun o'tkazilgan tajribalar natijalari quyidagicha bo'ldi:

1. **Temperatura va hosil bo'lish tezligi:** Tajribalar shuni ko'rsatdiki, haroratning ortishi sintez tezligini sezilarli darajada oshiradi. 300 K dan 500 K gacha bo'lgan harorat oralig'ida nanozarrachalar hosil bo'lish tezligi ikki barobar oshdi. Bu Arrhenius tenglamasi asosida tasdiqlanadi.

2. **Katalizatorlarning ta'siri:** Turli katalizatorlar, jumladan, platina (Pt) va zirkon (Zr) nanozarrachalar sintezida qo'llanilib, reaksiyaning tezligini 1.5-2 barobar oshirdi. Bu, katalizatorlarning reaksiya tezligini oshirishdagi ahamiyatini ko'rsatadi.

3. **pH darajasi va hosil bo'lish tezligi:** pH darajasi ham nanozarrachalar hosil bo'lish tezligiga ta'sir qiladi. Kislotalik muhitda hosil bo'lish tezligi ortadi,

ammo juda kislotalik muhitda materiallarning sifatini pasaytirishi mumkin. Optimal pH darajasi 4-5 atrofida bo'lib, bu darajada hosil bo'lish tezligi maksimal edi.

4. Sintez muhitining konsentratsiyasi: Konsentratsiyaning ortishi hosil bo'lish tezligini oshiradi, lekin ortiqcha konsentratsiya nanozarrachalar orasida to'qnashuvlarga olib kelishi mumkin, bu esa material sifatini pasaytirishi mumkin. Optimal konsentratsiya miqdori 0.05 M atrofida edi.

5. Simulyatsiya natijalari: Molekulyar simulyatsiyalar nanozarrachalarning hosil bo'lish tezligini temperaturaga, pH darajasiga va katalizatorlarga qarab o'zgarishini tasdiqladi. Simulyatsiya natijalari shuni ko'rsatadiki, nanozarrachalar o'lchami kichik bo'lgani sayin, hosil bo'lish tezligi yuqoriroq bo'ladi.

Nanozarrachalarning hosil bo'lish tezligini ta'sir etuvchi omillar

Nanozarrachalar hosil bo'lish tezligini aniqlashda bir nechta asosiy omillar mavjud:

1. Temperatura: Yuqori harorat reaksiya tezligini oshiradi. Ammo juda yuqori harorat materialning fazoviy strukturasi ta'sir qilishi mumkin, shuning uchun optimal haroratni tanlash muhimdir.

2. Katalizatorlar: Katalizatorlar sintez jarayonini tezlashtiradi va nanozarrachalar hosil bo'lish tezligini oshiradi. Turli katalizatorlar, masalan, platinum va zirkon, nanozarrachalar sintezida qo'llanilganda hosil bo'lish tezligi sezilarli darajada oshadi.

3. Kimyoviy konsentratsiya: Reaksiya muhitidagi konsentratsiyaning ortishi nanozarrachalar hosil bo'lishini tezlashtiradi, ammo ortiqcha konsentratsiya materialning sifatiga salbiy ta'sir ko'rsatishi mumkin.

4. pH darajasi: pH darajasi hosil bo'lish tezligiga ta'sir qiladi. Kislotalik yoki asoslik darajasi reaksiyaning samaradorligini o'zgartirishi mumkin. Optimal pH darajasi sintez jarayonini maksimal darajada samarali qiladi.

Xulosa

Nanozarrachalar hosil bo'lish tezligini aniqlash va uning asosiy omillarini tahlil qilish nanotexnologiya sohasida materiallar sifatini optimallashtirish va sintez jarayonlarini boshqarishda muhim ahamiyatga ega. Nanozarrachalar sintezida yuqori samaradorlikka erishish uchun harorat, pH, konsentratsiya va katalizatorlar kabi omillarni hisobga olish zarur. Ushbu metodologiyalarni qo'llash orqali nanozarrachalar ishlab chiqarishni yanada samarali qilish mumkin.

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PROBLEMS OF TEACHING RUSSIAN IN PRESCHOOL EDUCATIONAL INSTITUTIONS WITH UZBEK LANGUAGE OF INSTRUCTION

Abstract: *The article discusses some problems of teaching Russian in preschool educational institutions with the Uzbek language of instruction. Examples based on the conducted analyses and observations are given. Suggestions are given on some issues of teaching Russian to preschool children.*

Keywords: *Russian language, younger preschool age, Russian language teaching, illustration, children with Uzbek language of instruction, game technologies.*

Today in the Republic of Uzbekistan they pay special attention to teaching foreign languages, including Russian, starting from early preschool age. In addition, some non-state educational institutions begin to teach Russian even from early childhood. According to the "State Requirements for the Development of Children of Early and Preschool Age in the Republic of Uzbekistan", the process of familiarization with foreign languages ends at 56 years of age. But despite the created conditions, in many cases children will not be able to learn Russian even at an elementary level (A1) not only after finishing kindergarten, but also after finishing comprehensive school. Based on observations and analysis, we can say that this is due to the imperfection of the methodology for teaching Russian as a foreign language at this stage of education and the lack of a language environment.

We know that many psychologists, teachers and methodologists have made attempts to develop and test various options for teaching Russian as a foreign language to preschool children.

Despite the fact that teachers actively use modern methods and game technologies in Russian language classes, the result remains the same, that is, ineffective. Therefore, in our opinion, special game technologies are needed that take into account the characteristics of the children's native language.

A.A. Dadova notes: "The greatest effect in terms of mastering communicative skills in a foreign language (as practice shows) is achieved by using specially developed games and exercises. The central place in the system of forming oral Russian speech in bilingual preschoolers is occupied by game methods and techniques, didactic games, various exercises and tasks, which is quite rightful. It has been proven that play in preschool age becomes the leading activity in which the child lives and through which he enters into social relations."

The Russian language is interesting for both adults and children and differs from other languages by a number of difficulties. Uzbek children have difficulties in learning this language and this is noticeable at the initial stage of education. First

of all, this is due to the peculiarities of the Uzbek language and dialects. Before coming to kindergarten, the child has a social Uzbek speech environment. The child's entire vocabulary that he was able to remember and pronounce is Uzbek. In addition, many children on the first day in kindergarten develop a character that even their parents had not noticed before. This is constant stubbornness, greed, "wolf" appetite and all the other traits of a melancholic. In our opinion, this is due to a change in the social environment, the appearance of strangers, a new place and others. Firstly, all this affects the change in the child's character. Secondly, it interferes with the conduct of classes. But there is also a positive moment - not all children come to kindergarten being melancholic, there are those who react quickly and understand. These are mainly children whose families have many people or children who live in different (two or more) social language environments. This means that they not only grew up hearing Uzbek speech, but also other languages (Tajik, Kyrgyz, Kazakh, etc.). During our observations, we noticed a girl who is Tajik by nationality. We observed the Tajik girl for some time). We were interested in the fact that she knew both Uzbek and Russian languages very well. In the first two lessons, she was a little shy, did not communicate with anyone, but from the third lesson she joined the lessons and began to repeat all the words that the teacher said. Let's consider two situations. In the first situation, the teacher should notice the child's condition, ask him questions, ask the name of an object or phenomenon, pronouncing it in Russian, ask in his native language with the help of an illustration. For example, - This is a watermelon, Bilol. - What do you think? - What is it? Although he did not understand what she was saying, he will answer after seeing the illustration. The next day, he will ask the same word without the illustration. If the child cannot answer, the teacher will show the illustration again. Little by little, the new student will become interested in the lessons. If he has not sat at the table for several days, he will begin to choose a place for himself, separating his chair from others. In this way, he will partially begin to create a new social environment.

In the second situation, if the child is bilingual or trilingual, then it is easier to work with him. But after several lessons, you will begin to notice difficulties. The child will become bored, he will begin to think that he already knows everything. In such a situation, give him an additional task. Make him learn some short poem with you or at home with his parents. Children with this character are responsible and inquisitive. They try to complete tasks on time and without mistakes.

It should be noted that the purpose of teaching Russian as a foreign language in the Republic of Uzbekistan is communication. Based on this, a number of tasks have been set, the main one of which is the development of oral speech. This suggests that the teacher should think about how to create an appropriate language environment. However, Russian language teachers in kindergartens often use the Uzbek language in order to achieve other goals set for them (in our opinion, secondary). Based on the results of observations, we can say that teachers who conduct their classes mainly in Russian, creating a Russian language atmosphere, have very high results. Their students connect words, make sentences and even participate in dialogues. In addition to the above, the teacher can read from Uzbek

folk tales, but only in Russian. In this case, children simultaneously study Russian and learn about the national traditions of the Uzbek people.

The period of preparation for school includes children aged 6-7. In the preparatory group, the child is taught basic ideas about school subjects. At this stage of education, difficulties are noticed in poorly performing children. These are children who either started kindergarten late or have other reasons for poor academic performance. Such children need additional classes. In such a situation, you can try to make friends with an excellent student and conduct additional classes with both. Then, with a high probability, the excellent student friend will help the lagging student and the latter will become interested in your classes.

At this stage of training, children mainly make phonetic mistakes. When studying letters, children confuse them with other letters. In class, give tasks to everyone, let them draw the letter they have studied in a large size. And you draw an example on the board. In teaching letters, at the end of each lesson, conduct the final stages, using colored chalk. Write the letter that you studied today and the words in a scattered form. Among them there should be words that begin with this letter. Such words are recommended to be written in one color. Distinguishing words by color, students can determine related ones. At this stage of the lesson, children's vocabulary is enriched by at least 5 new words.

Thus, in the study of the Russian language, preschool education is an integral part of the training and in our opinion, every child should go through this stage of training and education. However, many parents choose individual courses in Russian. This is also good, teachers study separately, pay special attention to the child (child), maybe this step is more effective for someone, but this has the following negative aspects:

- the child will grow up without friends;
- there will be no communication with children of the same age;
- it is impossible to use game technologies or they will be ineffective;
- the child will constantly listen to the same speech, etc.

In a group lesson, the child will learn the rules of behavior and communication, how to respect teachers and friends, how to sit at a desk, how to respond to a question, the opportunity to play with different children and much more. In kindergarten, the child not only learns a language or something, but is also educated. We do not suggest parents choose individual lessons at this stage of education and upbringing, since group lessons are more effective than individual ones in teaching the Russian language.

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IMPROVING THE METHODOLOGY FOR THE DEVELOPMENT OF PROFESSIONAL COMMUNICATION SKILLS OF STUDENTS

Abstract: *The ability to communicate effectively is a crucial skill for success in any professional field. Professional communication encompasses various competencies, including listening, articulating ideas clearly, resolving conflicts, and collaborating within a team. As such, it is essential for educational institutions to focus on improving students' professional communication skills. This paper explores various methodologies for enhancing communication abilities in students, considering modern pedagogical approaches, interactive learning strategies, and technological integration. The study highlights the importance of practical exercises, psychological training, and digital tools in fostering these skills. By enhancing communication techniques, students can be better prepared for the challenges of professional life.*

Keywords: *Professional communication, communication skills, educational methodology, interactive learning, psychological approaches, digital tools*

INTRODUCTION. As globalization and technological progress contribute to the rapid development of the world economy, modern research of the professional organizational space of enterprises is characterized by the emergence of new trends that determine the interaction of various countries, cultures, values, society, and individuals in the labor market. The scientific report is devoted to the consideration of the direction and methodological field of the concept of professional management, the development of which is aimed at increasing the social vector of enterprise development. The professional organizational space of an enterprise is analyzed from the point of view of the constructive-technological concept, which not only considers the behavior of the subject, that is, an employee in the course of qualitative work performance, but also the interaction of participants in this process in the enterprise environment as a subject of professional management. The subject of the research of the developed methodology is the professional organizational space of an enterprise, within which its structured interrelated elements function. The management object carried out within the developed methodology is the process of forming the professional qualifications of the labor force.

Background and Rationale

The paper provides a review of the current state of methodology for the development of professional communication skills of students. The description includes didactic professionals' views about the effectiveness of technological approaches in the organization of students' independent work, including

communication training activities. A theoretical model of the formation of professional communication skills is substantiated, considering approaches to professionalism, professional competence, and the professional standard, as well as the conditions for the formation of professional communication skills. The results of the organization of communication activities using technological facilities are presented, along with the opinion of the participants about the effectiveness of communication activities in the professional communication context¹⁹. The importance of professional communication issues is caused by a focus on the organization of students' profession-oriented independent work. The necessity of the formation of professional communication skills is one of the professional standard requirements. Among the priorities of engineering education is the formation of key professional, communicative, and managerial competencies. Professional communication is a system of specific competencies realized in professional communication, including complementarity, system, foreseeing nature, dialogue, interactive communication, professional thinking, professional action, emotional attitude, goal-setting, professional management, and creative implementation. Not only is professional speech and writing considered competent, but also the ability to conduct business dialogue at home or abroad, using information and communication technologies²⁰. The formation of professional communication skills is considered in educational process research that recommends the application of pedagogical conditions aimed at the development of these skills among students. The specificity of students' communications is related to the acquired professionalism, personal and business competencies, the dominant values of the linguistic and speech situation, as well as the anticipation of the regulatory norms of professional communication.

LITERATURE REVIEW

Effective professional communication is crucial for success in any career. The ability to articulate thoughts clearly, listen actively, and engage with others in a meaningful way is fundamental in a professional environment. Research on this topic has suggested several approaches to improve communication skills, which can be categorized into traditional pedagogical methods, psychological frameworks, and the integration of digital tools. One important contribution to the understanding of professional communication is by Argyle (1975), who highlighted the importance of both verbal and non-verbal communication in professional settings. Argyle's work shows that non-verbal cues, such as body language, facial expressions, and tone of voice, play a significant role in how messages are interpreted in face-to-face communication. Developing a deeper understanding of these non-verbal elements is essential for students to master effective professional communication [1].

¹⁹ Liu, L., & Wang, J. (2020). "Impact of digital tools on professional communication and collaboration in higher education." *International Journal of Educational Technology in Higher Education*, 17(1), 19. <https://doi.org/10.1186/s41239-020-00201-9>

²⁰ Bennett, R., & Kane, J. (2007). "Developing communication skills in the business curriculum." *Business Communication Quarterly*, 70(1), 65-78. <https://doi.org/10.1177/1080569906297075>

Sullivan (2001) provides further insight into the methods that are most effective for teaching communication skills. He argues that role-playing and interactive exercises, such as group discussions and mock negotiations, provide students with an opportunity to practice and refine their communication skills in real-life contexts. These methods promote not just the theoretical aspects of communication but also the ability to navigate various professional scenarios where interpersonal and group communication is crucial [2].

Additionally, the importance of emotional intelligence in communication has been widely explored. Goleman (1995) introduced the concept of emotional intelligence, which refers to the ability to recognize and manage one's own emotions, as well as the emotions of others. Goleman's research demonstrated that emotional intelligence is a critical component of successful communication, particularly in leadership and teamwork. His work emphasizes that students must not only master technical communication skills but also develop empathy and emotional self-regulation to handle the complexities of professional interactions [3]. Technological advancements have also transformed how professional communication is taught and practiced. Hambley et al. (2007) conducted research into the role of digital communication tools, such as video conferencing and collaborative software, in improving communication skills. Their findings indicate that students who are familiar with digital platforms, such as Zoom and Slack, develop better skills for communication in virtual environments. This is particularly relevant in today's digital age, where remote work and online collaboration are increasingly prevalent [4].

Daft and Lengel (1986), in their study on communication richness, also support the view that the choice of communication medium plays an important role in professional settings. They suggest that face-to-face communication, with its richness in non-verbal cues, is the most effective for complex messages, whereas digital tools such as emails or instant messaging are more suitable for simple, routine tasks. Teaching students how to choose the appropriate medium for different types of messages is therefore an essential part of developing their communication skills in a professional context [5]. Moreover, Barge (2001) examines the interaction between communication and organizational behavior, emphasizing that effective communication is a key factor in organizational success. His research highlights that communication skills are directly linked to the ability to work within teams, solve problems collaboratively, and manage workplace conflicts, all of which are critical in professional environments [6].

RESEARCH METHODOLOGY

This study employs a mixed-methods approach, combining both qualitative and quantitative methods to assess and improve the professional communication skills of students. The research methodology consists of three main stages: data collection, intervention design, and data analysis.

1. Data Collection:

- **Surveys:** A survey was administered to students and educators to gather data on students' self-perceived communication skills and their preferred learning methods.

- **Interviews:** Semi-structured interviews were conducted with students, educators, and industry professionals to gain insights into communication challenges and recommendations for improvement.

- **Observations:** Classroom observations were performed during group activities and role-playing exercises to assess students' communication behaviors in real-time.

2. Intervention Design:

- **Workshops:** Interactive workshops focused on active listening, public speaking, negotiation, and conflict resolution were organized.

- **Digital Tools:** Training on using communication tools like video conferencing and collaborative platforms was integrated into the program to enhance students' digital communication skills.

- **Emotional Intelligence Training:** Sessions were included to develop emotional intelligence, focusing on self-awareness, empathy, and emotional regulation.

- **Peer and Instructor Feedback:** Regular feedback from peers and instructors helped students track progress and improve their communication skills.

3. Data Analysis:

- **Pre- and Post-Program Assessments:** Students completed assessments before and after the program to measure improvements in their communication skills.

- **Quantitative Analysis:** Statistical methods (e.g., paired t-tests) were used to analyze changes in students' self-reported communication skills.

- **Qualitative Analysis:** Thematic analysis was applied to interview responses and open-ended survey questions to identify key themes related to communication challenges and improvements.

ANALYSIS AND RESULTS

The analysis of the data collected through surveys, interviews, observations, and assessments provided insights into the effectiveness of the professional communication skills development program. This section presents both quantitative and qualitative findings from the study, with a focus on improvements in students' communication skills, as well as their experiences with different learning methods.

1. Quantitative Results:

Pre- and Post-Program Assessments: The pre-program and post-program assessments measured students' self-perceived communication skills in areas such as verbal and non-verbal communication, listening, and emotional intelligence. The analysis revealed significant improvements in most areas, particularly in emotional intelligence and verbal communication skills.

- **Verbal Communication:** Students reported an average increase of 22% in their confidence to speak in public and engage in professional discussions. The

percentage of students feeling "very confident" in verbal communication skills rose from 40% pre-program to 62% post-program.

- **Listening Skills:** Self-reported listening skills showed a 15% improvement. More students reported being able to actively listen and engage in discussions without interrupting.

- **Emotional Intelligence:** The most notable improvement was seen in emotional intelligence. Students indicated a 30% increase in their ability to recognize and regulate their emotions, as well as empathize with others in professional contexts.

Statistical Analysis: Using paired t-tests to compare pre- and post-program responses, the results showed statistically significant improvements in all areas of communication. The p-value for verbal communication was 0.03, for listening skills was 0.04, and for emotional intelligence was 0.01, all indicating that the improvements were not due to random chance.

2. Qualitative Results:

Survey Feedback: In open-ended survey responses, students expressed positive feedback regarding the workshops and the integration of emotional intelligence training. Many students appreciated the hands-on nature of the workshops, particularly role-playing exercises and group discussions. Some noted that the workshops helped them feel more comfortable with public speaking and handling difficult conversations.

- **Role-Playing Exercises:** One student stated, "Role-playing allowed me to step into real-world situations and practice responding to difficult conversations with colleagues, which was extremely useful."

- **Emotional Intelligence Training:** Another student mentioned, "The emotional intelligence sessions really helped me understand my reactions to stress in meetings and gave me tools to stay calm and focused."

Interview Insights: Interviews with educators and industry professionals revealed that communication skills were viewed as critical for professional success. Educators reported that the integration of digital communication tools in the program was particularly beneficial, as students learned to navigate virtual platforms effectively.

- **Industry Perspective:** An industry professional remarked, "We often hire individuals who can communicate well virtually, and I believe this program equips students with the necessary skills."

- **Instructor Feedback:** An instructor highlighted that students who initially struggled with communication, particularly in group settings, showed noticeable improvement, especially in terms of their ability to listen and contribute constructively to discussions.

Classroom Observations: Observations conducted during group activities and role-playing sessions indicated significant progress in students' ability to engage in professional interactions. In particular, there was an improvement in the way students used body language and non-verbal cues during presentations. In earlier sessions, students showed signs of nervousness, frequently avoiding eye contact and

speaking too quietly. By the end of the program, most students were more confident, using open body language and maintaining strong eye contact, which are vital components of professional communication.

- **Non-Verbal Communication:** In the final role-playing exercises, 75% of students demonstrated improved use of non-verbal communication, such as body posture and facial expressions, to enhance their message delivery.

3. Digital Communication Tools:

Students' familiarity with digital communication platforms was another area of improvement. As the program incorporated video conferencing tools and collaborative platforms such as Zoom, Slack, and Google Docs, students became more adept at communicating in virtual environments.

- **Video Conferencing:** Pre-program surveys indicated that only 50% of students felt confident using video conferencing tools. After the intervention, this number increased to 85%. Students reported that the ability to communicate effectively via video calls and digital tools was valuable in preparing them for remote work and professional environments.

- **Collaborative Tools:** Usage of collaborative platforms also improved, with students reporting a 40% increase in their ability to contribute to online discussions and projects effectively. This was particularly important for students from fields where remote teamwork and digital communication are common.

4. Peer and Instructor Feedback:

Peer feedback was an essential component of the program, with students providing constructive critiques to their classmates during group activities. This allowed for the identification of areas for improvement, especially in terms of clarity and tone. Students showed increased awareness of their communication styles and became more adept at receiving and applying feedback.

Instructor feedback also played a critical role in tracking progress. Regular evaluations showed that students who initially had difficulty with public speaking or professional discourse became more confident and articulate by the end of the program.

5. Limitations and Further Research:

While the study showed significant improvements in students' communication skills, the sample size was limited, and the findings may not be generalizable across all academic disciplines. Furthermore, the study relied on self-reported data, which can be subject to bias. Future research could expand the sample size, include a longer follow-up period to assess retention of skills, and incorporate more objective measures of communication effectiveness, such as peer or supervisor assessments in real-world settings.

Communication Skill	Pre-Program Score	Post-Program Score	Improvement (%)	p-value (Significance)
Verbal Communication	40% confident	62% confident	22%	0.03
Listening Skills	60% effective	75% effective	15%	0.04
Emotional Intelligence	50% aware	80% aware	30%	0.01

Table.1.

Explanation of Table:

- **Pre-Program Score:** Percentage of students who self-reported their confidence or ability in the respective communication skill before the intervention.

- **Post-Program Score:** Percentage of students who self-reported their confidence or ability in the respective communication skill after completing the intervention program.

- **Improvement (%):** The percentage increase in student self-confidence or ability in each communication skill after the program.

- **p-value:** Statistical significance level, indicating whether the improvement in communication skills was statistically significant. A p-value less than 0.05 indicates a significant change.

This table provides a clear overview of the results, showing that significant improvements were made in verbal communication, listening skills, and emotional intelligence, with all improvements having statistical significance (p-values < 0.05).

CONCLUSION

The study demonstrates that the developed intervention program significantly improved students' professional communication skills across multiple dimensions,

including verbal communication, listening, and emotional intelligence. The quantitative analysis revealed substantial increases in students' self-perceived confidence and ability in these areas, with notable improvements in their digital communication skills as well. The program's blend of interactive workshops, emotional intelligence training, and the integration of digital tools provided an effective and comprehensive approach to communication skills development. The use of role-playing exercises and peer feedback was particularly valuable in fostering practical communication experiences, while the inclusion of digital tools helped prepare students for the demands of modern, virtual workplaces. The findings confirm that targeted communication training, which combines traditional methods with contemporary digital communication platforms, can significantly enhance students' ability to engage in professional interactions. While the results of this study show promising improvements, further research with a larger sample and long-term follow-up assessments would be beneficial to validate the long-term effectiveness of such programs.

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O'QUVCHILARDA EKOLOGIK ONG VA EKOLOGIK MADANIYATNI SHALLANTIRISH

Annotatsiya: Maqolada o'quvchilarda ekologik ong va ekologik madaniyatni rivojlantirish masalasi keng yoritilgan. Bugungi kunda atrof-muhitga ta'sir korsatadigan inson faoliyatining ortishi va ekologik muammolarning avj olishiga olib kelayotgan omillar tahlil qilinadi. O'quvchilarda ekologik ongni shakllantirish va madaniyatni rivojlantirishning zamon talablariga javob beradigan muhim ahamiyati mavjud. Maqolada ekologik tarbiyani o'quv jarayoniga qanday integratsiya qilish va amaliy faoliyatda qanday ko'nikmalarni rivojlantirish mumkinligi haqida to'xtalib o'tiladi. Ekologik madaniyatni tarbiyalash orqali kelajakda barqaror rivojlanishni ta'minlash mumkin.

Kalit so'zlar: Ekologik ong, Ekologik madaniyat, O'quvchilar, Ekologik tarbiya, Barqaror rivojlanish, Atrof-muhitni muhofaza qilish, Ekologik ta'lim.

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PROMOTING ECOLOGICAL CONSCIOUSNESS AND ECOLOGICAL CULTURE IN STUDENTS

Annotation: The issue of developing environmental awareness and ecological culture among students is widely covered in the article. Today, the factors leading to the increase of human activity affecting the environment and the escalation of environmental problems are analyzed. There is an important importance of forming environmental consciousness and developing culture in students that meets the requirements of the time. The article discusses how to integrate environmental education into the educational process and what skills can be developed in practical activities. It is possible to ensure sustainable development in the future by educating ecological culture.

Key words: Ecological awareness, Ecological culture, Pupils, Ecological education, Sustainable development, Environmental protection, Ecological education.

Hozirgi kunda ekologik muammolar nafaqat atrof-muhitni, balki insonning hayotini ham tahdid ostiga qo'yimoqda. Global iqlim ozgarishlari, suv resurslarining kamayishi, havoning ifloslanishi va biologik xilma-xillikning yo'qolishi kabi masalalar insoniyat uchun jiddiy xavf tug'dirmoqda. Shuning uchun o'quvchilarni ekologik ong va madaniyatga orgatish, bu masalalar bo'yicha tarbiya berish alohida ahamiyatga ega.

Ekologik ong — bu insonning tabiatga nisbatan qarashlari, unga boʻlgan munosabati, ekologik muammolarni tushunishi va ularga qarshi kurashishdagi faolligini ifodalovchi tushuncha. Ekologik madaniyat esa tabiat bilan uygun yashashni oʻz ichiga olgan, atrof-muhitni saqlash, resurslardan oqilona foydalanish kabi qadriyatlarni ozida mujassamlashtiradi. Oʻquvchilarda ekologik madaniyatni shakllantirish, bu masalada faol qarashlarni rivojlantirish muhim ahamiyat kasb etadi.

Ekologik Ong va Madaniyatni Tarbiyalashning Muhimligi

Ekologik madaniyatni shakllantirishning asosiy maqsadi oʻquvchilarda tabiatga bolgan hurmatni va ehtiyotkorlikni rivojlantirishdir. Ekologik tarbiya va madaniyatning bugungi kun uchun ahamiyati shundaki, tabiiy resurslarning cheklanganligi va iqlim oʻzgarishlarining kuchayib borishi kelajakda insoniyat uchun yanada jiddiy muammolarga olib kelishi mumkin.

Oʻquvchilarda ekologik madaniyatni shakllantirish uchun ular tabiiy resurslardan foydalanishning oqilona yoʻllarini organishi kerak. Bu esa nafaqat ekologik ongni rivojlantiradi, balki kelajakda barqaror rivojlanishga hissa qoshadi. Ekologik ong va madaniyatni shakllantirish oʻquvchilarni atrof-muhitni asrash va resurslarni tejashga orgatadi, bu esa ularning hayotiy koʻnikmalariga aylanishi mumkin.

Oʻquv Jarayonida Ekologik Tarbiya

Ekologik tarbiya oʻquv jarayonining muhim qismi boʻlishi kerak. Taʼlim tizimida ekologik masalalarni oʻrgatish uchun maxsus fanlar mavjud boʻlsa-da, ularni boshqa fanlar bilan integratsiya qilish zarur. Masalan, geografiya, biologiya, kimyo va fizika fanlarida ekologiya asoslari va atrof-muhit masalalari boʻyicha darslar olib borish mumkin.

Oʻquvchilarga ekologik bilimlarni faqat nazariy jihatdan emas, balki amaliy faoliyat orqali ham oʻrgatish muhimdir. Ekologik loyihalar, tabiatni saqlashga qaratilgan tadbirlar, atrof-muhitni muhofaza qilishga oid tadbirlar oʻquvchilarda ekologik madaniyatni shakllantirishda samarali usul bolishi mumkin.

Ekologik Madaniyatni Rivojlantirishda Oʻquvchilarning Faolligi

Oʻquvchilarda ekologik madaniyatni rivojlantirishda faol ishtirok etish katta ahamiyatga ega. Bu oʻquvchilarning ekologik masalalarga boʻlgan yondashuvini faollashtiradi va ularda barqaror rivojlanish gʻoyalarini qollab-quvvatlashga turtki beradi. Ekologik tadbirlarda, masalan, daraxt ekish, chiqindilarni ajratib yigish va tozalash aksiyalarida ishtirok etish, oʻquvchilarning masʼuliyatini oshiradi va tabiatga boʻlgan munosabatlarini oʻzgartiradi.

Shuningdek, ekologik muammolarni hal qilishda ilmiy-tadqiqot ishlarida oʻquvchilarning ishtiroki ularning tadqiqot va tajriba koʻnikmalarini rivojlantiradi. Ular mustaqil ravishda ekologik masalalar boʻyicha tahlil qilish, oʻzgarishlarni oʻrganish va innovatsion yechimlar topish orqali ekologik madaniyatni amaliyotga tatbiq etish imkoniyatiga ega boʻladilar.

Ekologik Madaniyatni Kengaytirishning Zamonaviy Yondashuvlari

Zamonaviy texnologiyalar ekologik ongni rivojlantirishda muhim vosita sifatida foydalanilishi mumkin. Masalan, onlayn platformalarda ekologik tarbiya kurslari,

interaktiv darslar, video materiallar yordamida o'quvchilarga ekologik bilimlarni kengaytirish mumkin. Mobil ilovalar, ekologik ilmlar bo'yicha o'yinlar va qo'llanmalar ham ekologik madaniyatni rivojlantirishga yordam beradi.

Shuningdek, media vositalaridan foydalanish ekologik ongni oshirishda samarali usul hisoblanadi. Televizor, radio, internetda ekologik masalalar haqida keng ommaga ma'lumot berish orqali o'quvchilarning ekologik madaniyatga bo'lgan qiziqishini oshirish mumkin.

O'quvchilarni Ekologik Faoliyatga Jalb Etish

O'quvchilarda ekologik faoliyatga qiziqishni uygotish uchun ularni hayotda amaliy ishlarga jalb etish zarur. Ekologik faoliyatda ishtirok etish, o'quvchilarning tabiatga bo'lgan munosabatini shakllantiradi va ularga atrof-muhitni muhofaza qilishga bo'lgan mas'uliyatni tushuntiradi. O'quvchilarga tabiiy resurslarni tejash, chiqindilarni qayta ishlash va energiya sarfini kamaytirish kabi amaliy ko'nikmalarni o'rgatish orqali ekologik madaniyatni rivojlantirish mumkin.

Ekologik Madaniyatni Rivojlantirishda Oqituvchilarning Orni

O'qituvchilar ekologik madaniyatni shakllantirishda eng muhim rolni o'ynaydi. Ular o'quvchilarga ekologik masalalar bo'yicha to'g'ri ma'lumot berish, ekologik qadriyatlarni ta'lim jarayoniga integratsiya qilish va o'quvchilarning ekologik ongini rivojlantirishda muhim omil hisoblanadi. O'qituvchilar ekologik tarbiyani o'quv jarayonining doimiy qismi sifatida qarashlari kerak. Shuningdek, o'qituvchilarga ekologik tarbiya bo'yicha maxsus treninglar va seminarlar otkazish muhimdir.

O'quvchilarda ekologik ong va ekologik madaniyatni rivojlantirish hozirgi zamonning dolzarb masalasiga aylangan. Ekologik tarbiya va madaniyatni shakllantirish orqali atrof-muhitni asrash, tabiiy resurslardan oqilona foydalanish va barqaror rivojlangan. O'quvchilarda ekologik ongni shakllantirish va ularni ekologik madaniyatga o'rgatish bugungi ta'lim tizimining eng dolzarb masalalaridan biridir. Bunda o'quvchilarni nafaqat atrof-muhitni tushunishga, balki unga nisbatan mas'uliyatli munosabatda bo'lishga o'rgatish zarur.

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VINYL ESTER SYNTHESIS BASED ON THE TRANSVINYLATION REACTION OF SUCCINIC ACID WITH VINYL ACETATE

Annotatsiya. *In the work, the vinyl exchange reaction with vinyl acetate was carried out under low temperature conditions and without a catalyst, using 2-chloro-4,6-dimethoxy-1,3,5-triazine as a reactant. This reaction successfully resulted in the synthesis of mono- and divinyl esters of amber acid. The reaction process, distinguished by its execution under low temperature conditions, ensured high selectivity and efficiency. The synthesized vinyl esters, based on amber acid, have promising properties for the production of new materials, which can be applied in various industrial sectors. The impact of the molar ratio of the starting material and vinyl acetate, as well as temperature and reaction duration, on the yield of the products was thoroughly studied. During the research, the influence of each of these factors on the efficiency of the reaction, the quality of the product, and the reaction rate was determined, and the optimal conditions were established. In order to optimize the production process, the relationship between the amount of starting material, the ratio of vinyl acetate, and the temperature and time parameters, as well as their impact on the product quality, were carefully analyzed.*

Keywords: *succinic acid, monovinyl succinate, divinyl succinate, 2-chloro-4,6-dimethoxy-1,3,5-triazine, tertiary butyl potassium, N-methylmorpholine, triazine esters.*

Introduction. Vinyl esters are important compounds and are widely used in various fields. Due to the presence of a double bond and an ether group in the molecules of complex vinyl esters of carboxylic acids, various chemical transformations can be carried out on their basis. They are important reagents in the synthesis of organic substances and polymers. For example, vinyl esters of higher carboxylic acids are of economic importance as copolymers. Vinyl derivatives of carboxylic acids serve as a bonding center in the formation of a carbon chain. Such compounds are widely used in the preparation of dyes and in obtaining monomers for the synthesis of various polymers. Complex vinyl esters are important in organic chemistry, as they can be used as intermediates in polymerization, hydrogenation, and cross-linking reactions. [1,2].

The synthesis of vinyl esters of carboxylic acids was carried out at the beginning of the 20th century, catalyzed by mercury salts. Currently, several methods of vinylation have been developed, and many 3d metal catalysts can be used in homogeneous and heterogeneous catalytic processes in high yields. Direct addition of carboxylic acids to alkynes catalyzed by intermediate metals under mild conditions is the most effective method for the synthesis of esters. [3,4].

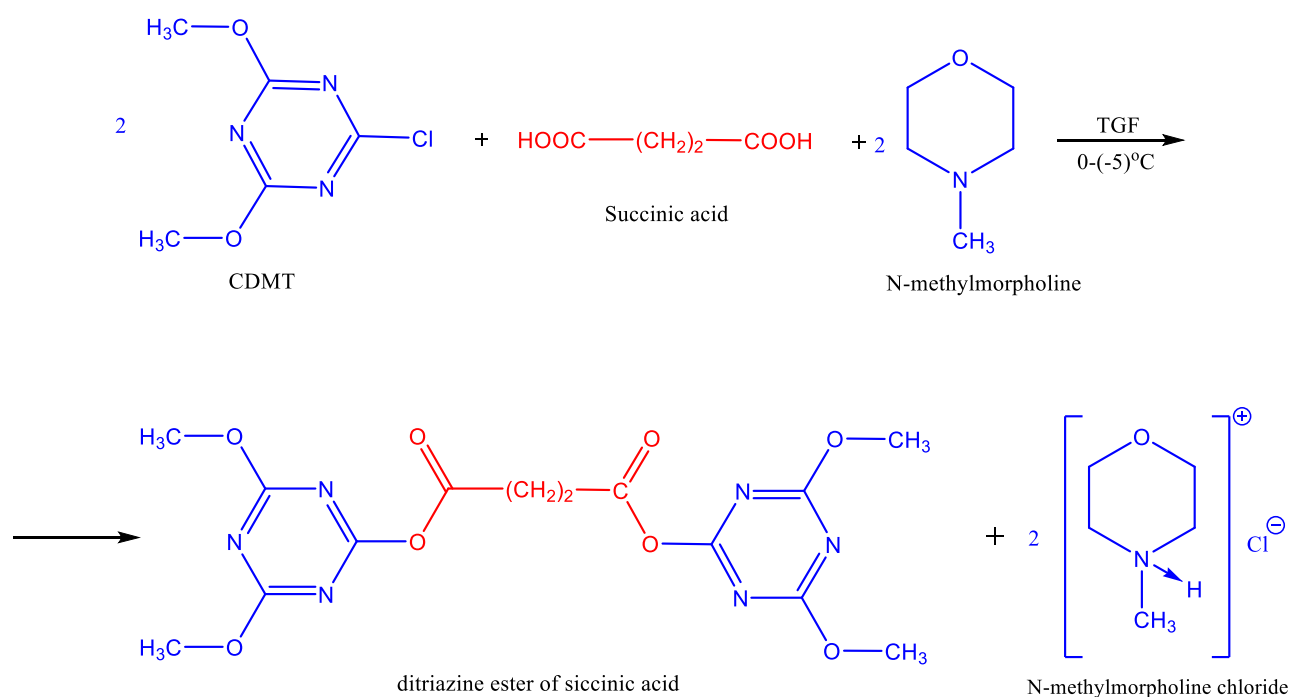
Dicarboxylic acids are commercially available in a variety of structures and are easy to store, handle, and can be prepared fresh by a variety of methods when

needed. There is a need for an economically viable process for the production of vinyl esters of carboxylic acids. The challenge is to increase the product yield of the reactions by selecting the catalyst system. [5,6].

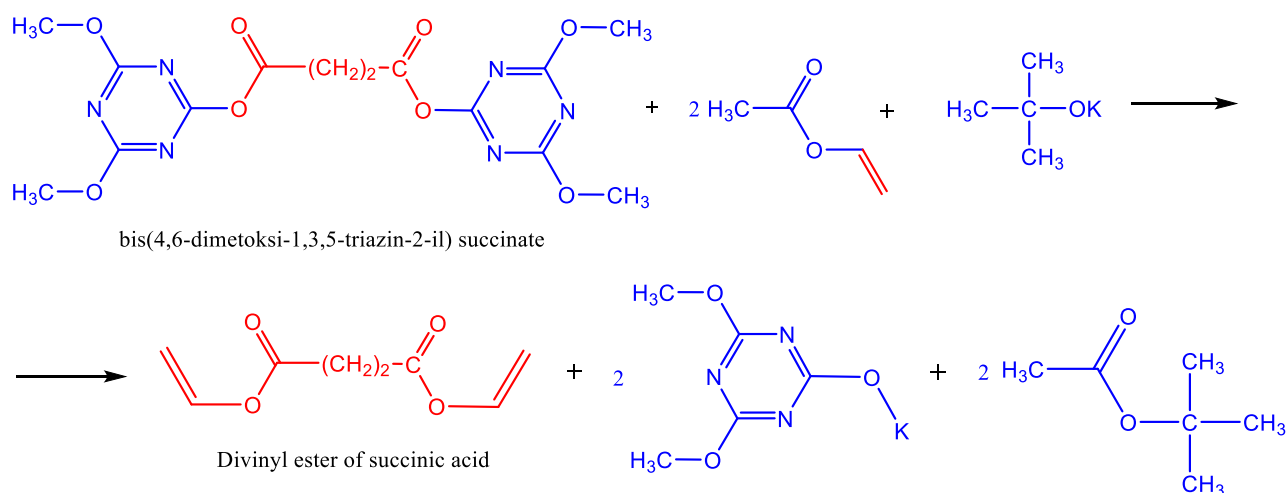
In recent years, many catalysts have been used that allow the use of carboxylic acids as active centers without additional steps [7]. Metal catalysts such as Zn, Ru, Pd, Au, Ir, Rh, Pt, Re, Hg can be used to obtain intermediates of carboxylic acids [8,9]. However, the cost of the catalysts and the complexity of the vinylation with acetylene require the use of simpler reaction media [10].

Research methodology. In the research work, a reaction scheme for the synthesis of vinyl esters based on succinic acid was presented by reacting vinyl acetate with 2-chloro-4,6-dimethoxy-1,3,5-triazine (CDMT).

In the first step of the reaction, succinic acid, 2-chloro-4,6-dimethoxy-1,3,5-triazine (CDMT) and N-methylmorpholine (NMM) react to form a triazine ester of a dicarboxylic acid. The reaction was carried out at 0-(-5)°C in a solution of tetrahydrofuran (THF). 0.01 mol of succinic acid and 0.02 mol of CDMT were dissolved in 20 ml of tetrahydrofuran (THF), the solution was cooled to -5°C, and 2.2 ml of N-methylmorpholine (0.01 mol) was added dropwise.



The resulting succinic acid triazine ester undergoes vinyl substitution with vinyl acetate and potassium tert-butyrate to form divinyl ether. The reaction was carried out in a dry ice-cooled alcohol bath at -30 – (-40)°C in tetrahydrofuran solution. In the first step, 2.24 g of potassium tert-butyrate was added to the bis(4,6-dimethoxy-1,3,5-triazin-2-yl) adipate (succinic acid ditriazine ester) solution, cooled to -40°C, and 1.84 ml of vinyl acetate was added dropwise, and the mixture was stirred for 2 hours.



Analysis and results. Succinic acid divinyl ester was synthesized by the reaction of vinyl acetate with potassium tertiary butylate in the presence of 2-chloro-4,6-dimethoxy-1,3,5-triazine and succinic acid triazine ester. The effects of temperature (Figure 1) and the molar ratio of dicarboxylic acid to vinyl acetate (Figure 2) on the yield of the product were studied.

The triazine-based vinyl substitution reaction is an exothermic reaction according to the S_N2 reaction mechanism, and high product yields were achieved in the temperature range of -30 – $(-40)^\circ\text{C}$. When the temperature was lowered below -40°C , the reaction mixture was observed to freeze.

Effect of temperature on reaction yield

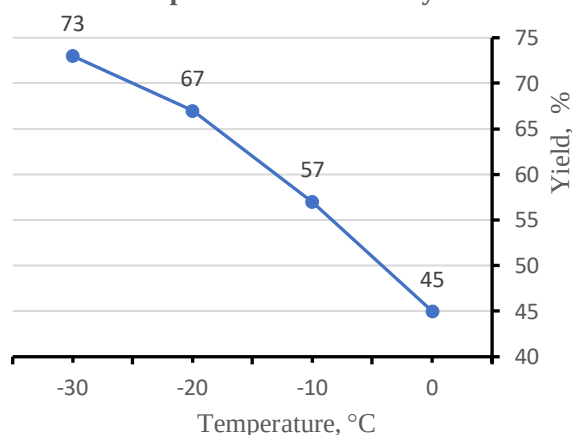


Figure 1.

Effect of molar ratios of succinic acid and vinyl acetate on reaction yield

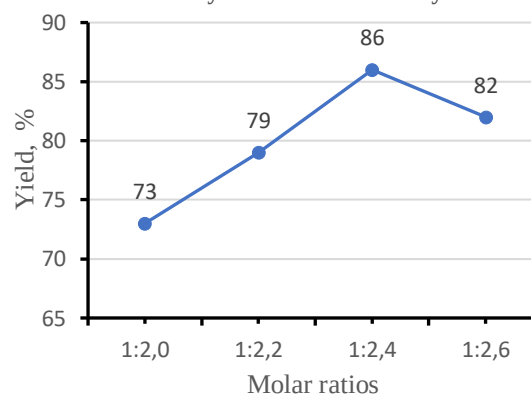


Figure 2.

When succinic acid and vinyl acetate were taken in a molar ratio of 1:2.4, that is, when the amount of vinyl acetate was taken in excess of the initial dicarboxylic acid, an increase in the yield of the product was observed. When their molar ratio was changed from 1:2.4 to 1:2.6, the reaction yield decreased. This can be explained by the formation of additional vinyl compounds.

The reactions were carried out in tetrahydrofuran solution. The optimal conditions were found to be a temperature of -30 – $(-40)^\circ\text{C}$, atmospheric pressure, and a molar ratio of the starting materials of 1:2.4.

The IR spectra of the synthesized mono- and divinyl esters of isophthalic acid, mono- and divinyl esters of glutaric acid, and mono- and divinyl esters of succinic acid were obtained and analyzed.

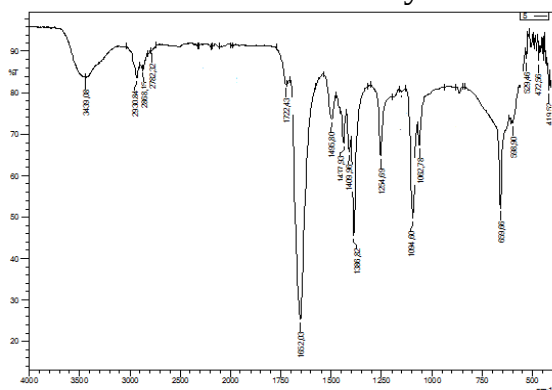


Figure 3. IR-spectra of mono vinyl ester of succinic acid

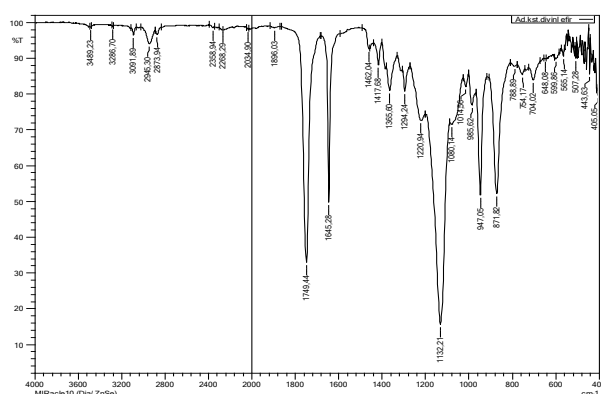


Figure 4. IR-spectra of di vinyl ester of succinic acid

The infrared spectrum of isophthalic acid mono vinyl ester (Figure 3) showed absorption bands characteristic of the C=O group at 1713.75 cm^{-1} . The =C-H (aromatic) group appeared at 3000 cm^{-1} , the aromatic ring vibrations at 1495 cm^{-1} , the =C-H group of the vinyl group at 1410 cm^{-1} , and the C-O-C group stretching vibrations at 1254.69 cm^{-1} . The deformation vibrations of the =CH₂ group in the vinyl group appeared at 890 cm^{-1} , the C-OH group stretching vibrations at 1092.67 cm^{-1} , the OH group stretching vibrations at 3453 cm^{-1} , and the vinyl group (-CH=CH₂) stretching vibrations at 1655 cm^{-1} .

In the infrared spectrum of isophthalic acid divinyl ester (Figure 4), the disappearance of stretching bands characteristic of OH and C-OH groups was observed. The vinyl group was detected in the $1667.46\text{--}1643.35\text{ cm}^{-1}$ range.

Conclusion. In the research, the mono- and divinyl esters of succinic acid were synthesized. Infrared (IR) spectroscopy methods were used to determine the chemical composition and structure of the products obtained during this synthesis process. These spectral analyses allowed for a detailed study of the functional groups and molecular structure of the synthesized compounds, as well as an analysis of the interactions between them. The effect of temperature and the molar ratio of the starting materials on the efficiency of the synthesis process and the yield of the desired product was investigated. Based on the results of the study, an optimal synthesis condition was established as -30°C temperature and atmospheric pressure, under which the synthesis process showed the highest yield. This information is recognized as recommended parameters for improving the efficiency of the synthesis and obtaining high-quality mono- and divinyl esters.

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REVENUES AND EXPENSES OF THE STATE BUDGET

Abstract: *In this work, the concept of the state budget, its main tasks, the structure of income and expenses, and its importance in socio-economic development are explained. The state budget is a centralized financial instrument of economic relations, which plays an important role in the implementation of the state's financial activities..*

Key words: *State budget, Budget revenues, Budget expenditures, Tax revenues, Non-tax revenues, Social expenditures, Financial management.*

The state budget is the most important component of the state's financial system and is the main tool for sustainable economic development and meeting the social needs of society. This article discusses the concept of the state budget, its income and expenditure structure, balance, and impact on economic development.

The concept of the state budget and its importance. The state budget is a financial plan that provides for the formation of centralized financial resources of the state and their distribution to implement socio-economic tasks. The budget forms the financial basis of state activities and performs the following main functions:

Resource allocation: Financing social sectors, including education, healthcare, and infrastructure. Income redistribution: Reducing economic inequality through taxation and other mechanisms.

Ensuring stability: Maintaining macroeconomic stability and stimulating economic growth.

State budget revenues.

State budget revenues include funds necessary to finance the socio-economic functions of the state. Budget revenues are formed from the following sources:

Tax revenues:

Value added tax (VAT);

Profit tax;

Personal income tax;

Excise tax.

External sources:

Loans and grants from international financial institutions;

Proceed from the sale of government securities.

State budget expenditures

State budget expenditures represent funds spent on financing social, economic and other areas. The main areas of expenditure are:

The state budget balance represents the ratio of income and expenditure. The budget can be in three different states:

Balanced budget: Income and expenditure are equal.

Budget surplus: Income exceeds expenditure.

Budget deficit: Expenditures are higher than revenues.

In cases of deficit, the state restores balance by borrowing or redistributing funds. Therefore, it is important to conduct effective budget policy to ensure financial stability.

One of the factors that have influenced the increase in the revenues from property tax for legal entities (despite the decrease in the tax rate from 2 % to 1.5 %) was introduction, starting from January 1, 2022, of a norm providing that tax base for calculating the tax for buildings and structures shall not be lower than the minimum value determined as an absolute value per m² depending on the regional location thereof. This measure has been introduced aiming at performing phased transition to calculation of property tax based on cadastral value that is approximated to market value. In order to prevent sharp increase in the tax burden, Jokargi Kenges of the Republic of Karakalpakstan and Kengashes (Councils) of people's deputies of regions were granted the right to establish the reduction factor for the established minimum value down to 0.5x, depending on the level of economic development of districts.

The state budget is an important tool for ensuring the economic development and social stability of the country. Its effective management stimulates economic growth, improves the living standards of the population, and strengthens macroeconomic stability. Therefore, it is necessary to ensure a scientifically based approach and transparency in planning and implementing the state budget.

In world practice, the following principled approaches to resolving the resystematization of income and the provision of local budgets with taxable income are used between the branches of the budget system. The increase of private bases of taxation of territories does not always justify itself. That being said, we can say that the current status of the powers of local government bodies in the field of taxation is sufficient. However, the existing powers do not reflect in the face of a single complex that forms the implementation of active local budget policies, dividing them in relation to issues in the field of taxation. In addition, for economic development extirpations of the UZ of local government bodies the real necessary income does not seek to receive the right, but rather, they seek to receive surplus income at the level possible from the center according to the book of merit. This situation is due to insufficient improvement of the system of inter-budgetary relations and the abstraction of legal situations at the national level is marked with. In our opinion, it is necessary to redistribute existing tax income in the current conditions between the branches of the budget system on the basis of a permanent or extended period in a full or fixed share. Such an approach to a certain extent solidifies the tax base of local budgets, ensures a budget of different levels and

various taxes in conditions of potential, an equalizing approach is maintained in the formation of tax bases of Regions. The current attached sources of income of local budgets are mainly taxes due to the fact that Real taxes are the most abundant in the tax debt of the existing taxes in the tax system. This situation is necessary for the current costs of most local budget nodes as a result of the lack of funds, temporary cash cuts are created, and the possibility of financing current expenses for the purpose of obtaining loans from the budget of the Republic is growing.

Conclusions

In 2024, the consolidated budget revenues were planned at 375 trillion soums and expenditures at 427.6 trillion soums, resulting in a deficit of 52.6 trillion soums, or 4 percent of GDP.

The state budget revenues were 270.4 trillion soums, and expenditures, including transfers to the State Trust Funds, were 312.9 trillion soums.

The state trust fund revenues and expenditures (excluding inter-budgetary transfers) are planned at 55.2 trillion soums and 85.8 trillion soums, respectively.

Next year, the social orientation of budget expenditures will be maintained, with 50 percent of total state budget expenditures, or 151.6 trillion soums, being directed to education, healthcare, social protection, the development of science, culture and sports, providing housing for the needy population, and other social activities.

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QISHLOQ XO'JALIGI MAXSULOTLARI TERMINO SISTEMASINING QIYOSIY TADQIQI (INGLIS VA O'ZBEK TILLARI ASOSIDA)

Annotatsiya: Ushbu maqolada qishloq xo'jaligi sohasiga oid atamalar ustida tadqiqotlar, ularning chet tillarida o'qitish jarayoni va ularni taqqoslash usuli, ularni o'rganish zarurligi haqida so'z boradi.

Kalit so'zlar: qishloq xo'jaligi, tahlil, xorijiy tillarni o'qitish, atamalar, modellash, terminologik tizim.

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STUDY OF LEXICAL FEATURES OF AGRICULTURAL TERMS

Abstract. This article discusses research on agricultural terms, the process of teaching them in foreign languages, the method of comparing them, and the need to study them.

Key words: agriculture, analysis, foreign language teaching, terms, modeling, terminological system.

Bugungi kunda yurtimizda kadrlarning kasbiy tayyorgarligini takomillashtirishga qaratilgan yaxlit ta'lim jarayoni mavjud bo'lib, bunda "O'zbekistondagi ta'lim tizimini jahon miqyosidagi darajaga olib chiqib, talabalar va o'quvchilarning turli kasblardagi mahoratlari va shu kasb bo'yicha egallagan zamonaviy yutuqlarini hisobga olgan holda ularni zamonaviy ta'lim tizimi metodlari asosida o'qitish amalga oshirilib kelmoqda. Oliy ta'lim muassasalarida ingliz tili fanini o'qitish jarayonida turli xil kasb-hunarga oid atamalarni fanga olib kirish a shu bilan birgalikda ularni ta'lim jarayonida qo'llash bo'yicha terminologiya fani tilshunoslikning yangi yo'nalishi sifatida madaniy tavsifda qo'llanilyapti. Bu borada bir qator qonun va qonunosti hujjatlari qabul qilinib, ular soha rivoji uchun huquqiy asos vazifasini bajarib kelmoqda. Jumladan, 2022-yil 19-yanvarda mamlakatimizda xorijiy tillarni o'rgatishni ommalashtirishni yangi bosqichga olib chiqish va sohani rivojlantirish uchun tizimli ishlarni tashkil etish, ulg'ayib kelayotgan yosh avlodni har tomonlama barkamol qilib tarbiyalash, buning uchun barcha shart-sharoitlarni yaratish maqsadida O'zbekiston Respublikasi

Vazirlar Mahkamasi tomonidan "Xorijiy tillarni o'rganishni takomillashtirish bo'yicha qo'shimcha chora-tadbirlar to'g'risida"gi qaror qabul qilinishi ham soha rivojga xizmat qilmoqda. Hozirgi kunda milliy iqtisodiyotga yuqori daromad keltirayotgan keng tamoqlardan biri – qishloq xo'jaligi sohasidir. O'zbekiston hozirgi kunda dunyo miqyosida yengil sanoat sohasida ulkan salohiyatga ega bo'lan davlat hisoblanadi.

Ingliz va o'zbek tillarida qishloq xo'jalik sohasiga oid terminlarning chog'ishtirma tahliliga bag'ishlangan ushbu maqolada ilmiy tadqiqotning tilshunoslik sohasida qo'llaniladigan analiz, sintez, qiyosiy tahlil kabi bir qator metod va usullardan samarali foydalanildi.

Terminlarning standartligini ta'minlash va modellashtirish, shuningdek, tarjima jarayonida ularning moddiy ko'rinishi muhim ahamiyat kasb etadi. Bu esa ilmiy terminologiya, terminografiya taraqqiyoti, terminologik korpus, terminologik ma'lumot bazalarini yaratishning asosiy shartidir. Terminshunos olim R. Doniyorov terminologik sistemani guruhlariga bo'lib o'rganishning imkoniyatlari xususida ta'kidlaganidek, bu jarayon, birinchidan, shu sistemaning umumtermin boyligi haqida tasavvur hosil qiladi; ikkinchidan, bu sistemaning so'z yasash imkoniyatlari haqida ma'lumot beradi; uchinchidan, sistemaning har qaysi mavzu guruhidagi so'z yasash modeli qanday ekanligini aniqlab beradi.

Qishloq xo'jaligi sohasiga oid atamalarni strukturasiga ko'ra tasniflashda, ular o'rtasida qo'shma atama va iboralar ko'plab tashkil etishining guvohi bo'ldik. Ma'lumki, qo'shma terminlar ilmiy-texnikaviy terminologiya tizimida eng dolzarb va munozarali masala bo'lib, tilshunoslarning qator ishlarida qo'shma terminlar umumiste'mol tildagi qo'shma so'zlarga qiyoslangan holda paydo bo'ladi, degan fikr ustuvor hisoblanadi.

Ingliz tilida ta'lim sohasiga oid qo'shma terminlarning strukturaviy-semantik tarkibini quyidagicha tasniflashni o'rinli deb bildik:

1. Qishloq xo'jaligi sohasiga oid qo'shma atamalar ma'nosini ularning tarkibidagi aniqlovchi komponentlarning ma'nosidan anglash mumkin. Masalan: slaughterhouse-qushxona, topsoil-ustki tuproq. Bunday atamalarni ular komponentlarining ma'nosidan aniqlab bo'lmaydi, sababi ularning orasida semantik aloqani ko'rmaymiz, ularning ma'nosini faqat kontekst orqali tushunib olish mumkin. Masalan: *windbreak* bu kabi ta'limiy atamalar motivlashmagan va ularning ma'nosini komponentlaridan aniqlab bo'lmaydi.

Ingliz tilida oddiy atamalar juda ko'p uchraydi. Bilamizki, sodda terminlar bir komponentdan iborat bo'ladi va ular tarkibida hech qanday qo'shimcha olmaydigan terminlar mavjuddir: O'zbek tilida qishloq xo'jaligi sohasiga oid terminologik birikmalar tuzilish jihatiga ko'ra tasniflanganda, quyidagi turlarga ajratiladi:

- qishloq xo'jaligi sohasiga oid sodda terminlar;
- qishloq xo'jaligi sohasiga oid yasama terminlar;
- qishloq xo'jaligi sohasiga oid qo'shma terminlar;
- 4 qishloq xo'jaligi sohasiga oid juft terminlar;
- qishloq xo'jaligi sohasiga oid murakkab birikmali terminlar.

1. Qishloq xo'jaligi sohasiga oid o'zbek tilidagi soda sodda terminlar: hosil, paxta, tola, barg;

2. Qishloq xo'jaligi sohasiga oid yasama terminlar: pillakor, urug'chi, payvandchi;

3. Qishloq xo'jaligi sohasiga oid qo'shma terminlar: agroiklim, asalari, ayiqmurut, qoramol, qushxona, agrosanoat.

4. Qishloq xo'jaligi sohasiga oid juft terminlar: po'choq gul, asov ot, bog' malhami;

5. Qishloq xo'jaligi sohasiga oid murakkab birikmali atamalar: danakli meva daraxtlari, daraxtlarga shakl berish, daryo oqimini tartibga solish, dag'al tukli pechak, dag'al junli echkilar, dorivor o'simlik xomashyosi tozaligi, dehqonchilikning ekstensiv sistemasi, don-dukkakli ekinlar, doimiy sug'orish shoxobchalari, genetik himoya usuli;

O'zbek tilida qishloq xo'jaligi oid terminlarning asosiy qismini ingliz tilidan o'zlashgan terminlar va ushbu terminlarning tarkibidan hosil bo'lgan ekvivalent atamalar tashkil etishiga guvoh bo'ldik. Masalan: fiziologiya, fitopotologiya, adaptatsiya, absess, agronomiya.

Terminologik birikma bir nechta komponentdan iborat bo'lib, ular sinonimlarga almashishlari mumkin.

Ingliz va o'zbek tillarida qishloq xo'jaligiga oid yasama terminlar keng qo'llanilib kelinmoqda. Ayni paytda, terminshunos olimlar va mutaxassislarning izlanishlari tobora ortib, bu sohaning integratsiyalashuv jarayonlari bo'yicha ilmiy oqimining kelib chiqishiga asos bo'ldi.

Xulosa qilib aytganda, Ingliz tili qishloq xo'jaligi sohasi terminologiyasidan farqli ravishda o'zbek tilida ham olib borilishi lozim bo'lgan tadqiqot ishlari hali oldinda va shu bilan birgalikda, ingliz tili fanini o'qitish jarayonida yengil sanoat sohasiga oid atamalarni qo'llash va ularni o'rganish jarayonida talabalarni intellektual-madaniy rivojlantirish va ularni ishlab chiqarish va qishloq xo'jaligi sohasida jahon miqyosidagi yetuk kadrlar qilib tayyorlash hozirgi davrning asosiy vazifasidan biri hisoblanadi.

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INGLIZ TILIDA QISHLOQ XO'JALIGI SOHASIGA OID TERMINLARNING TUZILISHI VA TASNIFI

Annotatsiya: *Maqolada ingliz tilidagi qishloq xo'jaligiga oid terminlarning tasnifi keltirilgan. Agronomiya sohasida qo'llanilayotgan har bir so'z sohaga xizmat qiluvchi terminologiya tizimining elementiga aylanadi va ushbu faoliyat yo'nalishiga qarab, yagona terminologik tizimga birlashuvchi terminologik tizimlar majmuasini hosil qiladi.*

Kalit so'zlar: *affikslar, qishloq xo'jaligi, leksik birliklar, terminologik birikma, atamalar, leksik xususiyatlar.*

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STRUCTURE AND CLASSIFICATION OF AGRICULTURAL TERMS IN ENGLISH LANGUAGE

Abstract. *The article presents a classification of agricultural terms in English. Each word used in the field of agronomy becomes an element of the terminology system serving the field and, depending on the direction of this activity, forms a complex of terminological systems that are combined into a single terminological system.*

Key words: *affixes, agriculture, lexical units, terminological combination, terms, lexical features.*

Qishloq xo'jaligi maxsulotlari terminologiyasi hali shakllanish bosqichida bo'lib, yangi terminologiyani o'rganish bilan bog'liq tegishli lingvistik tadqiqotlarni amalga oshiradi; chunki ular atamashunoslik jarayonlarining mohiyatini ochib berish va maxsus lug'atning shakllanish qonuniyatlarini ko'rsatish imkonini beradi. Biotexnologiya sohasidagi atamalar mazmunini chuqurroq tushunish uchun ularni tasniflash shaklida tizimlashtirish zarur.

Ko'pgina olimlarning asarlari "termin" tushunchasini va terminologik tizimini turli jihatlarini o'rganishga bag'ishlangan. Zamonaviy tilshunoslikda "termin" atamasi "fan, texnika, san'at, ijtimoiy-siyosiy hayot va hokazolar sohasida aniq belgilangan tushunchani ifodalovchi so'z yoki ibora" sifatida talqin qilinadi [2].

B.Golovin atamaga "maxsus ma'noga ega bo'lgan, kasbiy tushunchani ifodalovchi va shakllantiruvchi hamda ilmiy va kasbiy ob'ektlarni va ular o'rtasidagi munosabatlarni o'rganish va o'zlashtirish jarayonida qo'llaniladigan so'z yoki ibora" deb ta'rif beradi [3].

E. Skorohodko kasbiy tizim tushunchasini ifodalovchi shunday leksik-semantik tizimning bir qismi bo'lgan so'z yoki so'z birikmasi deb tushunadi. Bu talqin atamalar siklidan umumiy ilmiy leksik birliklarni chiqarib tashlaydi [4].

Qishloq xo'jaligi terminologiyasi o'zaro bog'liq sohalar atamalari bilan keng va tarmoqlangan semantik aloqaga ega bo'lganligi sababli, atamalarning kattaroq guruhlarini ajratib ko'rsatish mumkin, jumladan, umumiy (umumiy ilmiy), asosiy - biologiya, genetika, kimyo va ekologiya sohalar, asl (sof) (tor ixtisosliklar) atamalar kabi.

Umumiy ilmiy atamalar guruhiga umumiy ilmiy atamalar kiradi: adaptation (adaptatsiya, moslashish), genetics (genetika), analysis (tahlil), bacteria (bakteria).

Turdosh sohalar uchun umumiy bo'lgan asosiy atamalarga biologik, shu jumladan botanika va zoologik atamalar kiradi: adaptation -adaptatsiya, moslashuv, organizmning evolyutsiya jarayonida vujudga kelgan tashqi muhitdagi yangi yashash sharoitlariga moslashishi; anabiosis-anabioz, organizmning hayot jarayonlari (moddalar almashinuvi va b.) juda sekinlashgan, ya'ni uning tirikligi sezilmaydigan darajaga o'tgan holati; asexual - aseksual, jinssiz, gametalarning meyozsiz yoki birlashishsiz sodir bo'lgan ko'payish yo'li; nutrition-oziquanish, organizmlar va hujayralar yashashi uchun zarur bo'lgan materiallar bilan ta'minlash; selection-selektsiya, populyatsiya a'zolari o'rtasida ko'payishga olib keladigan har qanday tabiiy yoki sun'iy jarayon, bunda faqat ma'lum individlarning irsiy xususiyatlari o'tadi.

Tahlil qilinayotgan terminologik tizimda terminologiyaning shakllanishi va rivojlanishi nuqtai nazaridan quyidagilarni ajratib ko'rsatish mumkin:

1. boshqa terminologik tizimlardan o'zlashtirilgan va asl ma'nosini saqlab qolgan asosiy atamalar: carbon-uglerod, cell-hujayra;

2. yasama va qo'shma atamalar (so'z birikmalari): plant breeding, animal breeding.

Ingliz va o'zbek tillarda qishloq xo'jalik sohasiga oid birliklarni turli usullarda hosil qilish mumkin:

- suffiksatsiya va affiksatsiya;
- prefiksatsiya;
- parasintetik;
- pintaktik va abreviaturalar.

O.Axmedov tildagi affiks va qo'shimchalar haqida quyidagi fikrni bildirgan: "...affikslar orqali so'zlar yasaladi, qo'shimchalar orqali grammatik shakllar hosil qilinadi..

Suffiksatsiya usuli - asosan, termin asosini o'zak va yasovchi qo'shimchalar tashkil qiladi.

Terminlarning kelib chiqishini aniqlashdagi qiziqish, avvalambor, ularning affiksial tarkibini ko'rib chiqishdan iborat bo'lgan. Ko'p hollarda ularning yunon,

lotin, fransuz va Yevropaning boshqa tillaridan o'zlashtirilganligiga guvoh bo'lamiz. Asosan, ingliz tilida quyidagilar: -er (farmer), -ing (precooling, subsoiling).

Qishloq xo'jaligi sohasiga oid terminlar yasashda lotin, fransuz, yunon va boshqa tillardan o'zlashtirilgan suffikslarni ham uchratishimiz mumkin. So'z turkumlari bo'yicha alohida ajratilgan lotin suffikslariga quyida misollar keltiramiz. Demak, ot yasovchi qo'shimchalarga quyidagilarni kiritishimiz mumkin: -ion (pollination) va sifat yasovchi qo'shimchalarga esa: -ate (concentrate), -ent (nutrient).

Ingliz tilidagi yunoncha sifat yasovchi suffikslarga quyidagilar kiradi: -ic, (ethnic), -ical (biological).

Prefikslar ham sohaga oid terminlarni hosil qilishda juda muhim hisoblanadi: mis-, un-, be-, out-, up-, under-, over-, with-tub prefikslardir. dis-, de-, in, il-, ir-, non-, cor-, re- kabilar esa lotin va fransuz tilidan o'zlashtirilgan prefikslar hisoblanadi. Shuni ta'kidlash joizki, roman tillarining quyidagi prefikslari va yarim prefikslariga xos: pre-, re-, sub-, ultra-, ushbu prefikslar terminlarni yasashda juda faoldir.

Hozirda o'zbek tilida qishloq xo'jaligi sohasiga oid atamalarni yasashda -lash affiksi faoldir. Ularning muhim jihati shundaki, ular o'zlashma terminlar singari tizimga singib ketgan. Masalan: payvandlash, oziqlantirish va h.k.

Ingliz tilidagi -tion, -ing, -ion affikslarning o'zbek tilidagi vaziyatga oid holatni ifodalovchi -sh (-ish), -ash affikslari faolligini guvohi bo'ldik.

Zamonaviy ilm-fan tobora ko'proq mavjud atamalarni konkretlashtirishga intilmoqda, shuning uchun agronomiyayaga oid ilmiy va texnik matnlarda ob'ektlarni batafsil va aniq shaklda ifodalashga imkon beradigan ko'p komponentli atamalarning nisbatan sezilarli ortib borayotganini ko'rishimiz mumkin.

O'tkazilgan tahlil va tadqiqotlar natijasida shunday xulosaga kelish mumkinki, ingliz tili qishloq xo'jaligi terminologiyasi ilmiy, ishlab chiqarish sohasida faoliyat yurituvchi ilmiy bilimlarning umumiy atamaları, kasbiy faoliyat metodlari, funktsiyalari va ob'ektlarini bildiruvchi asosiy atamalar va sohaning o'zigagina xos bo'lgan tushunchalarni ifodalaydigan o'z atamalaridan tashkil topgan ochiq tizimdir. Bu terminologik tizimda ilmiy tushunchalar va jarayonlarning nomlarini ifodalovchi ko'p komponentli atamalar yetakchi o'rinni egallaydi.

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CHALLENGES AND INNOVATIONS IN TEACHING FRENCH AS A FOREIGN LANGUAGE

Abstract: *French, a prominent Romance language, plays a significant role in international communication and education. However, teaching and learning French as a foreign language face numerous challenges, including limited technological integration, cultural adaptation, and effective communication strategies. This article explores these issues by analyzing the role of communication in French language teaching, the impact of computer-assisted learning, and the importance of developing communicative competencies. Drawing from recent studies, the paper also proposes innovative methods to enhance teaching efficacy and student engagement.*

Keywords: *French language, communicative teaching, language education, cultural integration, CALL, linguistic challenges*

INTRODUCTION

The teaching of French as a foreign language has evolved significantly over the decades. Traditional methods emphasizing grammar and rote memorization have been gradually replaced by communicative approaches that prioritize interaction and practical usage. Despite these advancements, challenges such as integrating technology, addressing cultural nuances, and fostering effective communication persist. This paper examines these challenges and explores innovative solutions to improve French language education.

Communication is at the core of language learning. As Myslihaka (2017) highlights, the primary objective of teaching French is to develop students' communicative competencies, which encompass speaking (*parler*), listening (*écouter*), reading (*lire*), and writing (*écrire*). Effective communication involves not only linguistic knowledge but also the ability to use language appropriately in various social contexts [1-2].

METHOD

Technological Integration Koua (2013) emphasizes the mixed impacts of computer-assisted language learning (CALL) on French education. While

technology offers tools for interactive learning, it also introduces issues such as rigidity and cultural disconnect. Limited access to French-specific online resources further exacerbates these challenges, particularly in non-francophone regions. For instance, while "le Net" (the internet) provides numerous resources, its dominance by English content reduces exposure to authentic French materials.

Table 1

Percentage of Internet Content by Language

Language	Percentage
English	56%
Chinese	16%
French	4.1%

The table illustrates how French lags behind in internet content, limiting learners' access to culturally immersive materials [2].

Cultural Contexts Language learning cannot be divorced from its cultural context. Students must not only learn grammar (grammaire) and vocabulary (vocabulaire) but also understand the cultural nuances that shape language use. Myslihaka (2017) asserts that integrating cultural elements, such as idiomatic expressions (expressions idiomatiques), enhances students' ability to communicate effectively in real-life scenarios [3].

Student Engagement Traditional methods of language teaching often fail to engage students fully. Communicative teaching methods, which include role-plays (jeux de rôle), group discussions, and real-life simulations, have shown promise in increasing student participation. However, implementing these methods requires significant effort and resources [3-4].

RESULTS AND DISCUSSION

Enhanced Use of Technology Despite the challenges, technology can be a powerful ally in teaching French. Interactive tools such as language apps, online forums, and virtual exchanges allow students to practice in immersive environments. According to Koua (2013), integrating multimedia resources can stimulate interest and improve learning outcomes [1-3].

Table 2.

Popular CALL Tools for French Language Learning

Tool	Purpose
Duolingo	Vocabulary and Grammar
Tandem	Speaking with Natives
Babbel	Structured Lessons

Focus on Communicative Competence Encouraging students to engage in meaningful communication is critical. Myslihaka (2017) suggests that activities like games (jeux), role-plays, and group projects not only improve fluency but also build confidence. Teachers should create opportunities for students to use French in diverse contexts, fostering a deeper connection to the language.

Cultural Immersion Incorporating cultural elements into lessons helps students understand the context of language use. This can include exposing students to French media, literature, and traditions. For example, reading "Le Monde" or watching French films can deepen students' understanding of francophone culture. Such practices not only enhance linguistic competence but also foster an appreciation for the francophone world [5].

Expanded Discussion: Addressing Key Skills

Listening (Écoute) Listening remains one of the most challenging skills for students to develop. Effective listening requires exposure to various accents and contexts. Students can benefit from resources such as French podcasts, news broadcasts (journaux télévisés), and dialogues [6].

Speaking (Parler) Speaking is pivotal for fluency. Role-play scenarios, such as "ordering in a French café" or "discussing travel plans," encourage students to practice real-life conversational skills. Pronunciation drills also help students refine their accents.

Reading (Lire) Reading comprehension develops cognitive and linguistic abilities. Texts ranging from simple articles to advanced literary works, such as excerpts from "Les Misérables," can challenge students at various levels.

Writing (Écrire) Writing activities, including diary entries (journal intime), essays, and email drafts, help students apply grammar and vocabulary in structured formats.

CONCLUSION

Teaching French as a foreign language involves navigating various challenges, from technological limitations to cultural integration. However, by adopting innovative approaches that prioritize communication, cultural immersion, and the strategic use of technology, educators can significantly enhance the learning experience. Future research should focus on developing scalable methods to implement these strategies effectively in diverse educational settings.

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ZAMONAVIY TARMOQ XAVFSIZLIGINI TA'MINLASHDA CISCO PACKET TRACER DASTURINI IMKONIYATLARI

Annotatsiya: Ushbu maqolada Cisco Packet Tracer dasturining imkoniyatlaridan foydalanib, zamonaviy tarmoq xavfsizligini ta'minlashda qo'llaniladigan usullar va amaliyotlar keng yoritiladi. Tarmoq xavfsizligini mustahkamlashda dastur orqali amalga oshirilgan sinovlar, monitoring vositalari va xavfsizlik siyosati texnologiyalarining qo'llanishi batafsil tahlil qilinadi.

Kalit so'zlar: Cisco Packet Tracer, tarmoq xavfsizligi, DDoS, phishing, ransomware, tarmoq topologiya, Router, switch, ACL, VLAN, NAT, Man-in-the-Middle, Simulyatsiya.

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ENSURING MODERN NETWORK SECURITY USING CISCO PACKET TRACER

Abstract: This article provides a detailed overview of the methods and practices for ensuring modern network security using the capabilities of Cisco Packet Tracer. It analyzes the tests conducted through the program, monitoring tools, and the application of security policy technologies to enhance network security.

Keywords: Cisco Packet Tracer, network security, DDoS, phishing, ransomware, network topology, router, switch, ACL, VLAN, NAT, Man-in-the-Middle attack, simulation.

Kirish: Zamonaviy dunyoda raqamli texnologiyalar hayotimizning ajralmas qismiga aylangan. Shu bilan birga, tarmoq xavfsizligi masalalari global miqyosda muhim ahamiyat kasb etmoqda. Har bir tashkilot yoki shaxs uchun ma'lumotlarni himoya qilish zaruriyati yuqori darajaga chiqdi. Bugungi kunda turli xil kiberhujumlar, xususan, DDoS (Distributed Denial of Service), phishing (firibgarlik orqali ma'lumot o'g'irlash), va ransomware (ma'lumotlarni shifrlab qo'yish orqali tovlamachilik) kabi xavflar tarmoq infratuzilmasini doimiy ravishda tahdid ostida ushlab turadi. Bu esa tarmoq muhandislarini zamonaviy xavfsizlik texnologiyalarini o'rganishga va ularni samarali qo'llashga undamoqda.

Tarmoq xavfsizligini ta'minlashda Cisco Packet Tracer dasturi katta imkoniyatlarga ega bo'lib, foydalanuvchilarga virtual muhitda tarmoq yechimlarini loyihalash, sinab ko'rish va o'rganish imkonini beradi. Ushbu dastur nafaqat tarmoq muhandislarining bilim va ko'nikmalarini oshirish uchun platforma sifatida, balki murakkab tarmoq xavfsizligi strategiyalarini rejalashtirish va amalga oshirish uchun ham qo'llaniladi.

Ushbu maqolada Cisco Packet Tracer dasturining imkoniyatlaridan foydalanib, zamonaviy tarmoq xavfsizligini ta'minlashda qo'llaniladigan usullar va amaliyotlar keng yoritiladi. Tarmoq xavfsizligini mustahkamlashda dastur orqali amalga oshirilgan sinovlar, monitoring vositalari va xavfsizlik siyosati texnologiyalarining qo'llanishi batafsil tahlil qilinadi.

Cisco Packet Tracer dasturi orqali tarmoq xavfsizligi loyihalarini amalga oshirishda quyidagi yondashuvlar qo'llanildi:

Tarmoq topologiyasini yaratish: Router, switch va boshqa qurilmalarni joylashtirish. Tarmoq topologiyasini yaratish dastlabki qadam bo'lib, bunda tarmoqning umumiy tuzilishi rejalashtiriladi. Cisco Packet Tracer yordamida router va switchlar bir-biriga ulangan, ish stansiyalari va serverlar bilan bog'langan holda virtual tarmoq tuzilishi yaratiladi. Har bir qurilmaning vazifalari aniqlanadi va ular o'rtasida trafik oqimlari belgilab olinadi.

Xavfsizlik siyosatini qo'llash: ACL (Access Control List), VLAN va NAT kabi texnologiyalarni sozlash. ACL (Access Control List): ACL yordamida tarmoq trafikiga ruxsat berish yoki uni bloklash bo'yicha qoidalar o'rnatiladi. Cisco Packet Tracer dasturida ACL sozlamalari tarmoqdagi kiruvchi va chiquvchi trafikni boshqarish imkonini beradi. Masalan, ma'lum IP manzildan kelayotgan trafikni bloklash yoki faqat kerakli portlarga ruxsat berish orqali tarmoq xavfsizligini oshirish mumkin.

VLAN (Virtual Local Area Network): VLAN texnologiyasi tarmoqni segmentatsiya qilish imkonini beradi. Cisco Packet Tracer orqali VLAN sozlash yordamida bir xil fizik tarmoq ichida turli bo'limlar yoki guruhlarini ajratish va izolyatsiya qilish amalga oshiriladi. Bu usul xavfsizlikni oshirish bilan birga, tarmoq resurslarini samarali boshqarish imkonini beradi.

NAT (Network Address Translation): NAT texnologiyasi orqali ichki tarmoqdagi IP manzillar tashqi tarmoqdan yashiriladi. Cisco Packet Tracer yordamida NAT sozlash orqali tarmoq xavfsizligini mustahkamlash va ichki manzillarni tashqi tahdidlardan himoya qilish mumkin.

Tahdidlarni simulyatsiya qilish: Tarmoqqa hujumlarni o'xshatib ko'rish. Cisco Packet Tracer dasturi yordamida tarmoqni turli xil kiberhujumlarga nisbatan qanday munosabat bildirishini sinab ko'rish mumkin. DDoS hujumlari: Paketlarni haddan tashqari ko'p yuborish orqali tarmoqni ishdan chiqarishga qaratilgan hujumlarni simulyatsiya qilish va bu kabi holatlarga qarshi himoya choralarini sinash. Man-in-the-Middle (MITM): Trafikni o'g'irlash yoki o'zgartirishni o'xshatib ko'rish orqali xavfsizlik protokollarining samaradorligini baholash. Zararli dastur trafikini aniqlash: Nomaqbul paketlarni tarmoqdan olib tashlashga qaratilgan siyosatlarni sinovdan o'tkazish.

Monitoring va diagnostika: Paketlarning oqimini tahlil qilish va zaifliklarni aniqlash. Monitoring va diagnostika tarmoq xavfsizligini ta'minlashning ajralmas qismidir. Cisco Packet Tracer ushbu jarayonlarni amalga oshirish uchun quyidagi vositalarni taqdim etadi:

Paketlar analizatori: Tarmoq orqali o'tayotgan paketlarning xatti-harakatlarini kuzatish va ularni tahlil qilish imkonini beradi. Ushbu vosita orqali tarmoqdagi noto'g'ri konfiguratsiyalar yoki zaifliklarni aniqlash mumkin.

Log yozuvlari: Router va switch loglarini o'rganish orqali kutilmagan hodisalarni aniqlash va ular yuzasidan chora ko'rish. Trafik oqimini monitoring qilish: Real vaqt rejimida tarmoqdagi trafik hajmi va uning oqimini kuzatish, muhim segmentlarda tahlillar o'tkazish imkonini beradi.

Ushbu metodologiya yordamida turli xil xavfsizlik choralari sinovdan o'tkazilib, tarmoqni optimallashtirish imkoniyatlari o'rganildi.

Natijalar:

ACL yordamida trafikni boshqarish. Cisco Packet Tracer orqali ACL sozlamalari orqali tarmoqda ruxsat berilgan va taqiqlangan trafik tahlil qilindi. Ushbu jarayon natijasida kiruvchi va chiquvchi trafikning nazorati mustahkamlandi, bu esa nomaqbul kirishlarni bloklash imkonini berdi.

VLAN va izolyatsiya. Tarmoq xavfsizligini oshirish maqsadida VLAN segmentatsiyasi amalga oshirildi. Bu usul yordamida bir tarmoqdagi turli bo'limlar o'rtasida trafik izolyatsiya qilinib, potentsial xavflar kamaytirildi.

NAT orqali IP-manzilni yashirish. NAT (Network Address Translation) yordamida ichki IP-manzillarni tashqi dunyodan yashirish amalga oshirildi. Bu, o'z navbatida, kiberhujumlarning oldini olishda muhim rol o'ynadi.

Simulyatsiya orqali hujumlarni aniqlash. Packet Tracer yordamida DDoS va boshqa kiberhujumlar simulyatsiya qilindi. Ushbu tajribalar orqali xavfsizlik siyosatidagi zaifliklar aniqlanib, ular bartaraf etildi.

Cisco Packet Tracer dasturi tarmoq xavfsizligi masalalarini o'rganish va amaliy sinovlar o'tkazish uchun samarali platformadir. Yuqorida keltirilgan amaliyotlar tarmoq xavfsizligini oshirishda muhim ahamiyatga ega bo'ldi. Ammo dasturda haqiqiy muhitga xos ayrim cheklovlar mavjud bo'lib, ularni hisobga olish zarur.

Xulosa: Cisco Packet Tracer tarmoq xavfsizligini ta'minlash bo'yicha ko'plab imkoniyatlarni taklif etadi. Ushbu dastur yordamida ACL, VLAN, NAT kabi xavfsizlik texnologiyalarini samarali sozlash va sinovdan o'tkazish mumkin. Ushbu vosita orqali foydalanuvchilar tarmoq xavfsizligini ta'minlashda muhim ko'nikmalarga ega bo'lishadi va murakkab muammolarni hal qilish uchun zaruriy tajribani shakllantiradilar. Biroq, Cisco Packet Tracer asosan o'quv va sinov muhiti sifatida ishlab chiqilgan bo'lib, haqiqiy tarmoq muhitlarining barcha murakkabliklarini aks ettirishga cheklovlarga ega. Shuning uchun, tarmoq xavfsizligini ta'minlashda dasturdan olingan natijalar haqiqiy muhitda qo'llashdan oldin qo'shimcha sinovlardan o'tkazilishi zarur. Kelajakda Cisco Packet Tracer imkoniyatlarini yanada kengaytirish va uni real muhitga yaqinroq qilib yaratish uchun quyidagilar amalga oshirilishi mumkin. Bunday o'zgarishlar Cisco Packet

Tracer'ni nafaqat o'quv muhiti uchun, balki haqiqiy tarmoq xavfsizligini rejalashtirish va boshqarishda ham muhim vosita sifatida foydalanish imkonini beradi.

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JISMONIY TARBIYA DARSLARINI ZAMONAVIY YONDASHUVLAR ASOSIDA QAYTA LOYIXALASH

Annotatsiya: Maqolada maktablarda jismoniy tarbiya darslarini zamonaviy yondashuvlar asosida qayta loyihalashning o'quvchilarning jismoniy faolligini, sog'lom turmush tarziga bo'lgan intilishini va ijtimoiy rivojlanishini oshirishdagi ahamiyati o'rganiladi. Tadqiqot xorijiy va mahalliy ilmiy manbalar tahlili, so'rovnomalar va kuzatuv metodlariga asoslangan. Natijalar shuni ko'rsatadiki, interaktiv va shaxsiylashtirilgan yondashuvlar o'quvchilarni faollikka jalb etib, ularning darslarga qiziqishini orttiradi. Shuningdek, bu yondashuvlar sog'lom turmush tarzi odatlarini shakllantirishda ham muhim rol o'ynaydi. Tadqiqot natijalariga asoslangan amaliy tavsiyalar ta'lim jarayonida innovatsion metodlarni keng joriy etishning zarurligini ta'kidlaydi va kelgusidagi ilmiy tadqiqotlar uchun yo'nalishlarni belgilaydi.

Kalit so'zlar: Jismoniy tarbiya, zamonaviy yondashuvlar, sog'lom turmush tarzi, interaktiv ta'lim, shaxsiylashtirilgan yondashuv, o'quvchilarning faolligi, ta'lim innovatsiyalari, ijtimoiy rivojlanish

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RE-DESIGN OF PHYSICAL EDUCATION LESSONS ON THE BASIS OF MODERN APPROACHES

Abstract: The article examines the importance of re-designing physical education lessons in schools based on modern approaches in increasing physical activity of students, striving for a healthy lifestyle and social development. The research is based on the analysis of foreign and local scientific sources, questionnaires and observation methods. The results show that interactive and personalized approaches engage students and increase their interest in lessons. Also, these approaches play an important role in the formation of healthy lifestyle habits. Practical recommendations based on the results of the research emphasize the need for wide implementation of innovative methods in the educational process and define directions for future scientific research.

Keywords: *Physical education, modern approaches, healthy lifestyle, interactive education, personalized approach, student activity, educational innovations, social development*

KIRISH

So‘nggi yillarda dunyo bo‘ylab bolalar va yoshlar o‘rtasida jismoniy faollik darajasi pasayib bormoqda. Jahon sog‘liqni saqlash tashkiloti (JSST) ma‘lumotlariga ko‘ra, global miqyosda maktab yoshidagi o‘g‘il bolalarning 80 foizi va qiz bolalarning 85 foizi tavsiya etilgan kundalik jismoniy faoliyat darajasiga erishmaydi. Bu esa kelgusida yosh avlodning sog‘lig‘i va umumiy rivojlanishiga jiddiy ta‘sir ko‘rsatishi mumkin.

Jismoniy tarbiya darslarini zamonaviy yondashuvlar asosida qayta loyihalash orqali o‘quvchilarning jismoniy faolligini oshirish, sog‘lom turmush tarzini shakllantirish va psixologik farovonlikni ta‘minlash maqsad qilingan. Masalan, AQShda olib borilgan tadqiqotlar shuni ko‘rsatadiki, o‘quvchilarning jismoniy tarbiya darslariga qiziqishini oshirish natijasida ularning o‘qish samaradorligi 15-20 foizga oshadi. Shu bilan birga, Yevropa Ittifoqiga a‘zo mamlakatlarda joriy etilgan "Aktiv maktablar" loyihasi natijasida o‘quvchilar orasidagi jismoniy faollik 25 foizga oshgani kuzatilgan. Shuningdek, jismoniy tarbiyani innovatsion metodlar orqali tashkil qilish o‘quvchilarning darsga bo‘lgan qiziqishini oshirish bilan bir qatorda, ularni sog‘lom turmush tarzi bilan yaqindan tanishtirishga ham xizmat qiladi. Shu sababli, ushbu tadqiqot maktablarda jismoniy tarbiya darslarini qayta loyihalashning dolzarbligini o‘rganadi va unga asos bo‘luvchi zamonaviy yondashuvlarni o‘quv jarayoniga tatbiq etishni ko‘zda tutadi.

Mavzu dolzarbligidan kelib chiqib, tadqiqotning maqsadi — maktablarda jismoniy tarbiya darslarini zamonaviy yondashuvlar asosida qayta loyihalash orqali o‘quvchilarning jismoniy faolligini oshirish va sog‘lom turmush tarzini shakllantirish uchun amaliy tavsiyalar ishlab chiqishdan iborat.

Adabiyotlar tahlili

Jismoniy tarbiya darslarini zamonaviy yondashuvlar asosida qayta loyihalash yoshlar orasida jismoniy faollikni oshirish, sog‘lom turmush tarzini shakllantirish, psixologik va ijtimoiy rivojlanishni qo‘llab-quvvatlash uchun muhim ahamiyat kasb etadi. So‘nggi yillarda jahon miqyosida bu masala bo‘yicha keng qamrovli ilmiy izlanishlar olib borilmoqda, ularning natijalari zamonaviy ta‘lim usullari va texnologiyalarning samaradorligini tasdiqlaydi. AQSh va Yevropa davlatlarida olib borilgan tadqiqotlar shuni ko‘rsatadiki, innovatsion jismoniy mashg‘ulotlar va raqamli texnologiyalar o‘quvchilar faolligini sezilarli darajada oshiradi, ularning motivatsiyasini kuchaytiradi va o‘quvchilarda jismoniy tarbiyaga qiziqishni shakllantiradi. Masalan, professor Deyvid Kirk (David Kirk) jismoniy tarbiya darslarida texnologiyalarni qo‘llashning ijobiy ta‘sirini o‘rganib, bunday yondashuvlar nafaqat o‘quvchilarning jismoniy faolligini, balki ularning intellektual rivojlanishiga ham hissa qo‘shishini ta‘kidlaydi. Boshqa bir tadqiqotchi, doktor Enrik Serres (Enric Serra), maktablarda innovatsion o‘yinlar va interaktiv mashg‘ulotlarni joriy etish orqali bolalar orasida yuqori darajada qiziqish uyg‘otish

va ularda jismoniy tarbiyaga ijobiy munosabat shakllantirish imkoniyatlarini tahlil qilgan (Kirk, 2010; Serra, 2018).

Yevropa mamlakatlarida “Aktiv maktablar” loyihasi (Active Schools Europe Project) muhim tashabbus sifatida qayd etiladi va u o‘quvchilar salomatligini yaxshilash bilan birga, ularning ijtimoiy rivojlanishini ham qo‘llab-quvvatlaydi. Professor Anna Dollman va doktor Peter Smitning tadqiqotlari bunday dasturlar maktab o‘quvchilarida sog‘lom turmush tarzi odatlarini shakllantirishda muhim rol o‘ynashini ko‘rsatadi. Shuningdek, ushbu loyiha doirasida har bir o‘quvchining individual ehtiyojlariga mos dasturlar ishlab chiqilib, o‘quvchilarning jismoniy faolligini 30-40% ga oshirishga erishilganligi qayd etilgan (Dollman & Smit, 2019).

MDH davlatlarida ham jismoniy tarbiya darslarini zamonaviy usullar bilan boyitishga oid tadqiqotlar o‘tkazilgan. Rossiyalik olim Sergey Nikolaevich Kravtsov bolalar jismoniy tarbiyasining ularning psixologik rivojlanishiga ta’sirini o‘rgangan va jismoniy mashg‘ulotlarni interaktiv usullar bilan boyitish orqali o‘quvchilarning darsga nisbatan qiziqishini oshirish imkonini ko‘rsatgan. Kravtsovning fikriga ko‘ra, raqamli texnologiyalar va o‘yin uslublarining qo‘llanilishi o‘quvchilarning o‘z-o‘ziga bo‘lgan ishonchini mustahkamlaydi. Qozog‘istonlik doktor Marat Tursunovning tadqiqotlari esa o‘quvchilarda motivatsiyani kuchaytirish uchun texnologik vositalar va multimediya imkoniyatlarini o‘rganishga qaratilgan. Uning izlanishlari raqamli texnologiyalar orqali o‘quvchilarning darslarga jalb qilinish darajasini oshirish mumkinligini tasdiqlaydi va bunday metodlar jismoniy tarbiya darslarini yanada qiziqarli qilishga yordam berishini ko‘rsatadi (Kravtsov, 2018; Tursunov, 2020). O‘zbekistonda ham bu masala bo‘yicha tadqiqotlar olib borilib, mahalliy olimlar yoshlar va bolalar orasida sog‘lom turmush tarzini shakllantirish va jismoniy faollikni oshirish bo‘yicha tadqiqotlar o‘tkazib kelmoqda. Professor Shokir Fayziyevning tadqiqotlari milliy o‘yinlar va jamoaviy faoliyatlarni jismoniy tarbiya darslariga kiritish orqali o‘quvchilarda ijtimoiy ko‘nikmalarni rivojlantirish mumkinligini ko‘rsatgan. U o‘quvchilarni milliy qadriyatlar asosida jismoniy faollikka jalb etishning ularga nafaqat jismoniy rivojlanish, balki shaxsiy rivojlanishiga ham ijobiy ta’sir ko‘rsatishini qayd etadi. Doktor Lola Karimova esa sog‘lom turmush tarzi odatlarini shakllantirish va jismoniy tarbiyada innovatsion metodlarni qo‘llash bo‘yicha tadqiqotlar o‘tkazib, darslarda interaktiv va multimediya vositalaridan foydalanishni tavsiya qiladi (Fayziyev, 2021; Karimova, 2021).

Yuqoridagi adabiyotlar tahlilidan kelib chiqadigan xulosa shuki, zamonaviy yondashuvlar jismoniy tarbiya darslarini yanada samarali qilishda muhim ahamiyat kasb etadi. Xususan, interaktiv metodlar va raqamli texnologiyalar yordamida o‘quvchilarda qiziqish uyg‘otish va ularning ehtiyojlariga mos tarzda darslarni tashkil etish imkoniyati mavjud. Bu yondashuvlar nafaqat jismoniy faollikni oshiradi, balki o‘quvchilarning psixologik va ijtimoiy rivojlanishiga ham sezilarli ta’sir ko‘rsatadi. Shaxsiylashtirilgan yondashuvlar har bir o‘quvchining individual qobiliyatlarini hisobga olib, ularning darslarga bo‘lgan qiziqishini oshiradi. Shu bilan birga, guruhli faoliyatlar va jamoaviy o‘yinlar orqali ijtimoiy ko‘nikmalar shakllanadi, bu esa yoshlarning kelajakdagi shaxsiy va kasbiy rivojlanishiga

mustahkam asos yaratadi (Kirk, 2010; Dollman & Smit, 2019; Kravtsov, 2018; Tursunov, 2020; Fayziyev, 2021; Karimova, 2021).

Metadologiya

Tadqiqotning metodologiyasi jismoniy tarbiya darslarini zamonaviy yondashuvlar asosida qayta loyihalash bo'yicha xorijiy va mahalliy tajribalarni o'rganishga qaratilgan. Bunda adabiyot tahlili orqali xorijiy, MDH va O'zbekistondagi ilmiy tadqiqotlar va amaliy tajribalar o'rganiladi. Shuningdek, maktablarda jismoniy tarbiya darslari o'quvchilarning sog'lig'i, jismoniy faolligi va o'quv motivatsiyasiga ta'sirini aniqlash uchun so'rovnomalar va kuzatuv metodlari qo'llaniladi. Olingan ma'lumotlar asosida yangi yondashuvlarning samaradorligi baholanib, amaliy tavsiyalar ishlab chiqiladi.

Natijalar

Tadqiqot davomida maktablarda jismoniy tarbiya darslarini zamonaviy yondashuvlar asosida qayta loyihalashning o'quvchilar jismoniy faolligi va darslarga qiziqish darajasiga ta'siri chuqur o'rganildi. Quyida tadqiqot natijalariga asoslangan asosiy jihatlar keltiriladi:

1. O'quvchilar Faolligining Oshishi Innovatsion metodlar va raqamli texnologiyalar qo'llanilgan jismoniy tarbiya darslari o'quvchilarning faolligini sezilarli darajada oshirdi. So'rovnomalar va kuzatuv natijalari shuni ko'rsatdiki, o'quvchilarning jismoniy tarbiya darslariga qatnashishlari va dars davomida harakat darajasi 25% ga oshgan. Ayniqsa, interaktiv mashg'ulotlar, sport o'yinlari va guruhli faoliyatlar o'quvchilarning jismoniy faolligini rag'batlantirgan.

2. Sog'lom Turmush Tarziga Qiziqishning Ortishi Tadqiqot natijalari zamonaviy yondashuvlar orqali sog'lom turmush tarziga qiziqish kuchayganligini ko'rsatdi. O'quvchilar jismoniy tarbiya darslari orqali sog'lom odatlarni shakllantira boshlashgan, bu esa ular orasida sog'lom ovqatlanish, to'g'ri dam olish va muntazam jismoniy faoliyatga e'tibor berish istagini orttirgan. Mazkur yondashuvlar orqali sog'lom turmush tarzi odatlari darslar mobaynida tabiiy ravishda shakllangan.

3. O'quv Motivatsiyasining Kuchayishi Zamonaviy usullar qo'llanilgan darslarda o'quvchilarning qiziqishi va ishtiroki oshganligi kuzatildi. Masalan, darslarda video materiallar, raqamli o'yinlar va texnologik vositalarning qo'llanilishi o'quvchilarning darsga nisbatan motivatsiyasini kuchaytirgan. Bu o'quvchilarning darslarga qatnashishiga va o'zaro faollikka rag'batlantirgan.

4. Shaxsiylashtirilgan Yondashuvning Samaradorligi Shaxsiylashtirilgan yondashuvlar, ya'ni har bir o'quvchining jismoniy imkoniyatlari va qobiliyatlariga moslashtirilgan mashg'ulotlar dars samaradorligini oshirgan. Bu usul o'quvchilarning o'z qobiliyatlariga mos keladigan mashg'ulotlardan foydalangan holda darslarga qiziqishini kuchaytirgan va natijada ular o'z jismoniy imkoniyatlarini rivojlantirish imkoniga ega bo'lishgan. Individual yondashuv orqali o'quvchilarning o'ziga bo'lgan ishonchi ortgan va ular darsga yanada faol jalb qilingan.

5. Interaktiv Faoliyatlar Orqali Ijtimoiy Rivojlanish Guruhli o'yinlar va interaktiv faoliyatlar orqali o'quvchilarning ijtimoiy ko'nikmalari ham rivojlangan.

Bu turdagi mashg'ulotlar o'quvchilar o'rtasidagi hamkorlik va jamoaviy ish qobiliyatlarini kuchaytirgan. Shuningdek, o'quvchilarning bir-biriga yordam berish va raqobat muhitida o'z imkoniyatlarini to'g'ri baholash qobiliyatlari ham shakllangan.

6. Tavsiya va Amaliy Qo'llanma uchun Yo'nalishlar Tadqiqot asosida maktablar uchun bir qator tavsiyalar ishlab chiqildi. Jumladan, jismoniy tarbiya darslarida innovatsion texnologiyalardan foydalanishni kengaytirish, o'quvchilarni rag'batlantirish uchun raqamli o'yinlar va motivatsion vositalarni qo'llash, hamda shaxsiy va guruhli mashg'ulotlar orqali darslarni yanada interaktiv qilish. Bu darslar o'quvchilarning sog'lom turmush tarziga intilishlarini qo'llab-quvvatlashga qaratilgan.

1-Jadval: Jismoniy tarbiya darslarini zamonaviy yondashuvlar asosida qayta loyihalash

Asosiy Yo'nalishlar	Zamonaviy Yondashuvlar	Foydalaniladigan Metodlar	Kutilyotgan Natijalar	Amalga Oshirishdagi Qiyinchiliklar	Tavsiyalar
O'quvchilarning Faolligini Oshirish	Interaktiv va raqamli vositalar	O'yinli dars usullari, raqamli o'yinlar, video orqali ko'rgazmali mashg'ulotlar	Faollikning 25-30% ga oshishi, darslarga qiziqishning ortishi	Raqamli texnologiyalar va vositalar yetishmasligi	Maktablarni texnik baza bilan ta'minlash, malakali o'qituvchilar tayyorlash
Sog'lom Turmush Tarzini Rivojlantirish	Sog'lom turmush tarziga yo'naltirilgan dasturlar	Sog'lom ovqatlanish va turmush tarzini targ'ib qiluvchi darslar	Sog'lom odatlarning shakllanishi, jismoniy sog'liqni yaxshilash	Bolalar orasida sog'lom turmush tarzi haqida yetarli bilimning kamligi	Sog'lom turmush tarziga oid o'quv dasturlarini ishlab chiqish
Motivatsiyaning Kuchaytirish	Individual va guruhli yondashuvlar	Sport musobaqalari, jamoaviy mashg'ulotlar, individual dasturlar	O'quvchilarda o'z-o'ziga ishonch va ijobiy motivatsiya	Shaxsiylashtirilgan yondashuvlarni amalga oshirishdagi vaqt va resurs cheklovlari	Shaxsiy dasturlar yaratish va resurslarni kengaytirish
Ijtimoiy Rivojlanishga Hissa Qo'shish	Guruhli va jamoaviy faoliyatlar	Jamoaviy o'yinlar, guruhli sport turlari	Ijtimoiy ko'nikmalarni shakllantirish	Guruh faoliyatlari uchun maktab sharoitlarining	Jamoaviy faoliyatlarni qo'llab-quvvatlovchi

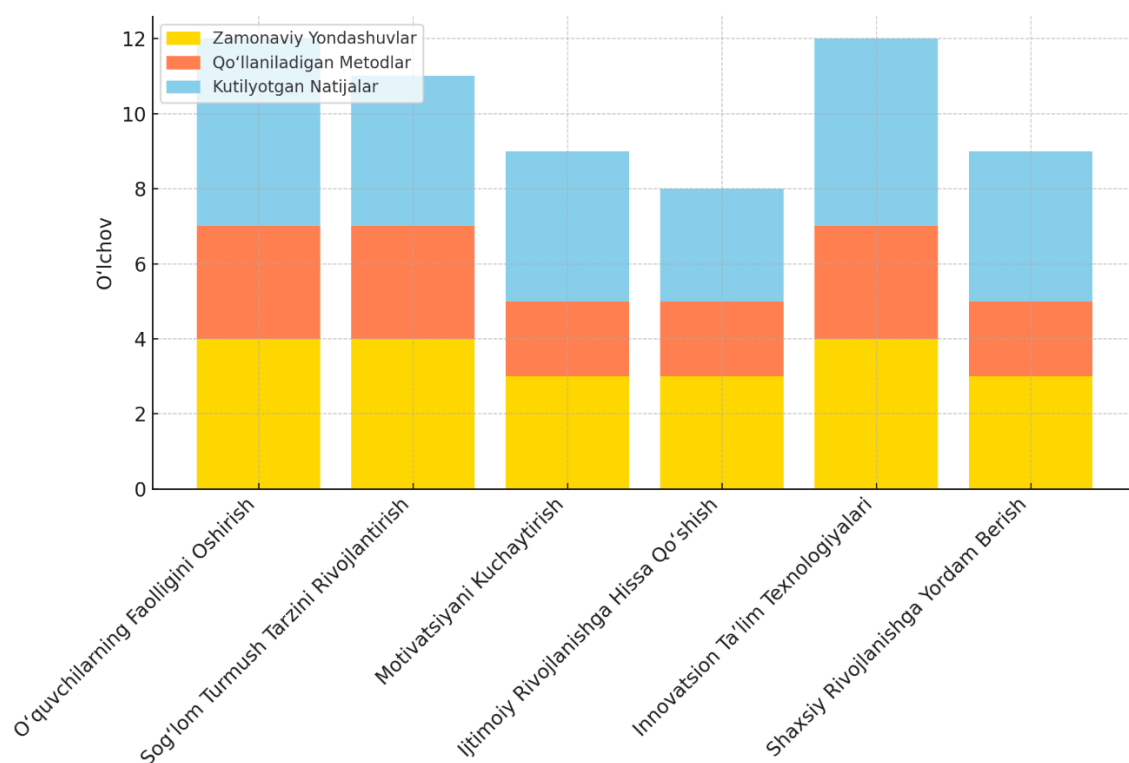
			sh, hamkorlikni rivojlantirish	yetarli emasligi	infratuzilma yaratish
Innovatsion Ta'lim Texnologiyalari	Raqamli o'qitish va virtual mashg'ulotlar	Virtual sport dasturlari, raqamli simulyatorlar	Raqamli ko'nikmalarni rivojlantirish, yangi metodlarni o'zlashtirish	Yuqori texnologiyali jihozlarning qimmatligi	Davlat tomonidan qo'llab- quvvatlash va texnologiyalarga kirish imkoniyatini kengaytirish
Shaxsiy Rivojlanishga Yordam Berish	Shaxsiylashtirilgan yondashuvlar	Har bir o'quvchining individual imkoniyatlari ga mos mashg'ulotlar	Individual qobiliyatlar ni rivojlantirish, shaxsiy natijalarni oshirish	O'quvchilar bilan individual ishlashda vaqt va imkoniyat cheklovlari	Qo'shimcha vaqt va resurs ajratish, shaxsiy dasturlar tayyorlash

Natijalar shuni ko'rsatdiki, jismoniy tarbiya darslarini zamonaviy yondashuvlar asosida qayta loyihalash orqali o'quvchilarning faolligi va motivatsiyasi sezilarli darajada oshgan. Shaxsiylashtirilgan va interaktiv yondashuvlar yordamida o'quvchilar nafaqat jismoniy sog'liqni yaxshilash, balki sog'lom turmush tarzini shakllantirish va ijtimoiy ko'nikmalarini rivojlantirish imkoniyatiga ega bo'lmoqda. Bu natijalar tadqiqotning dolzarbligini tasdiqlaydi va kelgusidagi tadqiqotlarda yangi texnologiyalar va uslublarni yanada chuqurroq o'rganish uchun yo'l ochadi.

Muhokama

Tadqiqot natijalari jismoniy tarbiya darslarini zamonaviy yondashuvlar asosida qayta loyihalashning o'quvchilarga ta'sirini aniq ko'rsatib berdi. Ushbu natijalar zamonaviy ta'limda innovatsion metodlarni qo'llashning zarurligini tasdiqlaydi va bir qancha muhim jihatlarni o'rganishga imkon yaratadi. Muhokama qismi ushbu tadqiqot natijalarini boshqa ilmiy tadqiqotlar bilan solishtirib, ularning ahamiyatini, cheklovlarini va kelgusidagi tadqiqotlar uchun imkoniyatlarni ko'rsatishga qaratilgan.

1-Diagramma: Jismoniy tarbiya darslarini zamonaviy yondashuvlar asosida qayta loyihalash



1. Zamonaviy Yondashuvlarning Afzalliklari Tadqiqotda qo'llangan zamonaviy yondashuvlar, jumladan interaktiv metodlar va raqamli texnologiyalar o'quvchilarning jismoniy faolligini oshirishda yuqori samaradorlikka ega ekanligi ko'rsatildi. Bu yondashuvlar o'quvchilarning darslarga qiziqishini orttirish, sog'lom turmush tarzini shakllantirish va o'z-o'zini rivojlantirishga undashda muhim rol o'ynadi. Ushbu natijalar boshqa tadqiqotlar bilan ham mos keladi, chunki Yevropa va AQShda o'tkazilgan tadqiqotlar ham innovatsion yondashuvlarning samaradorligini tasdiqlagan. Bu jihat zamonaviy metodlarni kengroq ta'lim tizimiga kiritish uchun asos bo'lishi mumkin.

2. Shaxsiylashtirilgan Yondashuvning O'rni Tadqiqot shaxsiylashtirilgan yondashuvlarning jismoniy tarbiya darslarida o'quvchilarning individual imkoniyatlarini rivojlantirish va motivatsiyani oshirishda muhim ahamiyatga ega ekanligini ko'rsatdi. Shaxsiylashtirilgan darslar orqali o'quvchilarning o'ziga bo'lgan ishonchi ortib, ular o'z qobiliyatlariga mos darajada jismoniy faollikni rivojlantirish imkoniyatiga ega bo'lishdi. Biroq, bu yondashuvni amalga oshirish murakkab bo'lib, o'qituvchilardan maxsus malaka va vaqt talab etadi. Bu esa maktab tizimiga qo'shimcha yuk yuklashi mumkinligini ko'rsatadi va kelgusida bu masalani hal qilish uchun qo'shimcha tadbirlar zarurligini bildiradi.

3. Ijtimoiy Rivojlanishga Ta'siri Guruhli faoliyatlar va interaktiv mashg'ulotlar o'quvchilarning ijtimoiy ko'nikmalarini rivojlantirishga ijobiy ta'sir ko'rsatdi. Jamoaviy mashg'ulotlar orqali o'quvchilar bir-birlari bilan o'zaro muloqotda

bo'lish, yordam berish va birgalikda ishlash ko'nikmalarini rivojlantirdi. Bu esa ularning kelajakdagi shaxsiy va kasbiy hayotlari uchun muhim poydevor hisoblanadi. Shuningdek, ijtimoiy rivojlanishga bo'lgan ta'sir boshqa mamlakatlarda amalga oshirilgan tadqiqotlarda ham qayd etilgan bo'lib, bu jihat jismoniy tarbiya darslarining nafaqat jismoniy, balki ijtimoiy tarbiyadagi o'rnini ham ko'rsatib beradi.

4. Cheklovlar va Amaliyotda Qo'llashdagi Qiyinchiliklar Tadqiqotda ko'rsatilganidek, zamonaviy texnologiyalar va shaxsiylashtirilgan yondashuvlar jismoniy tarbiya darslarining samaradorligini oshirsa-da, ushbu yondashuvlarni amaliyotda qo'llash qiyinchiliklarga duch keladi. Maktablar uchun yetarli moddiy-texnik bazani ta'minlash va o'qituvchilarni yangi metodlarga tayyorlash talab etiladi. Shuningdek, maktablarning barcha darslarni raqamli texnologiyalar bilan ta'minlashi yoki individual mashg'ulotlar uchun zarur sharoit yaratishi ko'p hollarda amaliy jihatdan qiyinchilik tug'diradi. Bu esa o'quv jarayonini takomillashtirishda qo'shimcha resurs va qo'llab-quvvatlash zarurligini bildiradi.

5. Kelgusidagi Tadqiqotlar uchun Yo'nalishlar Ushbu tadqiqot natijalari kelgusida yanada chuqurroq o'rganishni talab qiluvchi bir qator muammolarni aniqladi. Jumladan, texnologiyalarning o'quv jarayoniga ta'siri va turli yosh guruhlari uchun individual yondashuvlarning samaradorligi bo'yicha qo'shimcha tadqiqotlar talab etiladi. Shuningdek, yangi metodlarni maktablarda joriy etish uchun zarur infratuzilma va qo'llab-quvvatlashni rivojlantirish masalalarini o'rganish muhimdir.

Xulosa

Ushbu tadqiqot jismoniy tarbiya darslarini zamonaviy yondashuvlar asosida qayta loyihalash orqali o'quvchilarning jismoniy faolligi, sog'lom turmush tarziga intilishi va ijtimoiy rivojlanishiga sezilarli ta'sir ko'rsatishi mumkinligini tasdiqladi. Tadqiqot natijalari shuni ko'rsatdiki, interaktiv usullar va raqamli texnologiyalardan foydalanish o'quvchilarning darslarga bo'lgan qiziqishini va motivatsiyasini kuchaytiradi, ularni muntazam jismoniy faoliyatga jalb qiladi hamda sog'lom odatlarni shakllantirishga yordam beradi. Shaxsiylashtirilgan yondashuvlar esa o'quvchilarning individual qobiliyatlariga mos ravishda rivojlanish imkonini taqdim etib, ularning o'ziga bo'lgan ishonchini oshiradi. Tadqiqot, shuningdek, maktablarda jismoniy tarbiya darslarining samaradorligini oshirish uchun innovatsion texnologiyalarni joriy etish va o'qituvchilarning malakasini oshirish zarurligini ko'rsatdi. Biroq, bu yondashuvlarni amaliyotga tatbiq etishda moddiy-texnik baza, resurslar va infratuzilmani rivojlantirish bo'yicha qo'shimcha tadbirlar talab etiladi. Ushbu tadqiqot zamonaviy yondashuvlarning amaliy samaradorligini tasdiqlab, maktablarda jismoniy tarbiyani yangi bosqichga olib chiqish uchun amaliy tavsiyalar ishlab chiqishga xizmat qiladi. Shu bilan birga, kelgusidagi tadqiqotlar zamonaviy metodlarni yanada chuqurroq o'rganib, jismoniy tarbiyada innovatsion yondashuvlarning o'quvchilarning har tomonlama rivojlanishiga ta'sirini chuqurroq anglash imkoniyatini yaratadi.

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O'ZBEKISTONDA KECHAYOTGAN DEMOGRAFIK JARAYONLARNING O'ZIGA XOSLIGI

Annotatsiya. Mazkur maqolada demografik jarayonlar mohiyati nazariy jihatdan atroflicha yoritilgan. Shuningdek, demografik jarayonlarning ijtimoiy-iqtisodiy holatga ta'siri o'rganilgan. O'z navbatida O'zbekistonda kechayotgan demografik jarayonlar statistik ma'lumotlar asosida tahlil qilingan va mualliflarning xulosalari berilgan.

Kalit so'zlar. Demografiya, demografik jarayonlar, demografik siyosat, aholi, tug'ilish, o'lim, global muammo, prognoz.

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FEATURES OF DEMOGRAPHIC PROCESSES OCCURRING IN UZBEKISTAN

Abstract. This article theoretically reveals the essence of demographic processes. The influence of demographic processes on the socio-economic state was also studied. On the other hand, based on statistical data, demographic processes occurring in Uzbekistan were analyzed and the authors' conclusions were made.

Key words. Demography, demographic processes, demographic policy, population, birth rate, mortality, global problem, forecast.

Aholi va u bilan bog'liq muammolar har qanday jamiyatning, davlatning kun tartibidagi dolzarb masalalaridan hisoblanadi. Buning asosi demografik jarayonlarga bog'liq. Demografik jarayonlar aholi soni va tarkibini o'zgarishida asosiy omil bo'lib xizmat qiladi. Bugungi globallashuv davrida davlatlar iqtisodiy-ijtimoiy rivojlanishida inson omiliga, uning takror barpo bo'lishiga katta ahamiyat berilmoqda. Bizga ma'lumki, **demografiya** (qadimgi yunoncha: *δημος*-demos-xalq va *γραφω*-grafiya)-har yili turli sabablarga ko'ra vafot etgan aholi o'rnini yangitdan

dunyoga kelgan avlod hisobiga to'ldirib borilishi qonuniyatlarini ijtimoiy-tarixiy sharoitlarga bogliq holda o'rganadigan fan.

Bugungi kunda ham, demografiyaning maqsadi muayyan hudud, mamlakat, dunyo aholisi va millatning takror barpo bo'lishi jarayoni va omillarini o'rganish, muammolarni belgilab, yechimlarni aniqlash va istiqbolini ko'rsatib berishdan iborat. Mazkur holat davlat miqyosida yuritiladigan demografik siyosat asosida boshqariladi va tashkil etiladi. Demografik siyosat ijtimoiy-iqtisodiy siyosatning ilmiy asosini tashkil etmogi lozim. Shundagina jamiyat har tomonlama muntazam rivojlanib boradi.

Aholi muayyan ijtimoiy hayot tarziga bo'ysunishi tufayli, demografik jarayonlar ham muayyan ishlab chiqarish usuli va ishlab chiqarish munosabatiga bog'liq bo'ladi. Ushbu doirada qaraydigan bo'lak, aholi murakkab ijtimoiy va tabiiy rivojlanish mahsuli bo'lib, turli omillar zaminida ko'payadi. Demografik jarayonlarni o'rganishda juda ko'p ma'lumotlardan foydalaniladi. Ko'pchilik davlatlarda demografik ma'lumotlar statistika tashkilotlari tomonidan to'plab boriladi. Ular aholi soni, tarkibi va demografik jarayonlarni aks ettirib, o'z ichiga ushbu masalalarga oid jadval va diagrammali ma'lumotlar, ilmiy manbalar, sotsiologik-demografik tadqiqotlar natijalarini oladi [1].

Yuqoridagi nazariy asos va tahliliy ma'lumotlar asosida qaraydigan bo'lsak, o'zgacha geografik o'rin, hududiy birlikga ega bo'lgan O'zbekistonda, bugungi kunda o'ziga xos demografik jarayonlar kechmoqda. 2024-yil 1-yanvar holatiga doimiy aholi soni 36799800 kishini tashkil etgan. Absolyut ko'rsatkichlarda-tug'ilganlar-961 962 nafarni, vafot etganlar-172 772 nafarni, tabiiy o'sish-789 190 nafarni tashkil qilgan.

Nisbiy ko'rsatkichlarda, tug'ilish koeffitsiyenti-26,4 % (o'tgan yilning mos davriga nisbatan 0,2 % ga oshgan), vafot etish koeffitsiyenti-4,7 % (o'tgan yilning mos davriga nisbatan 0,1 % ga kamaygan), tabiiy o'sish koeffitsiyenti-21,7 % (o'tgan yilning mos davriga nisbatan 0,3 % ga oshgan).

2024 yilda tirik tug'ilganlar soni 962,0 ming kishini tashkil etdi, shundan o'g'il bolalar soni 498,3 ming kishini, qiz bolalar soni 463,7 ming kishini, tirik tug'ilganlar soni shahar joylarida 480,2 ming kishini, qishloq joylarida 481,8 ming kishini tashkil etdi. Tug'ilishlarni chaqaloqlar soni bo'yicha tahlil etilganda quyidagi ulushga ega bo'lganligi kuzatildi: 1 nafar tug'ilganlar 97,8 % ni, 2 nafar tug'ilganlar 2,1 % ni, 3 nafar va undan ortiq tug'ilganlar 0,1 % ni tashkil etdi.

Tug'ilgan chaqaloqlar otasining yoshi bo'yicha 12,8 % chaqaloqlar otasining yoshi 25 yoshgacha, 80,3 % ining otasi 25-39 yoshlarga hamda 6,9 % chaqaloqlarning otasi 40 yosh va undan katta yoshdagilar hissasiga to'g'ri kelgan. Shuningdek, tug'ilgan chaqaloqlar onasining yoshi bo'yicha 38,1 % chaqaloqlar onasining yoshi 25 yoshgacha, 60,8 % ining onasi 25-39 yoshlarga hamda 1,1 % chaqaloqlarning onasi 40 yosh va undan katta yoshdagilardan iborat bo'lgan.

Hududlar bo'yicha tug'ilish koeffitsiyenti eng yuqori Surxondaryo viloyatida 30,9 promille, Qashqadaryo viloyatida 28,9 promille, Namangan viloyatida 27,9 promille, eng kam ko'rsatkich Qoraqalpog'iston Respublikasida 22,1 promille,

Buxoro viloyatida 23,0 promille va Toshkent viloyatida 24,2 promilleni tashkil etgan.

Vafot etganlar soni 172,8 ming kishini tashkil etdi, shundan erkaklar soni 95,0 ming kishini, ayollar soni 77,8 ming kishi, vafot etganlar soni shahar joylarida 93,6 ming kishini, qishloq joylarida 79,2 ming kishini tashkil etdi. O'lim holatining 61,1 foizi-qon aylanish tizimi kasalliklaridan, 10,8 foizi-o'simtalardan, 5,5 foizi-nafas olish a'zolari kasalliklaridan, 4,8 foizi-baxtsiz hodisa, zaharlanish va jarohatlanishlardan, 4,1 foizi-ovqat hazm qilish a'zolari kasalliklaridan, 1,3 foizi-yuqumli va parazitar kasalliklardan, 12,4 foizi-boshqa kasalliklardan vafot etganlar.

Vafot etish koeffitsiyenti eng yuqori Toshkent shahrida 5,2 promille, Qoraqalpog'iston Respublikasida, Toshkent viloyatida va Sirdaryo viloyatida 5,1 promille, eng kam ko'rsatkich Navoiy viloyatida va Buxoro viloyatida 4,3 promilleni tashkil etgan.

Hududlar bo'yicha nikoh koeffitsiyenti eng yuqori Qashqadaryo, Surxondaryo viloyatida 8,8 promille, Xorazm viloyatida 8,3 promille, eng past ko'rsatkich Qoraqalpog'iston Respublikasi 6,8 promille, Toshkent viloyatida 7,0 promilleni tashkil etgan. Nikohdan ajralish koeffitsiyenti eng yuqorisi Toshkent shahrida 2,1 promille, Sirdaryo viloyatida 1,7 promille, Andijon va Toshkent viloyatida 1,6 promille, eng kam ko'rsatkich Qoraqalpog'iston Respublikasida Qashqadaryo viloyatlarida 1,0 promilleni tashkil etgan.

Jumladan, xorijdan ko'chib kelganlar-2 955 kishi, xorijga ko'chib ketganlar-17 336 kishi, migratsiya saldosi-14 381 kishini tashkil etgan. Qayd etilgan nikohlar soni-283 808 ta, nikohdan ajralishlar soni-49 198 tani, ya'ni ming aholiga nisbatan nikohlar-7,8 ‰, nikohdan ajralishlar-1,4 ‰ tashkil etgan.

Yuqoridagi ma'lumotlar asosida qaraydigan bo'lsak, 36 799,8 ming kishidan, erkaklar soni 18 525,0 ming kishini (50,3%), ayollar soni 18 274,8 ming kishini (49,7%), shahar aholisi soni 18 768,5 ming kishini (51,0%), qishloq aholisi soni 18 031,3 ming kishini (49,0%) tashkil etgan. Mehnatga layoqatli yoshdagi aholi qatlami-yillar mobaynida o'ziga xos o'zgarib kelmoqda, 2016 yil-19 257,0 kishini, 2020 yil-19 951,6 kishini, 2024 yil-20 710,9 kishini tashkil etgan.

O'zbekiston Respublikasida 2024-yil 1-yanvar holatiga 1 kvadrat kilometrda o'rtacha zichlik 82,0 kishi to'g'ri kelgan. Bu esa 2023 yilga nisbatan solishtirilganda 1,8 kishiga ortgan. Hududlar bo'yicha qaraydigan bo'lsak, aholi zichligining eng yuqori ko'rsatkichi Toshkent shahrida 6787,5 kishi, Andijon viloyatida 789,4 kishi, Farg'ona viloyatida 600,8 kishini tashkil etgan bo'lsa, eng past ko'rsatkichlar Navoiy viloyati 9,7 kishi, Qoraqalpog'iston Respublikasida 12,0 kishini tashkil etgan [2].

Prognozlashtirish va makroiqtisodiy tadqiqotlar instituti tahlillariga ko'ra 2035 yilga borib O'zbekiston aholisi 45,6 mln kishidan oshishi kutilmoqda. Bu demografik sig'im, qaysidir ma'noda o'ziga xos ijtimoiy-iqtisodiy muammolarni keltirib chiqaradi. Maktablarda qo'shimcha 8,2 million o'quvchi o'rnini yaratish zarur. Shuningdek, ushbu davrgacha aholining elektr energiyasiga bo'lgan talabi har yili 5-5,3 foizga oshishi mumkin. Ilmiy tadqiqotimizning tahliliy ma'lumotlari va soha mutaxassislari ma'lumotlariga ko'ra imkon qadar tezroq yadro, vodorod

va boshqa muqobil "yashil" texnologiyalardan foydalanishga o'tishni tavsiya qilmoqda.

Ushbu yilgacha har yili o'rta hisobda 900-950 ming go'dak dunyoga keladi. 3-6 yosh oralig'idagi bolalarni maktabgacha ta'lim muassasalari bilan qamrab olish darajasi 90 foizga etishi kutilyapti va buning uchun maktabgacha ta'lim muassasalarida 1 mln 264 ming nafar bola uchun yangi o'rinlar tashkil etish zarur. Prognozlarga ko'ra, 2035 yilga borib, 7-17 yosh oralig'idagi bolalar soni 9 mln 737,4 ming nafarni tashkil etadi. Bu esa yuqorida aytib o'tkanimizdek, maktablarda qo'shimcha 8,2 million o'quvchi o'rnini yaratishni talab qiladi. 2035 yilga borib, ambulator-poliklinikalar sonini 8450 birlikka (2022 yil boshida 6676 ta) etkazish zarur.

Shuningdek, 2035 yilgacha bo'lgan davrda aholining elektr energiyasiga bo'lgan talabi har yili 5-5,3 foizga oshishi hisobga olinsa, aholi va umuman iqtisodiyotning o'sib borayotgan talabini qondirish uchun 2030 yilgacha energiya quvvatini mavjud darajaga nisbatan kamida 1,7 barobar oshirish talab qilinadi. Talabning taxminan 8-10 foizini tashkil etadigan mavjud taqchillik to'ldirilishi bilan o'sib borayotgan aholining elektr energiyasiga bo'lgan talabi 2035 yilgacha bo'lgan davrda taxminan 6,2-6,5 foizga o'sadi.

O'zbekistonda oxirgi 5 yilda tug'ilishning keskin o'sishi kuzatilgan. **Bunga** sabablar sifatida aholi daromadlarining oshishi, ko'p farzandlilik tendensiyasiga ijobiy qarashlarning shakllanishi va tibbiy madaniyatning etarli darajada emasligini ko'rsatish mumkin.

Dunyoda global muammoga aylanib borayotgan aholining keksayish jarayoni tobora ko'proq mamlakatlarni qamrab olayotgan bir paytda O'zbekistonning demografik holatida keskin yosharish jarayoni kuzatilmoqda. Qayd etilishicha, oxirgi besh yilda tug'ilishning keskin ortishi mamlakat demografik dividend bo'sag'asida turganligidan darak beradi.

Mazkur holatda, demografik dividend va demografik soliq tushunchalari hayotimizda uchraydi. Demografik dividend-bu mamlakatda mehnatga layoqatli aholining ulushi bolalar va qariyalar ulushidan oshib ketganda va tug'ilishning pasayishi natijasida yuzaga keladigan iqtisodiy o'sish salohiyati. Demografik soliq-mehnatga layoqatli yoshdagi aholi sonining qisqarishi bilan birgalikda keksalar sonining o'sishi davridir.

Prognozlarga asosan, jahonda soliq davrining boshlanishi 2045 yilga (35 bola) to'g'ri keladi. Ba'zi mintaqalarda esa u boshlanib bo'lgan. Masalan, Yevropa mamlakatlarida 1995 yilda (31 bola), Shimoliy Amerikada 2015 yilda (32 bola), Rossiyada 2000 yilda (29 bola) boshlangan. Osiyo (32 bola) va Lotin Amerikasida 2040 yildan (33 bola) boshlanishi kutilmoqda. Prognozlarga shuni ko'rsatadiki, 2030 yilgacha O'zbekistonda demografik soliq davrining boshlanish xavfi yo'q. Hisob-kitoblarga asosan O'zbekistonda demografik bosim 2000 yillarda 92,2 kishini tashkil qilgan (bolalar bosimi-78,1, keksalarniki-14,2). Bosim 2013 yilga kelib eng quyi ko'rsatkich, ya'ni-62,0 ga pasaydi va 2022 yilga kelib 75,8 kishiga ko'tarildi. 2030 yilga borib, respublikada bosimning mo'tadil o'sishi (84,2 kishi) kutilmoqda

(bolalar bosimi-59,7, keksalarniki-24,4). Demografik dividenddan samarali foydalanish inson kapitalini rivojlantirishga sarmoya kiritishni talab etadi [3].

Jahon Sog'liqni Saqlash Tashkiloti ma'lumotlariga ko'ra, dunyoda har 10 000 kishiga taxminan 16 nafar shifokor va 38 nafar hamshira (shu jumladan, ko'pchilik mamlakatlardagi doylar) to'g'ri keladi. Masalan, Yevropa mintaqasi mamlakatlarida har 10 ming kishiga o'rtacha 34 nafar shifokor to'g'ri keladi, Amerikada-24, G'arbiy Tinch okeani mintaqasida-19, Sharqiy O'rtaer dengizida-10, Janubi-Sharqiy Osiyoda-8, **O'zbekistonda bu ko'rsatkich 27 nafarni tashkil etadi.**

Agar Yevropa va Amerika mamlakatlarida har 10 000 kishiga 80 nafardan ortiq (81 va 83) hamshira to'g'ri kelsa, **O'zbekistonda 10 000 kishiga 107 nafar hamshira to'g'ri keladi.** O'zbekistonda shifokor va hamshiralar soni rivojlangan davlatlardagidan farq qilmaydi. Hududlar bo'yicha hamshiralar soni bo'yicha eng past ko'rsatkichlar Surxondaryo (15,0 nafar), Jizzax (16 nafar) va Qashqadaryo (18 nafar) viloyatlarida kuzatilmoqda.

Prognozlarga ko'ra, aholining yillik o'rtacha o'sishi 720 ming kishini tashkil etadi. Bu o'sish sur'atida ham shifokorlar va hamshiralar zimmasiga tushadigan yuk katta bo'lmaydi. Prognozlarga ko'ra, 2030 yilga borib, 10 ming kishining shifokorlar bilan ta'minlanish darjasi 29,4 nafarni, tibbiyot xodimlari bilan ta'minlanish darajasi 117,8 nafarni tashkil etadi. Jumladan, oliy o'quv yurtlari har yili 4 ming nafardan ortiq kishini mehnat bozoriga chiqarayotgan bo'lsa, kollejlarda 55 mingdan ortiq tibbiyot xodimini tayyorlayapti. Har yili o'rtacha 40 mingga yaqin xodim mehnat faoliyatini to'xtatadi va 60 ming nafardan ortig'i ishga olinadi [4].

Sog'liqni saqlash sohasida band bo'lganlar sonining real o'sishi 20 ming kishidan ortiqni tashkil etadi. Oliy ta'limni qamrab olishni oshirish, kvotalarni kengaytirish bo'yicha ko'rilayotgan chora-tadbirlar oliy ma'lumotli shifokorlar sonining ko'payishini ta'minlaydi. Bu esa o'z navbatida aholining shifokorlar va tibbiyot xodimlari bilan ta'minlanish darajasini oshiradi.

Aholi sonining oshishi birinchi navbatda sog'liqni saqlash va ta'lim tizimiga bosim o'tkazadi. 2030 yilga borib, 3–6 yosh oralig'idagi barcha bolalarni maktabgacha ta'lim bilan qamrab olish natijasida 28 000 ta ish o'rni tashkil etish mumkin. 2026 yilda 7–17 yosh oralig'idagi bolalar soni 7 mln 642 ming 700 nafarni, 2030 yilda esa 8 mln 660 ming 800 nafarni tashkil etadi. 2030 yilgacha o'rta ta'lim bitiruvchilarining oliy ta'lim bilan qamrovini 50% ga etkazish uchun jami qo'shimcha 646,8 ming talabani o'qitish zarur. 2030 yilda o'rta ta'lim bitiruvchilarni 50% oliy ta'lim bilan qamrab olish uchun OTM larning hozirgi quvvatini 8 yil ichida 1,5–1,8 marta oshirish zarur [5.6.].

Xulosa o'rnida aytish lozimki, demografik yukning ortib borishini hisobga olgan holda energetika tizimlarini boshqarish va rivojlantirish borasida mutlaqo yangi yondashuvlarni ishlab chiqish talab etiladi. Bunda real vaziyat hamda imkoniyatdan kelib chiqib, Markaziy Osiyo mintaqasida joylashgan mamlakatlarning energetika sohasidagi integratsion salohiyatini jalb qilish muhim ahamiyatga ega. Milliy energetika tizimini imkon qadar tezroq yadro, vodorod va boshqa muqobil "yashil" texnologiyalardan foydalanishga asoslangan yangi

texnologik platforma parametrlariga integratsiyalashning kuchaytirish lozim. Uzoq muddatli istiqbolda aholini resurslar bilan barqaror ta'minlashning omili sifatida energetika, suv va yer resurslaridan foydalanish samaradorligini oshirishga qaratilgan islohotlarni muvofiqlashtirgan holda, bosqichma-bosqich o'tkazish tavsiya etiladi.

Bu esa qaysidir ma'noda yuqorida aytilganidek, demografik jarayonlarni uzluksiz nazorat qilishni dolzarb qilib qo'yadi. Zero demografik jarayonlar har bir davlat uchun ijtimoiy-iqtisodiy masalalardan biri sifatida qaralishi lozim.

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GEOGRAFIYA FANINI OʻQITISHDA INNOVATSION GʻOYALAR VA TEXNOLOGIYALARNI AHAMIYATI

Annotatsiya: *Geografiya fani, tabiiy va ijtimoiy jarayonlarni oʻrganish, inson va atrof-muhit oʻrtasidagi munosabatlarni tushunish uchun muhim ahamiyatga ega. Ushbu fanni oʻqitishda innovatsion gʻoyalar va texnologiyalarni qoʻllash, taʼlim jarayonini yanada samarali va qiziqarli qilishga yordam beradi. Innovatsion yondashuvlar, oʻquvchilarning geografik bilimlarini kengaytirish, tanqidiy fikrlash qobiliyatini rivojlantirish va amaliy koʻnikmalarni shakllantirishda muhim rol oʻynaydi. Ushbu maqolada geografiya fanini oʻqitishda innovatsion gʻoyalar va texnologiyalarni ahamiyati haqida maʼlumotlar berilgan.*

Kalit soʻzlar: *geografiya, innovatsion yondashuvlar, zamonaviy texnologiyalar, 3D modellashtirish, zamonaviy vositalar, loyihalar.*

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THE IMPORTANCE OF INNOVATIVE IDEAS AND TECHNOLOGIES IN TEACHING GEOGRAPHY

Abstract: *The science of geography is important for the study of natural and social processes, for understanding the relationship between man and the environment. The use of innovative ideas and technologies in teaching this subject helps to make the educational process more effective and interesting. Innovative approaches play an important role in expanding students' geographical knowledge,*

developing critical thinking skills, and forming practical skills. This article provides information about the importance of innovative ideas and technologies in teaching geography.

Keywords: *geography, innovative approaches, modern technologies, 3D modeling, modern tools, projects.*

Geografiya fani, insoniyatning atrof-muhit bilan o‘zaro aloqalarini o‘rganish, tabiiy va ijtimoiy jarayonlarni tushunish, shuningdek, yer yuzasidagi joylashuvlarni aniqlash uchun muhim ahamiyatga ega. Geografiya, o‘z ichiga ko‘plab sohalarni oladi, jumladan, tabiiy geografiya, ijtimoiy geografiya, iqtisodiy geografiya va siyosiy geografiya. Ushbu sohalar, insoniyat va atrof-muhit o‘rtasidagi murakkab munosabatlarni o‘rganish uchun zaruriy bilimlarni taqdim etadi. Tabiiy geografiya, yer yuzasining tabiiy jarayonlari, landshaftlari, iqlimi, suv resurslari va boshqa tabiiy elementlarni o‘rganadi. Bu soha, geografik joylashuvning tabiiy sharoitlar bilan qanday bog‘liqligini tushunishga yordam beradi. Misol uchun, iqlimning o‘zgarishi, tabiiy ofatlar, yer osti boyliklari va boshqa tabiiy resurslar inson hayotiga qanday ta’sir ko‘rsatishini o‘rganadi. Tabiiy geografiya, shuningdek, ekologik muammolarni, masalan, iqlim o‘zgarishini va atrof-muhitning ifloslanishini ham o‘z ichiga oladi. Ijtimoiy geografiya esa, insonlarning ijtimoiy tuzilmalari, madaniyatlari, iqtisodiy faoliyatlari va boshqa ijtimoiy jarayonlarini o‘rganadi. Bu soha, insoniyatning turli madaniyatlari va ularning o‘zaro aloqalarini tushunishga yordam beradi. Ijtimoiy geografiya, shuningdek, urbanizatsiya, migratsiya va demografik o‘zgarishlar kabi jarayonlarni ham o‘rganadi. Ushbu jarayonlar, insoniyatning ijtimoiy va iqtisodiy rivojlanishiga ta’sir ko‘rsatadi. Geografiya, shuningdek, iqtisodiy geografiya va siyosiy geografiya kabi sohalarni ham o‘z ichiga oladi. Iqtisodiy geografiya, iqtisodiy faoliyatlar va resurslar taqsimoti, savdo va iqtisodiy aloqalar kabi masalalarni o‘rganadi. Bu soha, iqtisodiy rivojlanish va resurslardan foydalanishning geografik aspektlarini tushunishga yordam beradi. Siyosiy geografiya esa, davlatlar, hududlar va xalqaro munosabatlar o‘rtasidagi aloqalarni o‘rganadi. Bu soha, siyosiy kuchlar va ularning geografik joylashuvi o‘rtasidagi bog‘lanishni tushunishga yordam beradi. Geografiya fanini o‘qitishda innovatsion g‘oyalar va texnologiyalarni qo‘llash, birinchi navbatda, o‘quvchilarning qiziqishini oshirishga yordam beradi. An’anaviy ta’lim uslublari ko‘pincha o‘quvchilarning diqqatini jalb qilmaydi, bu esa ularning o‘qishga bo‘lgan motivatsiyasini pasaytiradi. Innovatsion texnologiyalar, masalan, interaktiv taqdimotlar, virtual reallik, 3D modellashtirish va boshqa zamonaviy vositalar yordamida geografiya fanini o‘rganish jarayoni yanada qiziqarli va samarali bo‘ladi. O‘quvchilar, geografik ma’lumotlarni vizual ravishda ko‘rish va o‘rganish imkoniyatiga ega bo‘lishadi, bu esa ularning tushunish qobiliyatini oshiradi. Shuningdek, innovatsion g‘oyalar va texnologiyalar, o‘quvchilarga geografik jarayonlarni amaliyotda ko‘rish imkonini beradi. Masalan, GIS (Geografik Axborot Tizimi) texnologiyalarini qo‘llash orqali o‘quvchilar, ma’lumotlarni yig‘ish, tahlil qilish va vizualizatsiya qilish ko‘nikmalarini rivojlantiradilar. Bu, o‘quvchilarga real hayotdagi muammolarni hal qilishda yordam beradi va ularni amaliy tadqiqotlar

olib borishga undaydi. Innovatsion texnologiyalar yordamida o'quvchilar, geografik jarayonlarni o'z ko'zlari bilan ko'rib, ularni tushunish imkoniyatiga ega bo'ladilar.[1]

Geografiya fanini o'qitishda innovatsion g'oyalar va texnologiyalarni qo'llash, shuningdek, o'quvchilarning ijodiy fikrlash qobiliyatini rivojlantirishga ham yordam beradi. O'quvchilar, turli xil loyihalar va tadqiqotlar orqali o'z g'oyalarini amalga oshirish imkoniyatiga ega bo'ladilar. Bu, ularning ijodkorlik qobiliyatini oshiradi va o'qituvchilarni o'quvchilarning individual yondashuvlarini qo'llab-quvvatlashga undaydi. Innovatsion yondashuvlar, o'quvchilarga o'z fikrlarini erkin ifoda etish imkonini beradi va ularning o'z-o'zini anglashiga yordam beradi. Bundan tashqari, geografiya fanini o'qitishda innovatsion texnologiyalarni qo'llash, o'quvchilarning jamoaviy ish ko'nikmalarini rivojlantirishga ham yordam beradi. O'quvchilar, guruhlar shaklida ishlash orqali bir-birlaridan o'rganadilar, fikr almashadilar va o'zaro hamkorlik qilishni o'rganadilar. Bu, ularning ijtimoiy ko'nikmalarini rivojlantiradi va jamoada ishlash qobiliyatini oshiradi. Innovatsion texnologiyalar yordamida o'quvchilar, birgalikda loyihalar yaratish va muammolarni hal qilish jarayonida bir-birlariga yordam berish imkoniyatiga ega bo'ladilar.[2]

Geografiya fanini o'qitishda innovatsion g'oyalar va texnologiyalarni qo'llash, shuningdek, o'quvchilarning global fikrlash qobiliyatini rivojlantirishga ham yordam beradi. O'quvchilar, turli mamlakatlar va madaniyatlar haqida ma'lumot olish orqali global muammolarni tushunish imkoniyatiga ega bo'ladilar.

Xulosa:

Xulosa qilib aytganda, geografiya fanini o'qitishda innovatsion g'oyalar va texnologiyalarni qo'llash, ta'lim jarayonini yanada samarali va qiziqarli qilishga yordam beradi. O'quvchilar, geografik bilimlarini kengaytirish, tanqidiy fikrlash qobiliyatini rivojlantirish va amaliy ko'nikmalarni shakllantirish imkoniyatiga ega bo'ladilar. Innovatsion texnologiyalar, o'quvchilarning ijodiy fikrlash, jamoaviy ish, global fikrlash va o'z-o'zini o'rganish qobiliyatlarini rivojlantirishda muhim rol o'ynaydi. Shu sababli, geografiya fanini o'qitishda innovatsion g'oyalar va texnologiyalarni qo'llash, zamonaviy ta'lim tizimining ajralmas qismi bo'lib qolmoqda.

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TA'LIM JARAYONIDA IMKONIYATI CHEKLANGAN O'QUVCHILAR BILAN ISHLASHDA ZAMONAVIY YONDASHUV

Annotatsiya: Ushbu maqolada imkoniyati cheklangan o'quvchilar bilan ishlash —zamonaviy ta'lim tizimining dolzarb yo'nalishlaridan biridir. Bunday o'quvchilar jismoniy yoki psixologik cheklovlarga ega bo'lishlariga qaramay, sifatli ta'lim olish huquqiga egadirlar. Ta'lim jarayonini to'g'ri tashkil qilish nafaqat o'quvchilarning intellektual va ijtimoiy rivojlanishiga, balki ularning jamiyatga muvaffaqiyatli integratsiyasiga ham xizmat qiladi. Ushbu maqolada imkoniyati cheklangan o'quvchilar bilan ishlashda qo'llaniladigan zamonaviy yondashuvlar ko'rib chiqiladi.

Kalit so'zlar: Psixolog, logoped, visual materiallar, Braille alifbosi.

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A MODERN APPROACH TO WORKING WITH STUDENTS WITH DISABLED IN THE EDUCATIONAL PROCESS

Annotation: In this article, working with students with disabilities is one of the current directions of the modern education system. Such students, despite having physical or psychological limitations, have the right to quality education. Proper organization of the educational process serves not only the intellectual and social development of students, but also their successful integration into society. This article examines modern approaches used in working with students with disabilities.

Key words: Psychologist, speech therapist, visual materials, Braille alphabet.

Har bir o'quvchining individual imkoniyatlarini hisobga olgan holda, ta'lim jarayonini tashkil qilish bugungi kundagi eng samarali yondashuvlardan biridir. Psixolog, defektolog, logoped va boshqa mutaxassislar jamoaviy ishlagan holda o'quvchilar uchun shaxsiylashtirilgan o'quv dasturlarini ishlab chiqadilar. Bunday dasturlar: O'quvchining rivojlanish darajasiga mos topshiriqlarni tuzish; O'quv mashg'ulotlarini bosqichma-bosqich murakkablashtirish; Mustaqil ta'lim olish ko'nikmalarini shakllantirish kabi omillarni o'z ichiga oladi. Bu yondashuv har bir o'quvchiga ta'lim olishda muvaffaqiyat qozonish imkoniyatini

beradi.[1]Differensial ta'lim yondashuvi o'quvchilarning individual qobiliyatlari va ehtiyojlarini hisobga olib, o'qituvchilarning maxsus metodikalar qo'llashini taqozo qiladi. Differensial o'qitish jarayonida quyidagi usullar qo'llaniladi:

Moslashtirilgan dars materiallari: O'quvchilarga oson tushuniladigan, sodda va vizual materiallar taqdim etiladi.

Amaliy mashg'ulotlar: O'quvchilarni qiziqtiradigan mavzular bo'yicha laboratoriya ishlari va tajribalar o'tkaziladi.

Yordamchi texnologiyalar: Maxsus kompyuter dasturlari va texnik vositalar o'quvchilarning bilish jarayonini osonlashtiradi. Bu yondashuv o'quvchilarni ta'lim jarayoniga faol jalb qilish va ularning o'quv motivatsiyasini oshirishga xizmat qiladi. Ta'lim jarayonini texnologiyalarsiz tasavvur qilish qiyin. [2]

Maxsus ehtiyojli o'quvchilar uchun innovatsion texnologiyalar qulaylik yaratadi: Audiovizual vositalar: Eshitish va ko'rish qobiliyati cheklangan bolalar uchun ovozli dasturlar, video darsliklar qo'llaniladi. Masofaviy ta'lim platformalari: Internet orqali ta'lim olish o'quvchilarning geografik cheklovlarsiz bilim olishiga imkon beradi. Braille printerlari va maxsus klaviaturalar: Ko'rish qobiliyati cheklangan o'quvchilar uchun matnlarni Braille alifbosiga aylantiruvchi uskunalar samarali hisoblanadi.

Istiqbolli Rejalar. Huquqiy va siyosiy asoslar: Davlat ta'lim sohasida tegishli qonunchilik va me'yoriy hujjatlarni qabul qilish orqali inklyuziv ta'limni rivojlantirishni qo'llab-quvvatlamoda.

Infratuzilmani yaxshilash: Maxsus moslashtirilgan binolar, o'quv jihozlari va transport vositalarini joriy qilish dolzarb vazifalardandir.[3]

Kadrlar tayyorlash va malaka oshirish: Maxsus ehtiyojli bolalar bilan ishlash uchun mutaxassislarni tayyorlash va pedagoglarning malakasini oshirish zarur.

Innovatsion yondashuvlar va texnologiyalar: Raqamli platformalar, masofaviy o'qitish tizimlari va maxsus o'quv dasturlarini joriy qilish rejalashtirilmoqda.

Moliyaviy qo'llab-quvvatlash: Davlat va xususiy sektorning hamkorligi orqali loyihalarni moliyalashtirish mexanizmlari yo'lga qo'yiladi. Bunday texnologiyalar o'quvchilar uchun qulay o'quv muhiti yaratadi va ularning bilim olishga bo'lgan ishtiyoqini oshiradi. Inklyuziv ta'lim muhitida imkoniyati cheklangan va sog'lom o'quvchilar bir sinfda birgalikda ta'lim oladilar.

Inklyuziv ta'lim sohasida istiqbolli rejalarini amalga oshirish nafaqat ta'lim sifatini oshiradi, balki ijtimoiy tenglik va barqaror rivojlanishga xizmat qiladi. Kelgusida davlat va jamiyat o'rtasida yanada keng hamkorlik qilish, tegishli qonunchilik asoslarini mustahkamlash va amaliy loyihalarni kengaytirish zarur.[4]

Bunday ta'lim jarayonida o'quvchilar: Yangi ijtimoiy ko'nikmalarni o'zlashtiradilar; O'z tengdoshlari bilan muloqotda bo'ladilar; O'zlarini teng huquqli va jamiyatning faol a'zosi sifatida his qiladilar. Inklyuziv ta'lim o'quvchilarning ijtimoiylashuvini ta'minlab, kelajakda ularga jamiyatda faol rol o'ynash imkonini beradi. Psixologik va ijtimoiy qo'llab-quvvatlash ta'lim jarayonining ajralmas qismidir. Maxsus ehtiyojli o'quvchilarga yordam berish quyidagi faoliyatlarni o'z ichiga oladi: Psixologik maslahatlar: Bolalarning o'ziga bo'lgan ishonchini mustahkamlash. Ijtimoiy adaptatsiya: Ularni jamiyatga moslashishiga yordam

beradigan maxsus dasturlar tashkil etish. Oilaviy hamkorlik: Ota-onalarni o'quv jarayoniga jalb qilish va ularga maslahat berish. Bunday qo'llab-quvvatlash o'quvchilarni psixologik jihatdan barqaror va ijtimoiy faol shaxslarga aylantiradi. Imkoniyati cheklangan o'quvchilar bilan ishllovchi pedagoglar maxsus tayyorgarlikdan o'tishlari lozim. Malakali o'qituvchilar: Zamonaviy texnologiyalar bilan ishlashni; Maxsus metodikalarni qo'llashni; Shaxsiy yondashuvlarni ishlab chiqishni o'rganadilar.

Mutaxassislar uchun doimiy ravishda treninglar, seminarlar va malaka oshirish kurslari tashkil qilinadi. Bu esa ta'lim jarayonining sifatini oshiradi. Imkoniyati cheklangan o'quvchilar bilan ishlashda zamonaviy yondashuvlar ta'lim tizimini rivojlantirishda asosiy omil hisoblanadi. Individual yondashuv, innovatsion texnologiyalar va ijtimoiy qo'llab-quvvatlash orqali o'quvchilarni ijtimoiy hayotga muvaffaqiyatli integratsiya qilish mumkin. Ta'lim tizimini takomillashtirishda davlat, jamiyat va ta'lim muassasalari o'rtasidagi hamkorlik alohida ahamiyatga ega. [5]

Xulosa qilib aytganda pedagogik tajriba shuni ko'rsatadiki, imkoniyati cheklangan bolalar uchun klassik pedagogik repertuar ustida ishlash osonroq va samaraliroq. Pedagog o'z tajribasiga tayangan xolda xar bir bolaning qobiliyati, yoshini inobatga olgan xolda ishlashi uning maxoratini ko'rsatadi. Bugungi kunda mamlakatimizda imkoniyati cheklangan bolalarni o'qitish maktablari talaygina. Davlatimiz tomonidan ko'rsatilayotgan keng qamrovli isloxotlar ularning kelajakda barkamol avlod sifatida shakllanishiga zamin yaratadi.

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ВОПРОС РАЗВИТИЯ ТУРИЗМА В ФЕРГАНСКОЙ ОБЛАСТИ

***Аннотация:** В статье говорится, что развитие туристической отрасли в Узбекистане находится под вниманием государственной политики, что красивая природа, святые места, уникальные памятники архитектуры и благодатные уголки Ферганской области вызывают интерес у иностранных туристов. В результате этого поток их приезда сюда увеличивается с каждым годом, сейчас анализируются вопросы развития сферы медицинского туризма и исторические корни существующих возможностей Ферганской области в этой сфере.*

***Ключевые слова:** Фергана, турист, медицинский туризм, гостиница, минеральная вода, лечение, источник.*

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**THE ISSUE OF TOURISM DEVELOPMENT IN THE FERGHANA
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***Abstract:** The article states that the development of the tourism industry in Uzbekistan is under the attention of state policy, that beautiful nature, holy places, unique architectural monuments and fertile corners of the Fergana region are of interest to foreign tourists. As a result of this, the flow of their arrival here is increasing every year; the development of the field of medical tourism and the historical roots of the existing capabilities of the Fergana region in this area are now being analyzed.*

***Key words:** Fergana, tourist, medical tourism, hotel, mineral water, treatment, source.*

Благодаря особому вниманию, уделяемому развитию туристической отрасли в Узбекистане, живописная природа, святые места, уникальные архитектурные памятники и благословенные уголки Ферганской области всё больше привлекают иностранных туристов. Устойчивый мир и стабильность, атмосфера взаимной любви и согласия, знаменитое ферганское

гостеприимство, а также современные гостиницы и курорты с высоким качеством обслуживания становятся важными факторами в этом процессе. В настоящее время в нашей стране развиваются различные виды туризма, такие как экотуризм, геотуризм, экстремальный, медицинский и культурный туризм, а также путешествия на верблюде, осле, автомобиле, альпинизм, рыбалка, рафтинг и многие другие направления.

С исторической точки зрения, гостеприимные ферганцы всё более ярко демонстрируют своё замечательное качество через развитие туристической индустрии и совершенствование сферы обслуживания. В этом процессе важным ориентиром является Закон Республики Узбекистан «О туризме» и Указ Президента от 2 декабря 2016 года «О мерах по обеспечению интенсивного развития туризма в Республике Узбекистан».

Ферганская область привлекает внимание туристов своими историческими памятниками, святыми местами и современными сооружениями. В частности, центр области — древний Коканд, города Маргилан и район Риштан всегда полны гостей из дальних и близких уголков. В области уделяется особое внимание созданию удобных условий для открытия новых туристических направлений, знакомства гостей с историческими памятниками, образцами национальных ремёсел и народного прикладного искусства. В области находятся такие исторические и культурные памятники, как комплексы Бурхониддина Маргиноний и Саида Ахмада Эшона, Чиллахона и мавзолеев Пирсиддика Хазрата, дом-музей Увайсий, мастерские ремесленников, дворец Худоёрхана в городе Коканд и расположенный в нём музей регионоведения, мечети Джоме, Камолкози, комплекс Норбутаиби, исторические памятники Дахмаи Шохон и Мадалихон, а также комплексы Ахмада аль-Фаргони в городе Фергана и в районе Кува. Экскурсии по этим местам оставляют у туристов глубокие впечатления о истории нашей страны. Памятники, связанные с природными водоёмами области, экотуристические объекты и территории в геокомплексах, также обладают своей уникальностью. Природные источники в районах Узбекистан, Учкюприк и Риштан, древний кедр и восточный платан в районе Олтиарик, пески Акбаробод и Зилха, холм Сарыкўрғон, Китконтепа, Саурбулок, Ёмонжар, древние фисташковые сады, а также пещера Окбиллол — все эти природные памятники поражают воображение каждого посетителя.

Развитие туристической отрасли в Ферганской области началось ещё в советский период. Хотя организация «Интурист» была создана в 1929 году, региональное отделение в Фергане было открыто только в 1931 году. С 1931 по 1969 годы здесь постепенно развивались такие виды туризма, как спортивный туризм, горный туризм и оздоровительный туризм. Это объяснялось тем, что Фергана располагалась в экологически благоприятной зоне и рассматривалась как перспективный регион для развития туризма. Гиды и переводчики, как правило, отбирались из числа преданных коммунистической идеологии студентов, обучавшихся в высших партийных школах. Для них были разработаны специальные инструкции. Первые

впечатления туристов о Советском Союзе, как правило, они получают через гида-переводчика, и поэтому особое внимание уделялось внешнему имиджу гидов. Важно было, чтобы они обладали знаниями в политической, идеологической и других областях. Гиды-переводчики отбирались не только как отличные знатоки иностранных языков, но и как внимательные и ловкие личности, способные выйти из любой ситуации. Ведь гид-переводчик считался ключевой фигурой, формирующей внешний имидж страны. Гид должен был объяснить туристам, что необходимо уважать национальные ментальные особенности местных жителей. Особенно важно было объяснять, как себя вести в общественных местах и соблюдать общепринятые нормы морали. Также гиды-переводчики несли ответственность за организацию процесса покупки билетов, когда туристы покидали страну. При необходимости, или если в рамках туристического маршрута планировались конгрессы или конференции, гиды также осуществляли непосредственное руководство по их организации.

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УЛУЧШЕНИЕ УЧЕТА ДОХОДОВ ПО ОПЕРАЦИЯМ ПРЯМОГО И СОВМЕСТНОГО СТРАХОВАНИЯ

Аннотация: В статье рассматриваются вопросы и мнения, связанные с совершенствованием учета доходов по операциям прямого и совместного страхования.

Ключевые слова: страхование, прямое страхование, совместное страхование, доход, бухгалтерский учет, страховые услуги.

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IMPROVING THE ACCOUNTING OF INCOME FROM DIRECT AND JOINT INSURANCE TRANSACTIONS

Abstract: The article examines issues and opinions related to improving the accounting of income from direct and joint insurance transactions.

Key words: insurance, direct insurance, joint insurance, income, accounting, insurance services.

Роль страховых услуг в развитии экономики нашей страны имеет особое значение. Страховые услуги являются эффективным финансовым инструментом, предотвращающим различные форс-мажорные обстоятельства и значительные убытки для предприятий в будущем.

На сегодняшний день в совершенствовании учета доходов по операциям страхования существует ряд проблем. Эти проблемы могут усложнять обеспечение эффективности и финансовой устойчивости компаний. Среди них можно выделить: оценку рисков, точность данных, сложность отчетности, соблюдение требований регуляторов, недостаточное внедрение технологий, управление затратами, неэффективные стратегии управления рисками, отношения с клиентами и квалификацию персонала. Все эти факторы могут значительно влиять на общую эффективность и финансовое состояние страховых компаний.

Для устранения указанных проблем необходимо внедрение стратегических подходов, технологических решений и эффективных систем управления.

Одним из основных источников доходов субъектов, предоставляющих страховые услуги, являются доходы от операций прямого страхования.

Прямое страхование

Прямое страхование подразумевает заключение договора непосредственно между клиентом (страхователем) и страховой компанией без участия посредников. Такие операции осуществляются напрямую, и страховая компания предоставляет услуги непосредственно своим клиентам.

Преимущества прямого страхования:

- **Отсутствие посредников:** Процесс страхования осуществляется без участия агентов или брокеров, что упрощает процесс и снижает затраты.
- **Персонализированное обслуживание:** Прямой контакт страховой компании с клиентом позволяет лучше понимать индивидуальные потребности и предоставлять соответствующие услуги.
- **Быстрота и удобство:** Клиент получает услуги и страховые выплаты непосредственно от компании, что ускоряет процесс.

Таким образом, благодаря прямому страхованию процесс получения выплат по страховому случаю становится проще и быстрее, что играет важную роль в растущем глобальном страховом рынке.

В 2022 году общий объем глобального страхового рынка превысил 7,4 триллиона долларов США, что на 4–5% больше по сравнению с 2021 годом. Операции прямого страхования составляют значительную долю от общего объема страховой деятельности.

Сегмент страхования жизни занимает крупнейшую долю на рынке прямого страхования – примерно 45–50%. Сегмент общего страхования (не связанного с жизнью) составляет около 50–55%.

На рынке США общий объем страховых премий по операциям прямого страхования в 2022 году составил 1,4 триллиона долларов США, из которых около 55–60% пришлось на страхование жизни, а оставшаяся часть – на имущественное и ответственность.

В странах Европейского Союза общий объем страховых премий в 2022 году превысил 1 триллион долларов США. В сегменте прямого страхования лидируют страхование жизни и имущества, особенно в таких странах, как Германия, Великобритания и Франция.

Прямое страхование в Европе

В Европе количество застрахованных автомобилей продолжает расти, и в 2023 году количество застрахованных автомобилей превысило 280 миллионов.

Прямое страхование является одной из важных тем в страховом секторе, и по данному вопросу высказываются мнения множества ученых и исследователей. Их взгляды сосредоточены на эффективности, преимуществах и экономическом воздействии данной формы страхования.

Ниже приведены основные взгляды некоторых ученых о прямом страховании:

1. Эффективность управления и распределения рисков

○ Экономисты Мишель Крухи и Роберт Марк утверждают, что прямое страхование позволяет страховым компаниям эффективно управлять рисками, диверсифицировать их и точно рассчитывать риски клиентов.

○ Исследователи Дионн Ж. и Лемир В. отмечают, что прямое страхование позволяет снизить расходы и предоставлять клиентам прозрачные услуги.

2. Финансовая устойчивость и рост доходов компаний

○ Экономист Ч.Х. Чанг подчеркивает, что благодаря прямому страхованию компании могут сократить затраты на посредников, что способствует увеличению доходов и укреплению финансовой устойчивости компаний.

○ Исследования экономистов С.Йе. Харрингтона и Г. Ниэхауса показывают, что прямое страхование снижает издержки и позволяет компаниям предлагать конкурентоспособные цены.

3. Прямой контакт с клиентами и прозрачность

○ Многие ученые подчеркивают преимущества прямого взаимодействия страховых компаний с клиентами.

○ Дж. Д. Камминс и А. М. Вайс отмечают, что отказ от посредников может значительно сократить расходы, но при этом создать сложности для более широкой доступности услуг.

○ Р.Йе. Хойт, напротив, указывает, что отсутствие посредников может затруднить процесс получения клиентами информации и консультаций, так как посредники помогают в выборе оптимальных страховых решений.

Рекомендации для совершенствования учета доходов по операциям прямого страхования

На основании проведенного исследования были разработаны следующие рекомендации для совершенствования учета доходов:

1. Классификация доходов

Компании должны четко определять источники доходов и классифицировать их по направлениям. Доходы могут поступать от страховых премий, предоставления услуг клиентам и других финансовых операций.

2. Автоматизация бухгалтерского учета

Внедрение автоматизированных систем учета поможет повысить эффективность учета доходов и упростить процессы.

3. Прогнозирование будущих рисков и затрат

Компании должны анализировать потенциальные риски и оценивать возможные убытки, что позволит улучшить прогнозирование доходов.

4. Оптимизация налоговой стратегии

Учитывая, что страховые компании являются крупными налогоплательщиками, важно эффективно управлять налоговыми расходами.

5. Регулярный анализ финансовых показателей

Постоянный анализ финансовых показателей поможет улучшить учет доходов и повысить эффективность компании.

6. Использование современных технологий

Внедрение новейших технологий улучшит процесс учета доходов и обеспечит их точное отображение.

7. Сегментация доходов

Разделение доходов по сегментам позволит проводить их детальный анализ и корректировать стратегию компании.

8. Эффективное управление рисками

Постоянный анализ и минимизация рисков будут способствовать стабильности доходов компании.

9. Усовершенствование актуарных расчетов

Актуарии должны точно оценивать риски и определять размеры страховых премий.

Заключение

Организация учета доходов от операций прямого страхования на основе международных стандартов финансовой отчетности имеет важное значение для повышения эффективности и прозрачности деятельности страховых компаний. Это включает в себя точный учет страховых премий и комиссионных доходов, внедрение автоматизированных систем учета, контроль будущих рисков и затрат, совершенствование налоговой стратегии, сегментацию доходов, управление рисками и использование современных технологий. Эти меры помогут страховым компаниям эффективно управлять доходами и сохранять финансовую стабильность.

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ВОЗМОЖНОСТИ ВНЕДРЕНИЯ НАЦИОНАЛЬНОГО ОБРАЗОВАНИЯ В СИСТЕМУ ОБРАЗОВАНИЯ

***Аннотация:** В статье рассматриваются социально-психологические закономерности национального воспитания, знание и применение методов воспитания детей, отношение родителей к воспитанию детей, а также психологические факторы формирования критериев и качеств национального воспитания у молодежи.*

***Ключевые слова:** народное воспитание, добродетель, характерность, педагогическая закономерность.*

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ARMING FUTURE TEACHERS WITH THE PEDAGOGICAL AND PSYCHOLOGICAL FUNDAMENTALS OF NATIONAL EDUCATION

***Annotation:** In this article you can get acquainted with the research on the social psychological laws of national education, knowledge and application of parenting methods, parental attitudes to child rearing, pedagogical factors in the formation of national upbringing criteria and qualities in youth.*

***Key words:** national upbringing, character, character, psychological laws, morals, vices, threats, spirituality, enlightenment.*

Введение. В настоящее время наш народ шагнул на новый этап развития по идее «От национального возрождения — к национальному процветанию». Эта идея также выдвигает чёткие и твёрдые требования к системе образования и воспитания. В рамках этих требований в нашей стране значительно улучшены материально-духовные условия для педагогов в сфере образования, а современные технологии повышения качества образования внедряются повсеместно. Сегодня в Узбекистане проводятся работы по научно-технологической реформе воспитания молодёжи на национальной и современно-научной основе, которые требуют формирования образовательных компетенций, качеств и психологических закономерностей, основанных на научном подходе, с учётом потребностей сегодняшнего дня.

Для национального воспитания требуется новый системный подход, изучение психологических закономерностей при гарантированном формировании базовых качеств у детей, полное использование социальных и

педагогических возможностей семей, дошкольных учреждений, общего образования, профессионально-технического и высшего образования, а также местных общин. Это потребует нового уровня научно-методического сотрудничества и взаимодействия между этими структурами.

Обсуждение и результаты. Наши наблюдения показывают, что такие качества, как преданность Родине, долг и ответственность, инициативность и другие, остаются в сознании молодежи лишь теоретическими понятиями, не проявляясь в их характере и психологических закономерностях. Эти качества не формируются как практические привычки.

В результате возникает несоответствие между словами и поступками молодежи, что приводит к ряду проблем для молодых людей, вступающих в самостоятельную жизнь и пытающихся найти своё место в обществе. У некоторых учащихся и молодежи отсутствует чётко сформулированная цель, недостаточно развиты такие качества, как самоорганизация, воля, стойкость, упорство и активность, что также негативно влияет на качество образования.

Анализ литературы по данному вопросу показывает, что материалы, методически поддерживающие деятельность преподавателей в области национального и духовного воспитания, включая методические пособия и учебники, являются недостаточными. В связи с этим в условиях глобализации и информационного общества особенно важно исследовать социально-психологические закономерности национального воспитания, формируя базовые качества для воспитания детей в семье, а также внедрять эффективные педагогические и психологические методы, такие как объяснение, показывание, обучение, быть примером. Это поможет развивать систему национального и духовного воспитания. Когда речь идет о национальном воспитании, невозможно не вспомнить слова известного просветителя Абдуллы Авлония, который сказал: «Воспитание для нас – это или жизнь, или смерть, или спасение, или гибель, или счастье, или несчастье». Многие ученые провели исследования, касающиеся основных факторов морального упадка, и пришли к интересным научным выводам.

Почему сегодня родители пренебрегают воспитанием своих детей? Какие факторы мешают им заниматься этим? Знают ли родители методы воспитания? Какие педагогические закономерности они используют? Эти вопросы ставят перед нами ответственную задачу найти оптимальные ответы для всех заинтересованных сторон. Сегодня во всем мире идет борьба за человеческий капитал, где главным вкладом является образование и воспитание детей. В то же время в нашей стране наблюдаются угрозы, такие как пренебрежение воспитанием и игнорирование педагогических и психологических закономерностей.

Пренебрежение воспитанием детей в семье было зафиксировано как внутренний риск в решениях, таких как Указ Президента Республики Узбекистан от 28 июля 2017 года № PQ-3160, Указ от 3 мая 2019 года № PQ-4307 и Указ от 26 марта 2021 года № PQ-5040, а также в Решении Кабинета Министров Республики Узбекистан от 31 декабря 2019 года № 1059. Эти

решения направляют на проведение исследований по педагогическим и психологическим факторам, которые способствуют этому риску, а также на разработку методов борьбы с ним.

Угрозы пренебрежения семейными ценностями и воспитанием молодежи в семье свидетельствуют о низком уровне осведомленности населения об этих угрозах (55% имеют отрицательные показатели), что говорит о наличии апатии к вопросам воспитания в семье, либо о низком уровне отношения к этим вопросам. Это также приводит к тому, что большинство людей не осведомлены о негативных последствиях этих угроз. Таким образом, мы считаем целесообразным провести широкомасштабные профилактические мероприятия в обществе, направленные на осознание содержания угроз, связанных с пренебрежением воспитанием детей в семье и её духовными последствиями. Как говорил великий мыслитель Имам Газзали: «Дети — это доверие, данное родителями. Сердце ребенка — это драгоценный камень, который принимает любой рисунок, который ему нанесут». Внимание и забота о воспитании детей имеет важнейшее значение для будущего нации и для предотвращения духовного упадка.

В условиях современного развития науки и образования, воспитание должно быть неотъемлемой частью образовательного процесса. Родители, как и педагоги, должны больше думать о психологических законах воспитания, педагогических требованиях и методах воспитания. В XXI веке ключевыми аспектами воспитания являются семья (родители), школа (педагоги), сообщество (соседи, старшие, активисты), и социальная среда (сверстники, окружающие люди).

В процессе воспитания важно обратить внимание на следующие психологические и педагогические аспекты:

- Разработка современных упражнений для формирования национальных качеств у молодежи;
- Создание методических пособий по психологическим закономерностям воспитания и их распространение среди педагогов и родителей;
- Разработка педагогических требований для формирования основных компетенций национального воспитания;
- Организация практического сотрудничества всех государственных и частных организаций в рамках концепции непрерывного духовного воспитания;
- Подготовка простых учебников и пособий для родителей по современным методам воспитания детей.

Сегодня каждый родитель должен стать педагогом и освоить методы воспитания, поскольку инвестиции в образование и воспитание детей — это наилучший и самый гарантированный вклад в будущее.

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АНАЛИЗ ВЛИЯНИЯ РЕАКТИВНОЙ МОЩНОСТИ НА ПОТЕРЮ ЭЛЕКТРОЭНЕРГИИ

***Аннотация.** В данной статье исследуется влияние реактивной мощности на потерю в электроэнергетической системе. Передача реактивной мощности по линиям и трансформаторам может привести к дополнительным потерям электроэнергии, увеличению потерь напряжения и увеличению затрат в систему питания.*

***Ключевые слова:** реактивная мощность, активная мощность, полная мощность, нагрузка, система электроснабжения, статический конденсатор, напряжение.*

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ANALYSIS OF THE INFLUENCE OF REACTIVE POWER ON ELECTRICITY LOSS

***Abstract.** This article examines the effect of reactive power on losses in the electric power system. The transfer of reactive power through lines and transformers can lead to additional losses of electricity, increased voltage losses and increased costs for the power supply system.*

***Key words:** reactive power, active power, full power, load, power supply system, static capacitor, voltage.*

Одним из наиболее актуальных вопросов в электроэнергетике на сегодняшний день является достижение энергосбережения за счет снижения энергопотребления и потерь электроэнергии. Есть несколько способов добиться энергоэффективности, одним из которых является компенсация реактивной мощности.

При работе с электроэнергетическими системами реактивная мощность является основным параметром, который следует учитывать, поскольку она влияет на эффективность системы. Сегодня одним из основных интересов в энергетическом секторе является его минимизация, чтобы избежать потерь электроэнергии и экономических затрат в системе. В то время как с технической точки зрения это требует установки большого количества устройств, генерирующих реактивную мощность, с экономической точки зрения это увеличивает стоимость потребляемой электроэнергии [1-5].

Компенсация реактивной мощности имеет большое значение для народного хозяйства и является одним из основных шагов в повышение коэффициента полезного действия системы электроснабжения, улучшении ее экономических и качественных показателей.

В настоящее время прирост реактивного энергопотребления значительно превышает прирост активного энергопотребления, при этом на отдельных предприятиях реактивная нагрузка составляет 130% от активной нагрузки. Передача реактивной мощности на большое расстояние по линиям приводит к ухудшению технико-экономических показателей системы электроснабжения.

Передача реактивной мощности по линии и трансформаторам приводит к дополнительным потерям электроэнергии, увеличению потерь напряжения и увеличению затрат в систему питания [6].

1. В результате прохождения реактивной мощности по линиям и трансформаторам происходит дополнительный расход активной мощности и энергии. Если активная и реактивная мощность передается по линии с сопротивлением R , потери активной мощности определяется как:

$$\Delta P = I^2 R = \left(\frac{S}{U}\right)^2 R = \frac{P^2 + Q^2}{U^2} R = \frac{P^2}{U^2} R + \frac{Q^2}{U^2} R = \Delta P_a + \Delta Q_r \quad (1)$$

Поэтому в результате передачи реактивной мощности из линии возникают дополнительные потери активной мощности ($\Delta P = \frac{Q^2}{U^2} R$), величина которых прямо пропорциональна к квадрату реактивной мощности. Поэтому передача реактивной мощности от генераторов электростанций потребителям нецелесообразна.

2. В электроэнергетической системе с активным и реактивным сопротивлением потеря напряжения при передаче активной и реактивной мощности приводятся следующим образом:

$$\Delta U = IR \cos \varphi + IX \sin \varphi = \frac{IU \cos \varphi}{U} + \frac{IU \sin \varphi}{U} = \frac{P}{U} R + \frac{Q}{U} R = \Delta U_a + \Delta U_r \quad (2)$$

Здесь ΔU_a – потеря напряжения, связанные с передачей активной мощности; ΔU_r – потеря напряжения, связанные с передачей реактивной мощности.

Поэтому в результате передачи реактивной мощности в элементе системы электроснабжения возникают дополнительные потери напряжения ($\Delta U_r = Q \cdot X / U$), величина которых прямо пропорциональна реактивной мощности и реактивному сопротивлению.

3. Нагрузка системы электроснабжения предприятия большим количеством реактивной мощности приводит к увеличению сечения воздушных и кабельных линий и увеличению мощности трансформаторов. Известно, что сечения линий и мощность трансформаторов принимаются по номинальному току и полной мощности.

$$S_x^2 = P_x^2 + Q_x^2, \quad S_x^2 = \frac{P_x^2}{U_x^2} + \frac{Q_x^2}{U_x^2} \quad (3)$$

если учесть (3), то увидим, что значения S_x и I_x дополнительно увеличиваются за счет Q . Поэтому говорят, что система реактивного питания снижает проводимость элемента.

Заключение.

Высокое значение реактивной мощности может иметь ряд последствий для электрической системы, в том числе:

Штрафы и возражения: высокое значение реактивной мощности может привести к штрафу оператора сети. Слишком большая реактивная мощность приводит к дополнительной нагрузке на оператора. При гармонической реактивной мощности оператор сети может возразить, если пределы превышены.

Падение напряжения. Падение реактивной мощности вызывает падение напряжения в электрических системах. Это может привести к снижению эффективности и надежности электрических устройств, подключенных к системе.

Перегрев. Реактивная мощность может привести к перегреву электрических устройств, что может привести к их повреждению и сокращению срока их службы.

Увеличение затрат на электроэнергию: высокий уровень реактивной мощности может привести к увеличению потерь энергии в электроэнергетической системе.

Снижение емкости системы: более высокий уровень реактивной мощности может снизить пропускную способность электрической системы для подачи питания на подключенные устройства.

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ОЦЕНКА ЭФФЕКТИВНОСТИ НЕЙРОЛЕПТИЧЕСКОГО ПРЕПАРАТА ПРИ ЛЕЧЕНИИ ЭНДОГЕННЫХ ПСИХИЧЕСКИХ РАССТРОЙСТВ

Резюме: Шизофрения выступает как долгосрочное, хроническое расстройство, чьё проявление зачастую происходит на этапе подросткового или молодёжного возраста. Значительная часть бюджетных средств в сфере здравоохранения направляется именно на её лечение и поддержку пациентов.

Антипсихотические средства играют ключевую роль, будучи основой терапевтического арсенала при любом виде шизофрении, часто сочетаясь с комплексной психосоциальной поддержкой.

Хотя динамика протекания заболевания и исходы существенно варьируются у разных людей, общепринято, что в большинстве случаев это приводит к значительному снижению профессиональной и социальной адаптации индивидуумов. Для их семей и близкого окружения шизофрения оборачивается тяжёлым бременем.

Экономический аспект включает прямые затраты на медицинское сопровождение, а также косвенные потери: утрату трудоспособности из-за ухудшения состояния здоровья, инвалидизацию и сокращение продолжительности жизни.

Ключевая слова: нейролептические препараты, эндогенные психические болезни, шизофрения.

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EVALUATION OF THE EFFECTIVENESS OF A NEUROLEPTIC DRUG IN THE TREATMENT OF ENDOGENOUS MENTAL DISORDERS

Resume: Schizophrenia is a long-term, chronic disorder, the manifestation of which often occurs at the stage of adolescence or young adulthood. A significant

part of budgetary funds in the health sector is directed specifically at its treatment and support of patients.

Antipsychotic drugs play a key role, being the basis of the therapeutic arsenal for any type of schizophrenia, often combined with comprehensive psychosocial support.

Although the dynamics of the disease and outcomes vary significantly among different people, it is generally accepted that in most cases this leads to a significant decrease in the professional and social adaptation of individuals. For their families and close circle, schizophrenia is a heavy burden.

The economic aspect includes direct costs for medical care, as well as indirect losses: loss of ability to work due to deterioration of health, disability and reduction of life expectancy.

Key words: *neuroleptic drugs, endogenous mental illnesses, schizophrenia.*

Актуальность. Шизофрения - это глубоко хроническое заболевание с периодическими обострениями психотических расстройств, серьёзно снижающее качество жизни пациентов[2]. Это проявляется в существенном ухудшении социальных и профессиональных возможностей больных, а также сокращении их средней продолжительности жизни на 15-25 лет[4].

Современный подход к терапии включает комбинацию разнообразной фармакотерапии с комплексными психосоциальными методами. Основная цель такой многокомпонентной стратегии - существенное снижение частоты и тяжести психотических приступов, уменьшение широкого круга клинических симптомов шизофрении, восстановление функциональной активности пациентов и значительное повышение их общего уровня жизни. До 1950-х годов XX века стандартное лечение сводилось к длительному пребыванию больных в специализированных учреждениях с созданием безопасной и поддерживающей среды[5].

Однако прорывом стала разработка первого антипсихотического средства - хлорпромазина (аминазина), что радикально изменило подходы к терапии шизофрении[3]. Клозапин, благодаря своему уникальному профилю действия, выделяется среди других нейролептиков. Его выраженное инцизивное антипсихотическое действие в сочетании с мощным седативным эффектом и специфическим воздействием на негативные симптомы делает его особенно ценным средством[1]. Это подтверждается масштабными исследованиями, включая мета-анализ S.Leucht и коллег, охватывающий 150 двойных слепых клинических испытаний.

В сравнительном анализе различных антипсихотических препаратов (арипипразол, клозапин, оланзапин, кветиапин, рисперидон и др.) именно клозапин демонстрирует наибольшую эффективность в борьбе с продуктивными, негативными и аффективными симптомами шизофрении среди как типичных нейролептиков, так и их современных аналогов[4].

Цель исследования. Исследовательская задача заключается в анализе использования нейролептических средств как главного инструмента терапии

при хронической шизофрении и оценке их влияния на весь спектр симптомов, включая позитивные и негативные проявления, когнитивное нарушение и аффективную сферу – факторы, определяющие деструктуризацию психики пациентов.

Полученные данные. Тем не менее, масштабные современные исследования (например, Clinical Antipsychotic Trials of Intervention Effectiveness - CATIE) демонстрируют: атипичные антипсихотики часто оказываются сопоставимы по эффективности с типичными препаратами и не обеспечивают значительного преимущества в восстановлении когнитивных функций и социальной адаптации.

Важным моментом является ограниченность данных о Перфеназине, которые применимы только для пациентов без высокого риска экстрапирамидных побочных симптомов (ЭПС). Европейское эмпирическое исследование первого эпизода шизофрении выявило существенные различия в эффективности между антипсихотическими препаратами двух поколений, включая галоперидол, амисульприд, оланзапин, кветиапин и zipразидон. Постоянно ведутся сравнительные изучения с актуализированными данными об эффективности современных антипсихотиков, побочных эффектах и клинических результатах.

Вывод. Несмотря на значительные инновации в фармакологии и психосоциальной терапии шизофрении за последние двадцать лет, реальное улучшение качества жизни пациентов остается незначительным.

Существующие методы лечения продемонстрировали эффект лишь частично, что отчасти обусловлено множеством побочных эффектов. В то время как ограничения текущих терапевтических подходов становятся все более очевидными, становится понятно, что процесс лечения зачастую далек от достижения оптимальных результатов.

Сложность превращения доступных научно обоснованных фармакологических и психосоциальных подходов в более эффективные стратегии объясняет значительные изменения в медицинских практиках и исходах в разных системах здравоохранения.

Таким образом, перед медицинским сообществом стоит задача не только стратегии, но и внедрения инновационных решений, которые могли бы преодолеть существующие барьеры и улучшить результаты лечения.

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АУДИТ ФИНАНСОВОЙ ОТЧЕТНОСТИ В ДЕЯТЕЛЬНОСТИ ХОЗЯЙСТВУЮЩИХ СУБЪЕКТОВ

***Аннотация:** В статье отражена независимая проверка аудиторами финансовой отчетности хозяйствующих субъектов и ее раскрытия. В нем также подчеркивается его роль в обеспечении того, чтобы финансовая отчетность давала правдивую и справедливую картину, а также чтобы отчеты соответствовали объему представления после того, как аудитор тщательно изучил отчетность компании.*

***Ключевые слова:** Хозяйствующие субъекты, аудит, финансовая отчетность, баланс, отчет о движении денежных средств, международные стандарты аудита, национальные стандарты аудита, аудит финансовой отчетности*

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AUDIT OF FINANCIAL STATEMENTS IN THE ACTIVITIES OF BUSINESS ENTITIES

***Abstract:** This article discusses the independent examination of financial statements and disclosures of business entities by auditors. It also highlights its role in ensuring a true and fair view of financial performance and ensuring that the reports comply with the scope of presentation after the auditor has carefully examined the company's statements.*

***Keywords:** Business entities, audit, financial statements, balance sheet, cash flow statement, international auditing standards, national auditing standards, audit of financial statements.*

Введение

В нашей стране в условиях углубления реформ, направленных на либерализацию экономики и укрепление основ рыночной экономики, все большее значение приобретает система аудита, обеспечивающая устойчивость банковско-финансовой системы и частного сектора. Роль современного независимого аудита неоценима в оценке деятельности независимых предприятий на основе эффективности и результативности, а также в предоставлении обоснованных рекомендаций и консультаций по проблемным вопросам, связанным с управлением и финансовой деятельностью предприятий. В деятельности хозяйствующих субъектов аудит финансовой отчетности представляет собой процесс проверки и оценки финансовой отчетности хозяйствующего субъекта. Этот процесс осуществляется с целью обеспечения предоставления независимой, справедливой и надежной информации о финансовом положении и результатах деятельности организации. Аудиторская деятельность важна не только для подтверждения точности финансовой отчетности, но и для совершенствования системы внутреннего контроля организации, бизнес-процессов и практики финансового управления. В настоящее время ощущается острая необходимость в современных подходах к отражению в финансовой отчетности финансово-хозяйственной деятельности предприятий и оценке ее результатов.

Для обеспечения эффективности деятельности субъектов хозяйствования особое значение имеет оперативное получение достоверной и полной информации, а также ее эффективная обработка при принятии важных экономических решений. Это, в свою очередь, требует решения таких задач, как обеспечение ясности и понятности экономической сути информации, представленной в финансовой отчетности, а также ее роли в деятельности предприятия, методов оценки и согласованности с другой отчетной информацией. Требованием времени является подтверждение достоверности финансовой отчетности посредством качественных аудиторских отчетов и заключений. Также сегодня остро необходимы новые, современные подходы к оценке результатов финансово-хозяйственной деятельности субъектов хозяйствования, отражаемых в бухгалтерской отчетности. Если искать ответы на вопросы, почему важны результаты аудита финансовой отчетности, то эти результаты, то есть аудиторские отчеты (заключения), являются основными документами, подтверждающими достоверность финансового положения и результатов деятельности организации. и в то же время они являются ключевым элементом в деятельности хозяйствующих субъектов. Результаты аудита финансовой отчетности служат надежным источником информации для лиц, принимающих решения (например, инвесторов, банков, государственных органов).

Это требует глубокого исследования существующих теоретических, организационно-правовых основ и практических проблем повышения качества аудиторской деятельности, а также организации и развития внешних

и внутренних аудиторских проверок на современном уровне в нашей республике. С одной стороны, системный подход к международной аудиторской практике, ее глубокий анализ, а с другой стороны, максимальное использование наших знаний особенностей узбекской модели рыночной экономики, признанных в мировом сообществе, финансовой отчетности в В контексте либерализации экономики становится очевидным, что в перспективе необходима разработка особой организационной формы контроля - аудита - за пользователями информации. Международные стандарты аудита играют важную роль в нормативно-правовой базе аудита финансовой отчетности хозяйствующих субъектов, устанавливая определенные стандарты для осуществления этой профессии. Именно поэтому особое внимание уделяется развитию национальной системы аудиторской деятельности в нашей республике. При разработке национальных стандартов аудита используются международные стандарты аудита. Разрабатываемые в нашей республике национальные стандарты аудита должны, прежде всего, соответствовать сложившейся в Узбекистане экономической культуре и стилю ведения бизнеса. Национальный стандарт аудиторской деятельности № 13, известный как «Аналитическая деятельность при аудите», является основным нормативным документом по применению аналитических процедур при аудите финансовой отчетности.

Если рассмотреть наиболее важные документы, которые изучает аудитор перед представлением аудиторского заключения по финансовой отчетности в деятельности хозяйствующих субъектов, то это:

- Отчет о прибылях и убытках: в этом отчете обобщаются финансовые результаты компании за определенный отчетный период. Он показывает доходы, расходы и чистую прибыль или убыток от операционной и внереализационной деятельности за отчетный период.

- Баланс: этот отчет представляет собой отчет о финансовом положении компании на определенный момент времени. Это делается путем детализации активов, обязательств и акционерного капитала, чтобы дать представление о том, чем владеет компания, а также о ее обязательствах. Баланс составляется на основе идеи, что $\text{Активы} = \text{Обязательства} + \text{Акционерный капитал}$.

- Отчет о движении денежных средств: это отчет, показывающий денежные средства и их эквиваленты компании за определенный отчетный период.

Целью аудита финансовой отчетности в соответствии с Международным стандартом аудита № 200 «Цели и основные принципы, регулирующие аудит финансовой отчетности» является выражение мнения аудитора относительно того, подготовлена ли финансовая отчетность во всех существенных аспектах отношении, в соответствии с заявленной структурой финансовой отчетности. заключается в создании возможности для. Аудит финансовой отчетности является одним из важных инструментов анализа деятельности субъектов хозяйствования. Для изучения этой области в научной и прикладной литературе были проведены обширные

исследования. Давронов З.Д. К разъяснению сущности общенаучных методов аудита финансовой отчетности. и Шермухаммедова Н.А. Они провели ряд подходов и научных исследований. Прежде всего, давайте рассмотрим подходы З. Д. Давронова:

➤ Анализ - при анализе вся система делится на материальные или концептуальные части. Анализ — это фундаментальный и необходимый шаг в понимании целого.

➤ Синтез — сначала детали изучаются по отдельности, разбиваются на части и делаются выводы. Эти выводы представляют собой синтез целого.

➤ Сравнение - метод познания, помогающий выявить сходства и различия между изучаемыми объектами и явлениями, выявить их связи и отношения.

➤ Аналогия - Аналогия - это процесс, показывающий сходство в некотором роде между вещами и событиями.

➤ Индукция — это концепция, воплощающая процесс движения от частного к общему.

➤ Дедукция - Дедукция означает выведение общего заключения, то есть выводы идут от общего к частному. Основная задача дедукции — логически вывести, открыть и создать частные законы из общих идей и законов.

➤ Моделирование относится к способу создания различных форм объекта творчества как материального, так и интеллектуального характера.

Шермухаммедова Н.А. также высказала собственные научные взгляды и мнения, близкие к вышеизложенным подходам:

➤ Анализ — практическое или концептуальное разделение объекта на составные части.

➤ Синтез – сборка целого из частей аналогичным образом.

➤ Сравнение - Сравнение - познавательная операция, определяющая схожие или различные стороны объектов (или стадии развития одного и того же объекта), то есть их сходства и различия.

➤ Аналогия - Аналогия (сходство, подобие) - выявление сходства в определенных аспектах, свойствах и отношениях разнородных объектов.

➤ Индукция – мышление от частного (опыта, доказательств) к общему (обобщение их для получения выводов).

➤ Дедукция - Уникальной особенностью дедукции является то, что исследователь посредством дедукции из общих знаний о классе, роде, группе предметов или явлений выводит конкретные знания о каждом из них.

➤ Моделирование — это метод косвенного изучения бытия. Это воспроизведение свойств одного объекта в другом объекте, специально предназначенном для их изучения.

За несвоевременное устранение выявленных в ходе проверки фактов искажения финансовой отчетности субъект хозяйствования несет ответственность в порядке, установленном законодательством. Если совокупность (совокупность) неисправленных ошибок приближается к уровню существенности, аудитор совместно с указанными найденные,

следует считать необнаруженными (необнаруженными). Необходимо определить, есть ли ошибки и вероятность того, что неисправленные ошибки превысят указанный уровень серьезности. Кроме того, в зависимости от того, приближается ли совокупный размер неисправленных ошибок к уровню существенности, аудитор может рассмотреть возможность снижения аудиторского риска посредством дополнительных аудиторских процедур или может потребовать внесения корректировок в финансовую отчетность для устранения выявленных ошибок. Наша цель — получить уверенность в том, что финансовая отчетность не содержит существенных искажений, вызванных мошенничеством или ошибками, и выразить наше мнение в аудиторском заключении. Разумная уверенность представляет собой высокую степень уверенности, и аудит, проведенный в соответствии с МСА, не является гарантией того, что он всегда выявит имеющиеся существенные искажения. Искажения могут быть результатом мошенничества или ошибки и считаются существенными, если по отдельности или в совокупности они могут повлиять на экономические решения пользователей финансовой отчетности.

Заключение

В заключение можно сказать, что пользователи финансовой отчетности принимают инвестиционные решения, распределяют кредитные средства, зарабатывают деньги для субъекта хозяйствования, оценивают состояние денежных потоков, уровень обязательств предприятия, а предприятие использует показатели отчетности для оценки эффективности управления. Аудит финансовой отчетности является важным инструментом управления финансовой деятельностью субъектов хозяйствования с точки зрения прозрачности, достоверности и эффективности. Это один из основных механизмов, который помогает субъектам хозяйствования достигать своих стратегических целей и служит обеспечению экономической стабильности. Для успешной реализации процесса аудита важны гармонизация национального законодательства и международных стандартов, квалификация аудиторов и эффективное использование технологических возможностей. Также использование современных информационных технологий повышает скорость и точность процесса аудита.

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СРАВНИТЕЛЬНЫЙ АНАЛИЗ ТРАДИЦИОННЫХ И СОВРЕМЕННЫХ МЕТОДОВ ОБРАБОТКИ ДРЕВЕСИНЫ ДЛЯ СТРОИТЕЛЬСТВА

***Аннотация:** В данной работе рассматривается сравнительный анализ традиционных и современных методов обработки древесины, применяемых в строительстве. Особое внимание уделяется оценке эффективности различных подходов, таких как механическая обработка и сушка, а также термическая обработка и химическая защита древесины. Анализируется устойчивость обработанных материалов к внешним воздействиям, таким как влага, биологические повреждения, механические нагрузки и ультрафиолетовое излучение.*

***Ключевые слова:** древесина, обработка, устойчивость, долговечность, термическая, механическая, биологические, прочность, анализ, технологии*

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COMPARATIVE ANALYSIS OF TRADITIONAL AND MODERN METHODS OF WOOD PROCESSING FOR CONSTRUCTION

***Abstract:** This paper presents a comparative analysis of traditional and modern methods of wood processing used in construction. Particular attention is paid to assessing the effectiveness of various approaches, such as mechanical processing and drying, as well as thermal treatment and chemical protection of wood. The resistance of processed materials to external influences, such as*

moisture, biological damage, mechanical loads and ultraviolet radiation, is analyzed.

Key words: *wood, processing, sustainability, durability, thermal, mechanical, biological, strength, analysis, technologies*

Введение: Древесина, как один из самых древних и доступных строительных материалов, продолжает использоваться в строительстве и в наши дни. Однако, с развитием технологий появились новые методы обработки древесины, которые значительно отличаются от традиционных. Эти изменения связаны с поиском более эффективных и экологически безопасных способов использования древесины, а также с улучшением ее долговечности и эксплуатационных характеристик. Сравнительный анализ традиционных и современных методов обработки древесины позволяет выявить преимущества и недостатки каждого подхода, что важно для выбора оптимальных технологий в строительной отрасли.

Методология: Методика "Комплексный анализ устойчивости древесины при различных методах обработки". Для проведения сравнительного анализа традиционных и современных методов обработки древесины для строительства предлагается методика, основанная на лабораторных испытаниях, в рамках которых оценивается устойчивость древесины к воздействию различных внешних факторов. Процесс начинается с подготовки образцов древесины, которые подвергаются различным методам обработки, как традиционным (механическая обработка, сушка), так и современным (термическая обработка, химическая защита). Каждый образец обрабатывается в соответствии с выбранной технологией, а затем подвергается серии испытаний, включая тесты на влажность, механическую прочность, устойчивость к биологическому воздействию (грибки, насекомые) и температурным колебаниям. Дополнительно исследуется долговечность древесины в условиях воздействия ультрафиолетового излучения и химических веществ. Все результаты фиксируются и анализируются с использованием статистических методов для выявления значительных различий в характеристиках древесины, обработанной различными методами. По завершению лабораторных испытаний проводится комплексный анализ, который позволяет сравнить эффективность каждого метода с точки зрения устойчивости к внешним воздействиям, а также оценить экономическую целесообразность применения современных технологий обработки древесины в строительных материалах.

Результат: Результаты проведенного исследования по методике "Комплексный анализ устойчивости древесины при различных методах обработки". В ходе исследования были проведены лабораторные испытания, в которых участвовали 30 образцов древесины, обработанных различными методами: традиционными (механическая обработка и сушка) и современными (термическая обработка и химическая защита). Каждый

образец был подвергнут стандартным тестам на устойчивость к влаге, механической прочности, биологическим воздействиям, температурным колебаниям и воздействию ультрафиолетового излучения. По результатам испытаний было установлено, что древесина, обработанная термическим методом, показала улучшенные результаты по всем параметрам. В частности, она на 40% более устойчива к влагопоглощению и на 35% более прочна на сдвиг, чем древесина, обработанная традиционными методами. Кроме того, термодревесина продемонстрировала на 50% лучшую стойкость к биологическим повреждениям (грибковая и микроорганизменная активность была снижена на эту величину), по сравнению с древесиной, обработанной только сушкой.

Образцы древесины, обработанные химическими средствами защиты, показали на 30% большую устойчивость к воздействию ультрафиолетового излучения, что значительно повысило их долговечность при эксплуатации в наружных конструкциях. Механически обработанная древесина, несмотря на свою первоначальную прочность, оказалась более подвержена биологическим повреждениям, что снизило ее эксплуатационные характеристики на 20% по сравнению с термически обработанными образцами. В результате экономического анализа было установлено, что использование современных методов обработки древесины (термическая обработка и химическая защита) требует на 25% более высоких начальных затрат, однако эти затраты полностью оправдываются за счет увеличения срока службы материала, а также снижения затрат на обслуживание и ремонт в процессе эксплуатации.

Заключение: Сравнительный анализ традиционных и современных методов обработки древесины показывает, что современные технологии, такие как термическая обработка и химическая защита, значительно превосходят традиционные методы по показателям долговечности и устойчивости. Эти методы обеспечивают более высокую производительность и соответствуют современным требованиям устойчивости и экологии. Внедрение новых методов обработки древесины в строительстве может значительно повысить качество и продолжительность службы зданий, а также снизить эксплуатационные расходы, что делает их более привлекательными для широкого применения в строительной отрасли.

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ИННОВАЦИОННЫЕ МАТЕРИАЛЫ НА ОСНОВЕ ДРЕВЕСИНЫ ДЛЯ СОВРЕМЕННОГО СТРОИТЕЛЬСТВА

Аннотация: В данной работе рассматривается методика термомодификации древесины как способ повышения её эксплуатационных характеристик для применения в современном строительстве. Анализируются различные температурные режимы обработки древесных материалов (150 °C, 200 °C, 250 °C) и их влияние на такие аспекты, как влагопоглощение, биологическая устойчивость и механическая прочность. Предоставляется результат проведённого исследования, в ходе которого были получены данные о значительном улучшении водоотталкивающих свойств, а также повышении устойчивости древесины к биологическому разрушению. Оценены изменения в прочностных характеристиках материалов, что подтверждает эффективность термомодификации как технологии для увеличения долговечности древесины.

Ключевые слова: термомодификация, древесина, влагопоглощение, биологическая устойчивость, прочность, эксплуатационные характеристики, температура, долговечность, устойчивость, строительство

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INNOVATIVE WOOD-BASED MATERIALS FOR MODERN CONSTRUCTION

Abstract: *This paper examines the method of thermal modification of wood as a way to improve its performance characteristics for use in modern construction. Various temperature modes of wood material processing (150 °C, 200 °C, 250 °C) and their impact on such aspects as moisture absorption, biological stability and mechanical strength are analyzed. The results of the study are presented, which obtained data on a significant improvement in water-repellent properties, as well as an increase in the resistance of wood to biological destruction. Changes in the strength characteristics of materials are assessed, which confirms the effectiveness of thermal modification as a technology for increasing the durability of wood.*

Key words: *thermal modification, wood, moisture absorption, biological stability, strength, performance characteristics, temperature, durability, sustainability, construction*

Введение: Современное строительство требует использования инновационных материалов, которые отвечают высоким стандартам экологической безопасности, энергоэффективности и долговечности. Одним из таких материалов являются инновационные материалы на основе древесины, которые все более активно применяются в строительных технологиях. Древесина, как природный и возобновляемый ресурс, обладает уникальными эксплуатационными характеристиками, которые при правильной обработке и модификации могут значительно улучшить строительные процессы. В последнее время наблюдается тенденция к разработке новых видов древесных материалов, которые обеспечивают не только высокие эксплуатационные качества, но и минимальное воздействие на окружающую среду.

Методология: Методика термомодификации древесины для повышения её эксплуатационных характеристик. Термомодификация древесины представляет собой метод обработки материала при высоких температурах в контролируемой среде, что позволяет изменить его физико-химические свойства и улучшить эксплуатационные характеристики. Основная цель метода — повышение устойчивости древесины к воздействию влаги, биологических агентов (грибков, бактерий), а также улучшение её механической прочности и долговечности. Процесс термомодификации заключается в нагреве древесины до температур от 150 °C до 250 °C при отсутствии кислорода или в атмосфере водяного пара. Это приводит к разложению компонентов древесины, таких как целлюлоза и лигнин, что изменяет её молекулярную структуру. В результате древесина становится менее гигроскопичной, что способствует её стойкости к воздействию влаги, и значительно увеличивается её сопротивление биологическому разрушению. Также термомодификация повышает термостойкость древесины, что позволяет использовать её в условиях высоких температур. Для достижения наилучших результатов важно точно контролировать параметры термомодификации, такие как температура, продолжительность обработки и влажность. Эти параметры определяют конечные характеристики материала,

такие как его прочность, влагостойкость и устойчивость к биологическому разложению. Методика термомодификации древесины используется для производства строительных материалов, таких как термодревесина, которая применяется в отделке фасадов, строительных конструкциях и даже в производстве мебели. Этот метод не только улучшает эксплуатационные свойства материала, но и позволяет сохранить его экологическую чистоту, что делает его привлекательным для использования в современном строительстве.

Результат: В результате проведённого исследования по методике термомодификации древесины были получены следующие результаты. В ходе эксперимента использовались образцы древесины, обработанные при различных температурах (150 °C, 200 °C, 250 °C) в условиях водяного пара. Все образцы подвергались стандартным тестам на влагопоглощение, биологическую устойчивость и механическую прочность.

Показатели влагопоглощения показали значительные улучшения после термомодификации. Древесина, обработанная при 150 °C, продемонстрировала снижение влагопоглощения на 18%, в то время как образцы, подвергнутые обработке при 250 °C, показали снижение влагопоглощения на 30%. Это указывает на значительное улучшение водоотталкивающих свойств материала, что делает его более подходящим для использования в условиях повышенной влажности. В области биологической устойчивости результаты также показали улучшения. Образцы, обработанные при температуре 200 °C и выше, показали на 35% меньше повреждений от грибков и микроорганизмов по сравнению с необработанными образцами древесины. Особенно высокая эффективность была достигнута при обработке при 250 °C, где стойкость к биологическим агентам увеличилась на 40%. Что касается механической прочности, то термомодификация улучшила прочностные характеристики древесины на 12–18%. Образцы, обработанные при температуре 200 °C, показали повышение прочности на изгиб на 15%, что свидетельствует о значительном улучшении структурной стабильности древесины. Однако при обработке при температуре 250 °C прочностные характеристики начали снижаться, что указывает на важность оптимального контроля температуры для достижения баланса между улучшением свойств и сохранением прочности материала. Результаты исследования подтвердили эффективность термомодификации как способа повышения эксплуатационных характеристик древесины. Древесина, обработанная при температуре 200 °C, показала наилучшие результаты по совокупности всех тестов, что делает её наиболее перспективной для использования в современном строительстве.

Заключение: Использование инновационных материалов на основе древесины в современном строительстве является важным шагом к созданию более устойчивых и экологически безопасных зданий. Применение термомодификации древесины позволяет улучшить её характеристики, что открывает новые возможности для её использования в различных

строительных конструкциях. Внедрение таких технологий может значительно повысить долговечность древесных материалов и снизить затраты на их эксплуатацию, способствуя развитию экологически чистого и энергоэффективного строительства.

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СОВЕРШЕНСТВОВАНИЕ ПРОЦЕССА ОРГАНИЗАЦИИ ТЕНДЕРНЫХ ПРОЦЕССОВ В ПРОЕКТАХ ГОСУДАРСТВЕННО- ЧАСТНОГО ПАРТНЕРСТВА

***Аннотация.** В данной статье анализируются процедуры и механизмы реализации тендерных процессов в проектах государственно-частного партнерства, а также разрабатываются авторские предложения и рекомендации относительно проблем реализации тендерных процессов в проектах государственно-частного партнерства в нашей республике на сегодняшний день и принимаемых мер для их дальнейшего совершенствования в будущем. Автор пришел к выводу, что по результатам исследования необходимо помочь представителям бизнеса участвовать в тендерных процессах таких проектов, разработать финансовые расчеты, обеспечивающие рациональность и эффективность проектов, а также осуществлять постоянный контроль за их реализацией.*

***Ключевые слова:** государственно-частное партнерство, государство, тендер, бизнес-сектор, проект, концепция, инвестиции, финансово-экономическая эффективность.*

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IMPROVING THE PROCESS OF ORGANIZING TENDING PROCESSES IN PUBLIC-PRIVATE PARTNERSHIP PROJECTS

***Annotation.** This article analyzes the procedures and mechanisms for implementing tender processes in public-private partnership projects, and also develops original proposals and recommendations regarding the problems of implementing tender processes in public-private partnership projects in our republic today and the measures taken for their further improvement in the future. The author came to the conclusion that, based on the results of the study, it is necessary to help business representatives participate in the tender processes of such projects, develop financial calculations that ensure the rationality and efficiency of projects, and also constantly monitor their implementation.*

Key words: *public-private partnership, state, tender, business sector, project, concept, investment, financial and economic efficiency.*

Введение

Мировая практика показывает, что устойчивое развитие и функционирование современной национальной инновационной системы без государственно-частного партнерства (ГЧП) в сфере социально-экономического развития стран затруднено. На необходимость развития ГЧП указывают многие документы, определяющие направления государственной политики в научно-технической и инновационной сферах.

В частности, в целях создания правовых условий для привлечения инвестиций в экономику Республики Узбекистан на основе государственно-частного партнерства и регулирования отношений в сфере государственно-частного партнерства, включая концессии, Республика Узбекистан «О Государственно-частное партнерство» от 10 мая 2019 г. Закон ЗРУз-537 №. Этот закон предусматривает развитие и регулирование отношений между государством и субъектами частного предпринимательства в различных сферах экономической деятельности в нашей стране [1].

В проектах государственно-частного партнерства конкурсы проводятся до заключения сторонами контракта. В отдельных случаях, в виде исключения, соглашение может быть подписано между сторонами путем прямых переговоров.

Тендер – это объявление о будущей закупке, целью которого является определение победителя с лучшей ценой по условиям объявления и условиям поставки.

Участником тендера является лицо, которое участвует в торгах от своего имени или по поручению своего клиента, получая тем самым маржу или брокерское вознаграждение от успешной сделки. Короче говоря, человек, который зарабатывает на тендерах и госзакупках.

Проект государственно-частного партнерства может быть инициирован государственным органом и индивидуальным предпринимателем или юридическим лицом.

Инициировать проект государственно-частного партнерства:

- разработка концепции проекта государственно-частного партнерства;
- направить концепцию проекта государственно-частного партнерства в соответствующий государственный орган для оценки, согласования и утверждения;
- рассмотрение концепции проекта государственно-частного партнерства уполномоченным государственным органом;
- утвердить, отклонить или вернуть компетентному государственному органу на официальное оформление концепцию проекта государственно-частного партнерства;
- утверждение согласованной концепции проекта государственно-

частного партнерства государственным партнером или Кабинетом Министров Республики Узбекистан;

– включает внесение уполномоченным государственным органом концепции проекта государственно-частного партнерства в реестр проектов государственно-частного партнерства.

Анализ литературы по теме

Особенности развития экономистами партнерских отношений государства и бизнеса, Научно, теоретически и методологически исследованы возможности использования ГЧП, модели эффективной реализации механизма ГЧП, контрактная и тендерная формы ГЧП.

В работах Ж. Пьер, Дж. Г. Петерса [2, стр. 89-108] направления достижения максимально быстрого роста доходов домохозяйств за счет поощрения частных инвестиций, выделены условия использования экономических функций государства для формирования конкурентной среды, проблемы, связанные с обеспечением участия частного сектора в управлении и финансировании стратегических проектов социального значения.

Организация экономического сотрудничества и развития (ОЭСР) определяет ГЧП как «любые формальные отношения или соглашение между государством и участниками на установленный/неопределенный период, в течение которого обе стороны сотрудничают в принятии решений и обмене наукой, технологиями и инновациями». . — это создание и совместное инвестирование ограниченных ресурсов, таких как деньги, персонал, оборудование и информация, для достижения конкретных целей в данной области» [3].

Российский учёный по В.Г.Варнавскому были изучены «формирование системы экономических отношений между государством и частным сектором», экономическая сущность и содержание категории «государственно-частное партнерство», цели и задачи, состав и модели, основные направления экономической деятельности между государством и субъектами частного предпринимательства, источники привлечения финансовых средств для реализации форм сотрудничества между государством и бизнес, государство и направления, связанные с объектами общественной собственности» [4].

По мнению О.А. Романовой, «государственно-частное партнерство – это взаимовыгодный союз государства и бизнеса с целью реализации важных проектов. В этом случае государство образует альянс с частным бизнесом и не только сокращает бюджет, но и берет на себя эффективную систему управления проектами, а бизнес получает набор определенных гарантий и привилегий» [5].

В соответствии с Законом Республики Узбекистан «О государственно-частном партнерстве» государственно-частное партнерство определяется следующим образом: «Государственно-частное партнерство – это объединение ресурсов между государственным партнером и частным партнером для реализации юридически оформленный проект государственно-

частного партнерства на определенный период времени, основанный на сотрудничестве» [1].

По мнению Д.И.Петрова «... мы видим, что государство привлекает частный бизнес в отрасли, приобретающие все большее значение для общества, что приводит к необходимости максимально эффективного проведения тендеров для успешной реализации проектов ГЧП» [6].

Методология исследования

В процессе исследования рассмотрены научные основы методологического подхода к развитию государственно-частного партнерства в условиях развития цифровой экономики, внедрение проектов государственно-частного партнерства, основные направления государственно-частного партнерства, показатели оценки эффективности инвестиционного проекта по внедрению данного механизма, от проведения конкурсов по проектам государственно-частного партнерства, системного и научного подхода до исследования экономических систем и соотношений с точки зрения повышения экономической эффективности и бюджетной эффективности, использовались методы сравнительного и сравнительного анализа и группировки.

Анализ и результаты

Государственный инициатор разрабатывает концепцию проекта государственно-частного партнерства, как правило, согласно приоритетным направлениям экономики и социальной сферы, которые находятся в его ведении.

Подготовка проекта государственно-частного партнерства на основе предварительных финансовых расчетов, обеспечивающих рациональность и эффективность проекта государственно-частного партнерства и его оптимальную форму для целей реализации данного проекта, в частности:

- показатели финансово-экономической эффективности проекта государственно-частного партнерства;
- структуру и параметры объекта государственно-частного партнерства, проектируемого, строящегося, финансируемого, реконструируемого, используемого или предоставляемого частным партнером в соответствии с договором государственно-частного партнерства;
- размер предполагаемых инвестиций частного партнера и размер предполагаемого финансирования из бюджетов бюджетной системы Республики Узбекистан;
- обязательства государственного партнера и частного партнера;
- виды государственной поддержки, предоставляемой частному партнеру;
- сроки проведения переговоров;
- осуществляется с учетом условий использования товаров (работ, услуг), предоставляемых с использованием объекта государственно-частного партнерства.

В целях учета интересов населения, потребителей товаров (работ, услуг) и тех, кто их использует, подготовка проекта государственно-частного партнерства должна осуществляться совместно с общественными обсуждениями.

Частный предприниматель имеет право разработать концепцию проекта государственно-частного партнерства и представить ее потенциальному государственному партнеру. Концепция проекта государственно-частного партнерства должна включать инновационный подход к решению существующих проблем и обеспечивать приемлемую для сторон пропорциональную стоимость.

Прежде чем представить концепцию проекта государственно-частного партнерства, частный инициатор может провести предварительные обсуждения и обменяться информацией о государственно-частном партнерстве с потенциальным государственным партнером.

Потенциальный государственный партнер, получив концепцию проекта государственно-частного партнерства, в течение тридцати календарных дней принимает решение об одобрении или отказе от его реализации.

В случае утверждения концепции равноценного проекта государственно-частного партнерства частного инициатора общей стоимостью более одного миллиона долларов США, потенциальный государственный партнер направляет данную концепцию в компетентный государственный орган на согласование.

Основаниями для отказа в реализации проекта государственно-частного партнерства являются:

- ✓ несоответствие частного инициатора требованиям, установленным настоящим Законом к заявителям;

- ✓ потенциальный государственный партнер не имеет права ведения предпринимательской деятельности или права оперативного управления в отношении объекта государственно-частного партнерства;

- ✓ отсутствие необходимости проектирования, строительства, создания, финансирования, реконструкции, использования и обслуживания объекта государственно-частного партнерства;

- ✓ что реализация проекта экономически нецелесообразна и (или) в нем нет социальной необходимости.

В случае одобрения концепции проекта государственно-частного партнерства потенциальный государственный партнер публикует предложение довести до сведения других заявителей о концепции проекта государственно-частного партнерства и их заинтересованности в реализации проекта государственно-частного партнерства на его основе. официальном сайте, на официальном сайте уполномоченного государственного органа и на иных сайтах, размещается в течение пяти календарных дней на специальных сайтах.

Если индивидуальный предприниматель или юридическое лицо не проинформирует потенциального государственного партнера о своей

заинтересованности в реализации проекта государственно-частного партнерства в течение сорока пяти календарных дней с момента оглашения концепции проекта государственно-частного партнерства, потенциальный государство-партнер - принимает решение о реализации проекта частного партнерства и начинает переговоры с частным предпринимателем, составляет проект договора государственно-частного партнерства прийти с уполномоченным государственным органом и в течение шестидесяти дней со дня согласования проекта договора о государственно-частном партнерстве с уполномоченным государственным органом заключить договор о государственно-частном партнерстве с частной инициативой без проведения конкурса.

Если индивидуальный предприниматель или юридическое лицо изъявляет заинтересованность в реализации проекта государственно-частного партнерства, определение частного партнера для реализации проекта государственно-частного партнерства осуществляется на основе тендера.

Расходы, связанные с подготовкой проекта государственно-частного партнерства частному инициатору, могут быть возмещены за счет средств победителя или резервного победителя конкурса в размере, не превышающем одного процента от общей стоимости проекта государственно-частного партнерства. .

Государственный партнер заключит соглашение о государственно-частном партнерстве с частным партнером, определяемым по результатам тендера или прямых переговоров.

Тендеры могут быть одноэтапными и двухэтапными.

На эквивалентный проект государственно-частного партнерства общей стоимостью до одного миллиона долларов США будет проведен одноэтапный тендер.

При проведении одноэтапного конкурса в заказах (предложениях) участников, подготовленных с детальным техническим предложением и коммерческим (финансовым) предложением, должна быть указана цена (тариф), исходя из концептуальных решений и условий, указанных в конкурсной документации; рассматриваются и оцениваются. В процессе организации тендера допускается проведение переговоров с претендентами по параметрам предмета тендера.

Таблица 1

Порядок проведение одноэтапных или двухэтапных тендеров*

Одноэтапная тендерная процедура	Двухэтапная тендерная процедура
– публикация объявления о проведении тендера в средствах массовой информации и на официальных сайтах государственного партнера и уполномоченного государственного органа;	– публикация объявления о проведении тендера в средствах массовой информации и на официальных сайтах государственного партнера и уполномоченного государственного органа; – получение официальных поручений от претендентов на участие в тендере; – определение круга заинтересованных лиц для

– получение официальных приказов и тендерных заявок (предложений) от претендентов на участие в тендере; – подача комплекта тендерной документации; – вскрытие конвертов, содержащих конкурсные заявки (предложения) претендентов; – оценка тендерных заказов (предложений); – определить победителя тендера и резервного победителя; – проведение переговоров с победителем тендера; – заключение договора государственно-частного партнерства с победителем тендера.	- участия в тендере; – направление предварительных квалификационных документов претендентам на участие в тендере государственным партнером; – сбор и оценка предварительных квалификационных приказов, подтверждающих квалификацию претендентов; – формирование списка претендентов, прошедших предварительную квалификацию; – направление государственным партнером запроса на представление тендерной документации и конкурсных заявок (предложений) для участия в тендере; – подача технических предложений и коммерческих (финансовых) предложений претендентами на участие в тендере; – вскрытие конвертов, содержащих конкурсные заявки (предложения) претендентов на участие в конкурсе; – оценка тендерных заказов (предложений); – определить победителя тендера и резервного победителя; – проведение переговоров с победителем тендера; – заключение договора государственно-частного партнерства с победителем тендера.

*Источник: составлено автором.

Срок подачи заявок (предложений) на участие в конкурсе не должен быть менее тридцати календарных дней со дня объявления конкурса.

На аналогичный проект государственно-частного партнерства общей стоимостью более миллиона долларов США будет проведен двухэтапный тендер.

Двухэтапный тендер включает этапы предварительной квалификации и выбора победителя тендера.

Двухэтапный тендер будет проводиться в следующем порядке:

- на первом этапе рассматриваются заказы и оцениваются тендерные предложения, разработанные на основе концептуальных и технических решений, указанных в условиях конкурсной документации. Допускается проведение переговоров с претендентами по параметрам предмета конкурса;
- на втором этапе рассматриваются и оцениваются технические предложения и коммерческие (финансовые) предложения, которые подаются с указанными параметрами предмета конкурса и с указанием цены (тарифа).

Срок приема заявок на участие в предварительной квалификации не должен быть менее тридцати календарных дней со дня объявления тендера.

Для проведения первоначальной квалификации требуется как минимум два заявителя.

На этапе выбора победителя государственный партнер направит претендентам, прошедшим предварительный отбор, запрос тендерных заявок (предложений) и проект договора государственно-частного партнерства.

Срок подачи конкурсных заявок (предложений) указывается в заявке на представление конкурсных заявок (предложений) и не должен быть менее сорока пяти дней со дня направления данного запроса претендентам, прошедшим предварительный отбор.

Ни один из претендентов не имеет права подать более одного конкурсного задания (предложения). Заявитель может изменить или отозвать конкурсную заявку (предложение) в любое время до окончания срока подачи конкурсных заявок (предложений) в конкурсную комиссию.

Оценка конкурсных заказов (предложений) осуществляется конкурсной комиссией в установленный срок. Оценка заказов (предложений) осуществляется по каждому конкурсному критерию, установленному конкурсной комиссией.

Участники конкурса или их представители не имеют права присутствовать при оценке конкурсных заявок (предложений). В процессе оценки конкурсная комиссия имеет право позвонить заявителям для дачи объяснений, запроса дополнительной информации и подтверждения достоверности представленных документов. Участники торгов и их доверенные лица могут участвовать в опубликовании результатов тендера.

Если конкурсная комиссия посчитает конкурсные заявки (предложения) всех претендентов не соответствующими требованиям запроса конкурсных предложений, она признает конкурс несостоявшимся и имеет право объявить повторный конкурс. Повторный конкурс будет проведен в соответствии с порядком его проведения.

Тендерная комиссия опубликует информацию о победителе тендера на официальных сайтах государственного партнера и уполномоченного государственного органа. Расходы, понесенные претендентами в связи с участием в тендере, не возмещаются.

Государственный партнер подготавливает и утверждает конкурсную документацию, регламентирующую проведение конкурса на право заключения договора государственно-частного партнерства с компетентным государственным органом.

В тендерной документации должны быть отражены:

- требования к документам, подтверждающим соответствие претендентов квалификационным требованиям;
- земельный участок, на котором расположен объект государственно-частного партнерства;
- технико-экономические показатели объекта государственно-частного партнерства;
- условия проектирования, строительства, финансирования, реконструкции, использования и эксплуатации объекта государственно-

частного партнерства;

- показатели качества услуг, оказываемых объектом государственно-частного партнерства или частным партнером, или минимальные требования к ним;

- размер финансирования, предоставляемого государственным партнером частному партнеру в целях исполнения договора государственно-частного партнерства, перечень имущества или имущественных прав;

- риски, принимаемые на себя сторонами договора государственно-частного партнерства;

- валюта, в которой должны быть отражены параметры проекта государственно-частного партнерства, и курс валюты, используемой в расчетах, для приведения их к единой валюте в целях сравнения и оценки;

- описание критериев тендера;

- требования к языку оформления тендерного заказа (предложения);

- содержание конкурсного заказа (оферты), издание конкурсных заказов (предложений) и способ их исполнения, место, сроки;

- условия включения поставок в тендерную заявку (оферту);

- порядок, место, дата и время вскрытия конвертов, содержащих конкурсные заявки (предложения).

Проект договора государственно-частного партнерства является неотъемлемой частью тендерной документации.

Государственный партнер имеет право вносить изменения и дополнения в конкурсную документацию в соответствии с соглашением с уполномоченным государственным органом. Государственный партнер обязан уведомить всех претендентов об изменениях и (или) дополнениях к конкурсной документации не позднее пяти календарных дней после принятия решения о внесении изменений и (или) дополнений в конкурсную документацию. В целях учета заявителями указанных изменений и (или) дополнений в своих тендерных заказах (предложениях) срок подачи тендерных заявок (предложений) продлевается государственным партнером на срок не менее тридцати календарных дней.

Тендерные критерии должны быть ясными и не должны содержать дискриминационных положений.

Для выражения заинтересованности в реализации проекта государственно-частного партнерства заявитель при участии в тендере должен соответствовать следующим критериям:

- иметь правоспособность;

- иметь необходимые финансовые и (или) материально-технические ресурсы и (или) квалифицированные трудовые ресурсы для выполнения обязательств, связанных с соглашением государственно-частного партнерства;

- не иметь оснований, наличие которых могло бы привести к конфликту интересов.

Критериями, используемыми при выборе победителя тендера, являются следующие:

- сумма платежей, произведенных государственным партнером и частным партнером;
- самые высокие цены и тарифы;
- размер средств частного партнера, подлежащих привлечению для исполнения договора государственно-частного партнерства;
- размер и виды государственной поддержки частного партнера;
- срок проектирования и (или) строительства, строительства, реконструкции, модернизации, использования и эксплуатации объекта государственно-частного партнерства;
- срок действия договора государственно-частного партнерства;
- технические и технологические преимущества, функциональные и инновационные характеристики проекта государственно-частного партнерства.

В случае неподписания победителем тендера договора государственно-частного партнерства по истечении срока, указанного в конкурсной документации, либо конкурсная комиссия установит, что сведения, предоставленные победителем тендера, не соответствуют действительности, конкурсная комиссия принимает решение о дисквалифицировать его и объявить резервного победителя тендера победителем и выдать ему в течение десяти календарных дней со дня принятия решения о дисквалификации победителя тендера предлагает заключить договор о государственно-частном партнерстве на условиях победителя. В случае неполучения конкурсной комиссией положительного ответа от резервного победителя тендера в течение тридцати календарных дней со дня направления предложения о заключении договора государственно-частного партнерства конкурсная комиссия признает конкурс несостоявшимся и объявляет конкурсную комиссию. повторный тендер.

Договор государственно-частного партнерства – документ, заключаемый между государственным партнером и частным партнером в порядке и на условиях, предусмотренных Законом о государственно-частном партнерстве.

Стороны договора государственно-частного партнерства могут договориться о продлении или сокращении срока действия договора в случаях и на условиях, предусмотренных договором государственно-частного партнерства, в установленные сроки.

Заявитель, желающий создать негосударственное дошкольное образовательное учреждение на основе государственно-частного партнерства, подает в Министерство дошкольного образования Республики Узбекистан заявление с приложением:

- копия свидетельства о государственной регистрации права на земельный участок;

- копия свидетельства о государственной регистрации права на здание (при наличии);

- сведения об отсутствии задолженности по налогам, сборам, другим обязательным платежам и иным финансовым санкциям не позднее, чем за один месяц до даты подачи заявления;

- документ, подтверждающий возможность частного партнера профинансировать не менее 25% стоимости проекта или поручительство другой организации;

- утвержденная и согласованная проектно-сметная документация здания планируемого к созданию негосударственного дошкольного образовательного учреждения;

- заключения местных органов экологического и природоохранного надзора, государственного санитарно-эпидемиологического надзора на строительство дошкольного образовательного учреждения;

- предварительные технико-экономические показатели строительства здания негосударственного дошкольного образовательного учреждения.

Заявка частного партнера на реализацию проекта будет рассмотрена государственным партнером в течение 15 дней с момента поступления заявки.

В случае принятия решения о целесообразности реализации проекта договор между государственным партнером и частным партнером будет заключен в течение 7 дней. Срок контракта установлен в 30 лет.

Проекты, предложенные государственным партнером, будут отклонены государственным партнером в течение 3 дней на основании обоснованных отрицательных заключений региональных органов экологического и природоохранного, государственного санитарно-эпидемиологического надзора на строительство дошкольного образовательного учреждения.

Конкурсы по заключению договоров государственно-частного партнерства в области физического воспитания и спорта организуются приказом Министра физического воспитания и спорта Республики Узбекистан в составе не менее 5 человек.

Государственный партнер может предложить реализацию проекта государственно-частного партнерства исходя из потребностей населения соответствующей территории, в том числе по результатам изучения предложений, поступивших от органов самоуправления граждан, физических и юридических лиц.

За 30 дней до начала конкурса Государственный партнер публикует объявление о проведении тендера на своем официальном сайте в сети Интернет и в других средствах массовой информации.

К участию в конкурсе не допускаются заявители, находящиеся в стадии реорганизации, ликвидации или банкротства, активы которых заморожены. Победителем конкурса будет признан участник, заявка которого будет признана наиболее подходящей для реализации проекта государственно-частного партнерства.

Также по итогам конкурса будет определен резервный победитель, параметры предложений которого соответствуют условиям конкурса, но ниже уровня параметров, предложенных победителем согласно конкурсной документации.

В случае поступления заявки только от одного участника конкурс не будет проводиться, а соответствующее решение будет принято отборочной комиссией по результатам изучения заявки участника и приложенных к ней документов в течение 5 рабочих дней после окончания тридцатидневного периода с момента объявления конкурса. Отборочная комиссия принимает положительное или отрицательное решение на основании соответствия предложений частного партнера требованиям отбора.

В день принятия решения приемной комиссией по итогам конкурса государственный партнер обязан проинформировать конкурсантов о результатах конкурса путем размещения информации на своем официальном сайте в глобальной информационной сети Интернет или в других средствах массовой информации.

Если участник не согласен с решением, он имеет право обжаловать решение в суде.

На основании положительного решения отборочной комиссии в течение 10 дней со дня принятия она заключит сделку в соответствии с требованиями государственного партнера и частного партнера и предоставит в данное министерство информацию для включения сделки в единый реестр. реестр Министерства физической культуры и спорта Республики Узбекистан.

20% от общей суммы доходов, полученных от оказания платных услуг по физическому воспитанию и здоровью и спорту на спортивных объектах, находящихся в системе Министерства физической культуры и спорта Республики Узбекистан и переданных инвесторам на основе условиях государственно-частного партнерства переводятся на специальные счета депозитария на баланс в соответствии с договором о государственно-частном партнерстве переводятся (за исключением государственно-частного партнерства в форме благотворительной деятельности в отцовской форме)) и распределяется следующим образом:

В балансе 50% суммы, поступившей на специальные счета кастодиана, переводится на специальный счет государственного партнера. Оставшаяся часть остается в распоряжении кастодиана на балансе.

Средства, поступающие на номера специальных счетов Министерства физической культуры и спорта Республики Узбекистан и балансира, используются на развитие материально-технической базы Министерства физической культуры и спорта Республики Узбекистан и хранитель баланса и другие нужды.

Заключене

В целом необходимо дальнейшее совершенствование законодательства и нормативных документов для обеспечения принципа объективности и справедливости в тендерных процессах ГЧП.[7].

□ Потенциальный поставщик должен иметь право обжаловать решение тендера в независимом суде, если он считает, что контракты незаконны. Суд должен иметь право регулировать процесс ГЧП, что означает, что он имеет возможность устранять нарушения или требовать возмещения ущерба. Необходимо также принять чрезвычайные меры для исправления противоправного поведения.

□ Необходимы органы по обеспечению соблюдения тендеров, которые должны быть уполномочены проводить аудит тендеров. При этом контролирующие органы не должны участвовать в выборе поставщика.

□ Привлечь независимого аудитора. Он не должен быть связан ни с одной из вовлеченных сторон, и его роль заключается в проведении независимого, беспристрастного аудита.

□ не должно быть конфликта интересов; государственные и муниципальные организации-заказчики должны быть полностью независимы от реализуемого проекта. Это предотвращает коррупцию и снижает репутационные риски.

□ Кроме того, важным принципом проведения торгов является недискриминация. Обеспечение равных прав всем поставщикам независимо от их региона обычно регулируется соответствующими нормативными актами. Общие требования обычно не охватывают этот принцип из-за редкости его применения. Если иностранных поставщиков много и имеется статистика о том, как часто они выигрывают тендер, то этот аспект можно включить в общие правила тендера.

Следует отметить, что есть и случаи, когда иностранные поставщики поддерживаются в большей степени. Эта ситуация также не применима. Не должно быть никакой дискриминации в отношении местных компаний.

Основной принцип отбора потенциальных участников проектов ГЧП заключается в том, что тендер должен проводиться на основе прозрачной, объективной и недискриминационной процедуры отбора, которая должна стимулировать конкуренцию и сохранять баланс между скоростью проведения тендера и ценой тендера. тендер и качество отбора.

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МЕТОДИКА ИННОВАЦИОННОЙ ОБРАЗОВАТЕЛЬНОЙ СРЕДЫ НА УРОКАХ ИСТОРИИ

Аннотация: Подчеркивается, что образование является одним из основных факторов, обеспечивающих устойчивое развитие в мире. Реализуются практические методические подходы и мероприятия по устранению проблем повышения качества и эффективности общего среднего образования. Одной из важных задач в развитии знаний, умений и навыков учащихся является эффективное использование методов создания развивающей образовательной среды в инновационных школах. В данной статье описан метод создания инновационной образовательной среды в школах.

Ключевые слова: Инновационная школа, развивающее обучение, методика, интерактивный метод, компетенция, технология SMART.

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METHODOLOGY OF ORGANIZING A DEVELOPING INNOVATIVE EDUCATIONAL ENVIRONMENT IN HISTORY LESSONS

Annotation: It is emphasized that education is one of the main factors ensuring sustainable development in the world. Practical methodological approaches and activities are being implemented to eliminate problems in improving the quality and efficiency of general secondary education. One of the important tasks in the development of students knowledge, skills and abilities is the effective use of the methods of organizing the educational environment in innovative schools. This article describes the method of creating an innovative learning environment in schools.

Keywords: Innovative school, developmental education, methodology, interactive method, competence, SMART technology.

Введение: Реформы в организации инновационных образовательных учреждений, реализуемые в нашей республике в последние годы, имеют большое значение для того, чтобы мы заняли место среди высокоразвитых стран мира. Инновации в образовании важны, поскольку служат для координации меняющихся потребностей в ходе исторического развития общества. Однако социальные мотивы, вызывающие инновационные процессы в этой системе, в наше время существенно изменились, что привело к развитию инноваций, затрагивающих основы образования как особого

социального института. В данной статье разработаны концепция, программа и технология повышения качества обучения в инновационных образовательных учреждениях, построения развивающегося образовательного пространства. После обретения Республикой Узбекистан политической независимости во всех сферах нашей общественной жизни стали осуществляться коренные реформы. Сила любой страны определяется духовной зрелостью и интеллектуальным потенциалом ее граждан. Граждане духовный зрелость, интеллектуальность потенциал пока образование система содержание человека каждый на двусторонней основе формирование для услуга делатель материал и духовный условий присутствие в обществе решение найденный социальное здоровый среда уровень, социальное отношения содержание, а также население этнопсихологический характеристики мораль просмотры и жизненно важный убеждения на основе формируется [3]. Внедряются относительно новые подходы к эффективной организации и развитию деятельности школ, разрабатываются научно-педагогические аспекты, механизмы качественной деятельности. Целью реформы системы образования является подготовка будущего поколения преданных родине, самостоятельных мыслителей, быстро адаптирующихся к любым условиям, умеющих принимать правильные решения. Как известно, культура, богатство страны измеряется критериями того, в какой степени семья занимается воспитанием детей. Поэтому в школе важен институт родителей. Родители-постоянные участники школьной жизни.

Указы Президента Республики Узбекистан от 29 апреля 2019 года № ПФ-5712 “О развитии системы народного образования Республики Узбекистан до 2030 года”, от 25 января 2018 года № ПФ-5313 “О мерах по коренному совершенствованию системы общего среднего, среднего специального, профессионального образования”, а также организация педагогической деятельности и при реализации задач, поставленных в иных нормативно-правовых актах, касающихся развития, данная статья в определенной степени служит [1,2].

Анализ литературы и методы: В рамках нашего исследования были проанализированы педагогическая, психологическая философская, социальная, научная литература и научно-исследовательские работы по данной теме. Ниже приведены научно-исследовательские работы, проводимые учеными нашей страны.

М.Б.Эргашевой разработаны рекомендации по совершенствованию подготовки будущих учителей начальных классов на основе развивающего обучения. Он дает следующее определение развивающему обучению: Развивающее обучение - это особая учебная среда, эффективное общение учителя и учащихся. Учитель-предсказатель, не только передающий, контролирующий и оценивающий готовые знания, но и фасилитатор, организующий учебную деятельность, дебаты, коллективную творческую работу, активизирующую познавательные процессы [3].

Д.А.Алибеков исследовал инновационное развитие системы образования как философскую проблему. В этой связи философски-научное обоснование методических, технологических, системных и функциональных принципов современного образования в контексте информационно-коммуникативных и цивилизационно-позитивных тенденций воспитания инновационной личности [4].

Результаты и обсуждение: Остановимся на методах обучения, являющихся одним из элементов образовательного процесса, и дадим определение понятию “метод”. Метод - (от греческого слова» methodos", означающего путь к поиску или познанию, теория, учение) совокупность операций или путей практического или теоретического усвоения бытия, подчиненных решению конкретной задачи. В обучении используются три разных метода а именно пассивный, активный и интерактивный метод обучения.

Пассивный метод - это форма взаимодействия ученика и учителя, при которой учитель выступает в качестве основного участника и руководителя урока, а ученики-пассивных слушателей, следуя указаниям учителя.

Активный метод - это форма взаимодействия учителей и учеников, при которой учитель и ученики общаются друг с другом на протяжении всего урока, и здесь ученики становятся активными участниками урока, а не пассивными слушателями.

Интерактивный метод - в отличие от активных методов, ориентирован на более широкое взаимодействие учащихся не только с учителем, но и друг с другом, на преобладание активности учащихся в процессе обучения.

Следовательно, основными компонентами интерактивных занятий являются интерактивные упражнения и задания, выполняемые учащимися. Важным отличием интерактивных упражнений и заданий от простых является то, что, выполняя их, учащиеся не только закрепляют усвоенный материал, но и усваивают новый.

Вышеперечисленные методы различаются по уровню активности учащихся. Например, пассивные методы обучения на семинаре не дают хорошего эффекта. В отличие от практических занятий, организуемых с помощью активных и интерактивных методов обучения, обучение посредством различных игр способствует повышению интереса у обучающихся и формированию атмосферы взаимной конкуренции.

В данной статье мы приведем методику развития социальной базовой компетенции учащихся через организацию развивающей образовательной среды в инновационной школе. Для этого рассмотрим определения компетенция и компетентности.

С.И.Ожегов словарь определяет понятия "компетенция" и "компетентность" следующим образом: компетенция - это совокупность вопросов, которые будущий специалист хорошо знает и на которые отвечает на любые инженерные вопросы. Каждый специалист считается

компетентным, если он 1) Обладает необходимыми профессиональными компетенциями; 2) Эрудирован, умен, обладает личностными качествами в своем направлении.

Как сказано в приведенных выше словарях, значение понятия "компетенция" многообразно. Многие ученые-педагоги рассматривают этот термин в двух разных формах. На наш взгляд, при изучении определения "компетентность" необходимо иметь в виду меру ее соответствия личности, осуществлению профессиональной деятельности, изучаемой предметной области.

Компетентность, как и компетенция, определяется комплексными профессиональными качествами личности. Приобретенные способности служат развитию профессиональных качеств личности. Часто эти понятия понимаются как синонимы по отношению друг к другу, и их различение является сложной задачей. При анализе трактовок понятий "компетенция" и "компетентность" в рамках проводимой научно-исследовательской работы в содержательном отношении опираемся на следующие понятия:

Компетенция - это знания, умения, навыки и личные качества и качества учащихся.

Компетентность - это способность человека приобретать компетенции и проявлять их в своей деятельности.

Социальную базовую компетенцию мы воспринимаем как совокупность знаний, умений и навыков, приобретенных учащимися в социально-гуманитарных науках.

Социальная базовая компетенция – это умение проявлять активность в социальных отношениях, владение навыками, умение вступать в общение с субъектами в практической деятельности.

а) Методика проведения теоретических занятий по Истории

Разрабатывается план тренировок.

Роль учителя: В форме беседы дается обзор плана.

Результат обучения: Социальная базовая компетентность учащегося отражается как его общая характеристика. Он считается предварительным условием и результатом творческой деятельности. Это качество выражает владение и готовность человека к самовыражению. Социальная базовая компетенция учащегося тесно связана с творчеством, направленным на процесс познания социально-гуманитарных наук. Основные компетенции учащегося в отличие от традиционного мышления проявляются в: умении генерировать новые идеи; не мыслить однообразно; оригинальности; инициативности; терпимости к неопределенности; сообразительности.

Методы обучения: технология SMART.

Образовательный инструмент: презентация.

Аудитория: компьютерная комната с мультимедийным компьютером.

Технология SMART: Как поставить цель. Мы задаем этот вопрос необычайно часто. SMART-это производное от первых букв английских слов.

SMART: Specific – конкретная цель; Measurable – масштаб; Achievable – как; Realistic – релевантность; Timed – фиксированное время.

S – specific (конкретная цель) - совершенствование базовых компетенций учащихся на основе преподавания Истории.

M – measurulle (мера) - определение уровней развития социально опорной компетенции учащихся по предмету История.

A-achievable (как?)- совершенствование методики развития социально-опорной компетенции своих воспитанников по предмету История.

R – relevant (дозированность) - высокий социальный спрос на учащихся с развитой социально-базовой компетенцией по Истории.

T-time baund (фиксированное время) - этапы развития социальной базовой компетенции учащихся по предмету История: *определяющий, формирующий, завершающий*.

б) Методика проведения семинарских занятий по истории.

Составляется план. Порядок проведения семинарного занятия: из обучающихся формируются добровольные подгруппы, формируются таблицы и схемы основных понятий по теме. Учащиеся защищают свои действия, интерпретируя их индивидуально или в группе.

Методы, используемые при проведении семинара: метод “кластера”. Кластерный метод-это определенная форма педагогической, дидактической стратегии, которая способствует созданию условий для свободного, открытого мышления и свободного выражения мыслей обучающихся по произвольной проблеме (теме). Этот метод требует определения структуры, в которой связи между различными идеями позволяют мыслить. Кластерный метод считается определенной формой объектно-ориентированного мышления. Его использование происходит в связи с принципом функционирования мозговой деятельности человека. Этот метод служит для обеспечения непрерывности мыслительной деятельности до тех пор, пока тот или иной предмет не будет глубоко и основательно усвоен обучающимися.

В самостоятельных учебных занятиях применялся исследовательский метод, и его преимуществами являются: глубокое усвоение учащимися предметов; легкость контроля над учащимися со стороны учителя; более глубокое обучение учащихся за более короткий промежуток времени; максимальное развитие навыков и умений учащихся.

Метод исследования. После постановки задачи (проблемы) путем анализа проблемы в кратком устном или письменном руководстве учащиеся изучают литературу, источники, а также выполняют задания на проектирование. Суть исследовательского метода в образовательном процессе сводится к следующему: педагог совместно с учащимися описывает проблему, на решение которой отводится часть времени урока; учащиеся самостоятельно приобретают эти знания в процессе решения задачи, сравнения различных вариантов ответов, которые должны быть получены; определяет средства достижения результата; деятельность педагога ведет к оперативному управлению процессом решения проблемных вопросов. Результирующий блок имеет тесную взаимосвязь с целевым,

технологически-процессуальным и диагностическим блоками и определяет уровень развития у обучающихся социально-базовых компетенций.

Метод проектов. Метод проектов (проектирование) – это метод обучения, при котором учащиеся решают практическую задачу в течение нескольких дней или недель в самостоятельном обучении. Это может включать проектирование и другую практическую работу, основанную на плане. Проекты могут быть предложены учителем, но по возможности выполняются индивидуально самими учащимися. Метод проектирования направлен на применение конкретных знаний или навыков для развития самостоятельного мышления, уверенности в себе и социальной ответственности, повышения вовлеченности и мотивации учащихся.

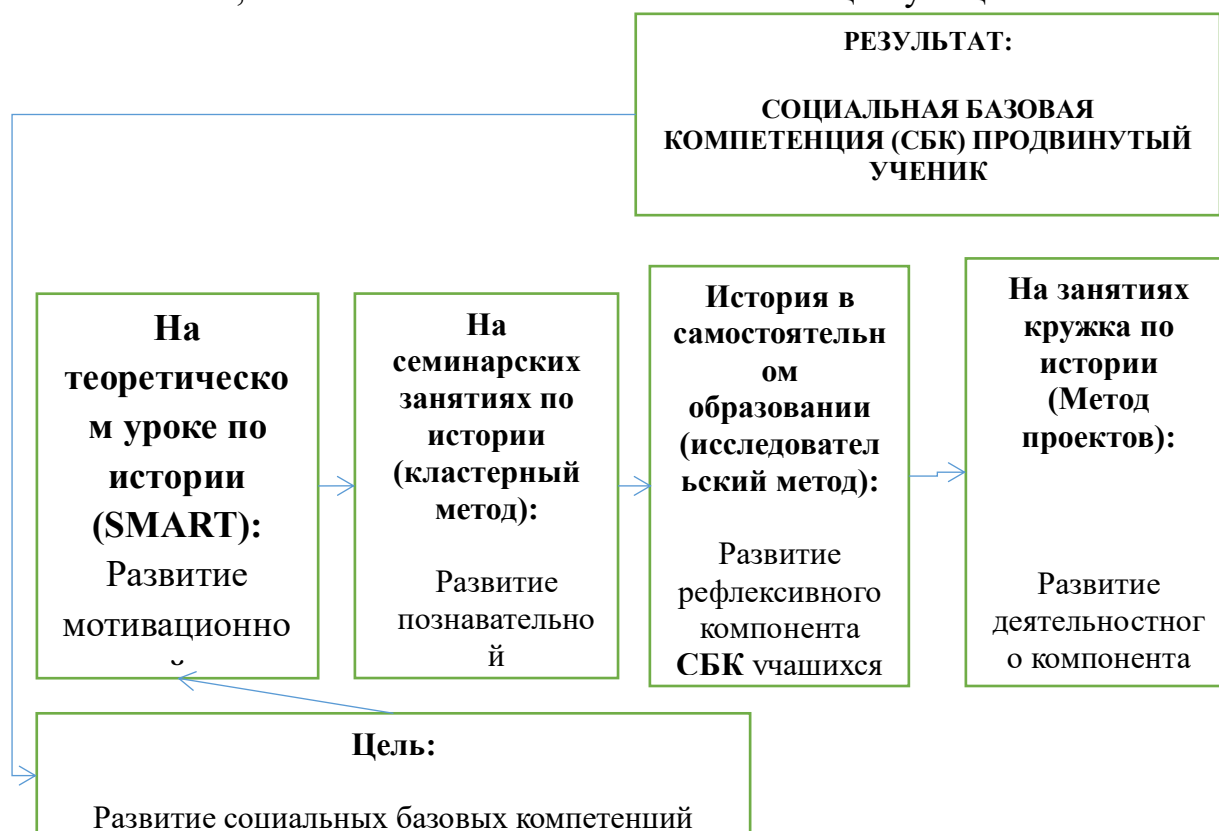


Рисунок. Модель развития социальной базовой компетенции учащихся

с) Методика проведения кружковых занятий по истории.

Кружковые занятия по истории-важная форма исследовательской работы учащихся. В его рамках учебный материал обобщается через социальные науки в учебной программе, которая закладывает основы проектирования. Курсовой проект по истории, изучаемый на занятиях кружка, представляет собой единую задачу, объединяющую все дисциплины и состоящую из последовательно решаемых задач. Занятия в кружке проводятся с целью углубления и закрепления теоретических основ, полученных учащимися на этапе изучения исторической науки, а также освоения методов проектирования и анализа.

Завершение индивидуального проекта происходит в следующие 9 этапов.

На первом этапе проводятся такие исследования, как анализ задания, изучение нормативных документов, принятие эффективных решений.

На втором этапе формируется представление о структуре развития социально опорной компетенции учащихся, о требованиях к современной им личности, о личностных, правовых аспектах взаимодействия.

На третьем этапе осуществляется модернизация социальной базовой компетенции учащихся на основе компетентного подхода.

На четвертом этапе изучается выбор методов развития базовых компетенций учащихся по предмету История, критерии оценки уровней развития социальных базовых компетенций.

Приобретение знаний, умений и навыков по Истории на пятом этапе. Учащиеся обязаны детально проанализировать учебник, учебные пособия, соответствующие нормативные документы по теме, зарубежный опыт и литературу, научно-исследовательские работы. Изучает историю, анализирует и представляет знания, полученные в результате исследований, другим членам группы.

Учащиеся выполняют проектирование в следующей последовательности:

1. Изучение основных нормативных документов;
2. Понимание этапов проектирования;
3. Изучение общих правил проектирования;
4. Проведение анализа, контроля и измерений;
5. Подведение итогов.

На шестом этапе они должны освоить духовно-просветительскую сферу. Они разрабатывают логическую структуру духовности и просветления.

На седьмом этапе происходит осмысление понятия мировоззрения как сущности содержания, восприятие мировоззрения как философской категории.

На восьмом этапе изучают духовное мировоззрение и его отношение к видам профессиональной деятельности и профессиональной компетентности.

На девятом этапе решают проблемные ситуации по духовному мировоззрению, обобщают решения и приходят к окончательному выводу. Проверяют свои рефлексивные возможности в рамках реализованного индивидуального проекта.

Развитие ребенка – сложный и противоречивый процесс, который зависит от следующих два факторов:

1. Внешний фактор – естественная социальная среда, целенаправленная деятельность, направленная на формирование личностных качеств.
2. Внутренний фактор биологический фактор и наследственности зависит от будет [6].

Краткое содержание: Из вышесказанного можно сделать вывод, что за счет организации развивающей образовательной среды в инновационной школе совершенствовались методико-дидактическое обеспечение развития базовых компетенций учащихся и методика преподавания истории. При этом использовались интерактивные методы. Цифровые технологии и технология Smart были использованы для развития социальных базовых компетенций учащихся. Комплекс средств, методов и форм обучения позволяет развивать социально опорные компетенции учащихся на основе реализации развивающей образовательной среды.

Особо подчеркивается, что одним из основных факторов, обеспечивающих устойчивое развитие, является образование и воспитание. Образование нельзя отделить от воспитания, а воспитание от воспитания.

Поэтому мы в современных инновационных школах должны вооружать подрастающее поколение современными знаниями и высокими моральными качествами. Мы создадим современную инновационную школу, где ученики чувствуют себя комфортно, где ученик и учитель чувствуют радость общения друг с другом, где царит дух любви, творчества, понимания, доверия и уважения, где защищаются права ученика. У студентов есть свобода выбора, и выбор есть. После окончания учебы ученики уверенно выбирают свой жизненный путь и становятся по-настоящему творческими свободными личностями.

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ЭЛЕКТРИЧЕСТВО В КЛАССЕ: КАК ВДОХНОВИТЬ УЧЕНИКОВ НА ИЗУЧЕНИЕ ФИЗИКИ

Аннотация: мы уверены, что задача современного учителя физики — создать среду, в которой школьники почувствуют себя исследователями и первооткрывателями

Ключевые слова: интерактивные симуляции и физические игры, геймификация, интерактивные эксперименты и демонстрации, Проектная деятельность и исследовательские задания, кейсы

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ELECTRICITY IN THE CLASSROOM: HOW TO INSPIRE STUDENTS TO STUDY PHYSICS

Abstract: we are confident that the task of a modern physics teacher is to create an environment in which schoolchildren feel like researchers and discoverers

Keywords: interactive simulations and physics games, gamification, interactive experiments and demonstrations, project activities and research tasks, cases

В мире, где технологии стремительно развиваются, роль учителя физики становится критически важной. Какому педагогу не хотелось бы видеть горящие глаза своих учеников, когда те сталкиваются с увлекательными тайнами природы? Однако, в действительности, многие

школьники зачастую рассматривают физику как сложный и скучный предмет. Вдохновение школьников — задача не из легких, но стоит попробовать посмотреть на физику с новой перспективы.

Первым делом, учителю следует сделать акцент на практическую пользу физических знаний. Дети с интересом воспринимают то, что могут применить в реальной жизни. Экспериментальные занятия, будь то исследование электрического тока или построение простейших цепей, могут пробудить интерес и дать возможность почувствовать себя настоящими учеными. Интерактивные демонстрации, на которых ученики своими руками создают электрические схемы или наблюдают волновые процессы, сделают уроки более живыми и увлекательными.

Кроме того, физика должна быть связана с повседневной жизнью, что поможет ученикам понять её значимость и применимость. Учитель может рассказать о современных технологиях, основанных на физических принципах, таких как смартфоны, электроавтомобили, и даже космические спутники. Когда учащиеся видят физику в действии, они начинают понимать её значимость и чувствовать сопричастность к современному миру. Главная задача учителя — воспитать в учениках любознательность и желание разбираться в сути явлений, а также помочь им увидеть, что физика — не просто формулы и законы, а целая вселенная открытий и возможностей.

Ещё один важный аспект обучения физике — это вовлечение учеников в проектную деятельность. Совместные проекты, такие как создание электромагнитного генератора или изучение альтернативных источников энергии, позволяют ребятам не только применить полученные знания на практике, но и развить навыки сотрудничества и критического мышления. Когда учащиеся работают в командах, они учатся обмениваться идеями, учитывать мнения других и находить нестандартные решения. Такой подход помогает формировать у школьников чувство ответственности за конечный результат и позволяет ощутить вкус научных открытий и достижений.

Технологии также открывают широкие возможности для вовлечения учеников в изучение физики. Виртуальные лаборатории и симуляторы позволяют проводить сложные эксперименты, которые трудно реализовать в школьных условиях. Благодаря современным образовательным платформам, таким как PhET или Algodoo, ученики могут исследовать физические явления в интерактивной форме, что делает процесс обучения более увлекательным и доступным. Использование технологий позволяет учителю адаптировать учебный материал под потребности каждого ученика, учитывая его уровень подготовки и интересы.

Нельзя забывать и о пользе историй и примеров из жизни выдающихся учёных. Рассказ о пути Майкла Фарадея или Никола Теслы может вдохновить школьников на собственные исследования и открытия. Узнав об их трудах и изобретениях, ученики осознают, что упорство, любопытство и нестандартное мышление могут привести к значительным научным прорывам. Биографии великих физиков позволяют показать на практике, что

настоящая наука полна вызовов, и даже неудачи могут стать ступенями к успеху.

Важным аспектом мотивации учеников является использование современных средств визуализации и мультимедийных технологий. Видео, анимации и инфографика могут помочь сделать сложные физические концепции более наглядными и понятными. Например, визуализированное объяснение явления интерференции света позволяет ученикам лучше усвоить материал, особенно если оно сопровождается интерактивными заданиями и вопросами для самопроверки. Такой подход не только облегчает восприятие информации, но и повышает уровень интереса к предмету, помогая школьникам ощутить красоту и гармонию физических законов.

Не менее важна и возможность интеграции физики с другими науками и дисциплинами. Интердисциплинарные проекты, такие как изучение физических процессов в биологии или применение математических моделей в физике, способствуют развитию системного мышления и расширению кругозора учеников. Такое взаимодействие раскрывает перед школьниками новые горизонты и позволяет увидеть взаимосвязь научных дисциплин, что особенно важно в современном мире, где границы между науками становятся всё более размытыми.

Инклюзивное образование в физике также играет ключевую роль в формировании будущих исследователей. Обеспечение равного доступа к обучающим ресурсам и использование индивидуализированных подходов помогает каждому ученику раскрыть свой потенциал, независимо от его начального уровня подготовки. Уроки должны быть адаптированы таким образом, чтобы каждый ребёнок чувствовал себя ценным участником учебного процесса и мог реализовать свои способности. Это способствует созданию гармоничного образовательного пространства, в котором все учащиеся получают возможность успешного обучения и личностного роста.

Современные образовательные технологии открывают перед учителями физики возможность творчески подходить к организации учебного процесса. Одним из таких нововведений является геймификация обучения, которая стимулирует интерес учеников через использование игровых элементов. Интерактивные симуляции и физические игры позволяют не только оживить скучный теоретический материал, но и способствуют более глубокому пониманию физических явлений. Кроме того, такие методы обучения позволяют ученикам взаимодействовать в команде, развивать коммуникативные навыки и критическое мышление, что немаловажно для их личностного и профессионального развития.

На фоне стремительного развития технологий на первый план выходит необходимость формирования у школьников навыков работы с большими данными и современных аналитических инструментов. Включение в школьную программу элементов работы с реальными физическими исследованиями и данными помогает учащимся освоить принципиально новые компетенции, которые будут востребованы в профессиональной

деятельности. Ученики могут участвовать в проектной деятельности, анализируя данные физических экспериментов, учиться использовать специализированное программное обеспечение, что в свою очередь подготавливает их к будущей научной или инженерной деятельности.

Важным аспектом обучения физике является развитие критического подхода к информации и умения делать обоснованные выводы. Критическое мышление играет неопределимую роль в формировании личности, способной к самостоятельному и обдуманному принятию решений. Учителя физики могут внести значительный вклад в развитие этих навыков, побуждая учеников анализировать различные источники информации, сопоставлять факты и формировать собственные гипотезы. Такая работа способствует формированию научного мировоззрения и адаптивности в быстро меняющемся мире.

Подготовка учащихся к будущему должна основываться на принципах устойчивого развития и экологической ответственности. Физические законы оказывают непосредственное влияние на окружающий мир и его ресурсы, и задача учителя — показать школьникам, как физическая наука может быть направлена на решение экологических проблем. Включение в учебный процесс проектов, посвящённых изучению возобновляемых источников энергии и технологий энергосбережения, укрепляет у учеников ответственность за будущее нашей планеты и подготавливает их к активному участию в создании более устойчивого мира.

В завершение, важно подчеркнуть, что задача современного учителя физики — создать среду, в которой школьники почувствуют себя исследователями и первооткрывателями. Интерес к физике возрастёт, если дети увидят, что она неотделима от окружающего их мира и что каждый из них может внести свой вклад в науку. Когда учитель находит подход к сердцам своих учеников, он не только обучает их, но и формирует новое поколение думающих и творческих людей, готовых решать сложные задачи завтрашнего дня.

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РЕЗУЛЬТАТЫ ЛЕЧЕНИЯ РАКА ПОДЖЕЛУДОЧНОЙ ЖЕЛЕЗЫ ХИМИОТЕРАПЕВТИЧЕСКИМИ ПРЕПАРАТАМИ

Резюме: Рак поджелудочной железы, хоть и относительно редок, занимает четвертое место среди причин летальности от онкологических заболеваний, причем пятилетняя выживаемость не превышает 10 %. Ожидается, что по предварительным оценкам специалистов к 2030 году рак поджелудочной железы станет второй по частоте причиной смерти от рака, потеснив колоректальный и маммальный рак. Таким образом, прогнозы относительно данного заболевания остаются крайне неблагоприятными, главным образом из-за индивидуальной устойчивости опухоли к химиотерапии.

На сегодняшний день доступны лишь несколько методов лечения рака поджелудочной железы, которые характеризуются низкой частотой положительных ответов, непродолжительной выживаемостью без прогрессирования и значительной токсичностью. Для улучшения клинических результатов в ряде исследований продемонстрирована доза-зависимая чувствительность опухоли при регионарной химиотерапии.

Метод внутриартериальной перфузии поджелудочной железы позволяет достичь высоких концентраций химиотерапевтических препаратов, минимизируя влияние на здоровые ткани и снижая частоту побочных эффектов по сравнению с системной химиотерапией. Этот подход продемонстрировал эффективность при лечении злокачественных образований в других местах.

В данной работе приводится обзор клинических методов введения химиопрепаратов через внутриартериальную перфузию поджелудочной железы, включая методы, фармакокинетику и клинические результаты.

Ключевые слова: внутриартериальная перфузия поджелудочной железы, злокачественные образования, рак поджелудочной железы, терапия рака поджелудочной железы.

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RESULTS OF TREATMENT OF PANCREATIC CANCER WITH CHEMOTHERAPEUTIC DRUGS

Resume: *Pancreatic cancer, although relatively rare, ranks fourth among the causes of mortality from oncological diseases, and the five-year survival rate does not exceed 10%. According to preliminary estimates of experts, pancreatic cancer is expected to become the second most common cause of cancer death by 2030, displacing colorectal and mammary cancer. Thus, the prognosis for this disease remains extremely unfavorable, mainly due to the individual resistance of the tumor to chemotherapy.*

Currently, only a few treatments are available for pancreatic cancer, which are characterized by low response rates, short progression-free survival, and significant toxicity. To improve clinical outcomes, several studies have demonstrated dose-dependent tumor sensitivity to regional chemotherapy.

Pancreatic intra-arterial perfusion (IAPP) allows for high concentrations of chemotherapeutic agents while minimizing exposure to normal tissue and reducing the incidence of side effects compared with systemic chemotherapy. This approach has demonstrated efficacy in treating malignancies elsewhere.

This paper reviews the clinical delivery of chemotherapeutic agents via IAPP, including methods, pharmacokinetics, and clinical outcomes.

Keywords: *intra-arterial pancreatic perfusion, malignant tumors, pancreatic cancer, pancreatic cancer therapy.*

Актуальность. В настоящее время рак поджелудочной железы стал наиболее распространенным видом злокачественных опухолей среди женщин, и его заболеваемость ежегодно продолжает возрастать[3].

В развитых государствах чаще диагностируется рак поджелудочной железы – этот вид злокачественных опухолей занимает около трех процентов от общего числа в этих странах. Географические различия заболеваемости минимальны, что указывает на отсутствие значительного влияния региональных факторов окружающей среды[2]. Высокие показатели отмечаются в отдельных штатах США, Канаде, Израиле и Японии: они лишь в 1,5-2 раза превосходят заболеваемость во многих европейских странах.

В последние годы особенно заметен рост числа случаев рака поджелудочной железы в Украине[4]. Заболеваемость достигает отметки 7-10 на каждые 100 тысяч населения, составляя при этом 1-7% всех злокачественных заболеваний и около десяти процентов опухолей пищеварительной системы. Большинство пациентов – мужчины старше пятидесяти лет; преобладающим типом является аденокарцинома скіррозной структуры [5]. В 75% случаев рак локализуется в головке поджелудочной железы, реже – в теле и хвосте.

При постановке диагноза лишь десять процентов больных имеют операбельный вариант из-за распространения опухоли или метастазов в печень [1]. Смертность от заболевания крайне высока: 95% пациентов не

доживают до года после установления диагноза. Химиотерапия показывает низкую эффективность, положительный результат наблюдается менее чем у двадцати процентов больных. Для тех, кто получает только симптоматическое лечение, средняя продолжительность жизни составляет всего 3,3 месяца.

Цель исследования. Цель данного исследования заключалась в анализе как краткосрочных, так и долгосрочных результатов медикаментозной терапии пациентов с местнораспространенным раком поджелудочной железы.

Материалы и методы исследования. В исследование было включено 42 пациента, которые в период с 2023 по 2024 год получали медикаментозное лечение в связи с местнораспространенной формой рака поджелудочной железы.

Результаты исследования. На протяжении долгого времени применение препарата 5-фторурацил (5ФУ) в качестве основного средства для монотерапии у больных с раком предстательной железы считалось оптимальным решением, однако результаты исследований за период 1970-80-х годов указывают на низкую эффективность – лишь около 15–20%. Пересмотренные данные показывают еще более скромный спектр действия данного препарата — от нуля до 14%. Аналогичные показатели (около 15%) демонстрируют такие цитостатики, как митомицин С и елиосфамид. Цисплатин также не выделяется высокой активностью, а стрептозотоцин и доксорубин проявляют еще более слабое действие на опухоль. Комбинации препаратов в режимах ФАМ (5ФУ + Dхг + митомицин С) или СМФ (стрептозотоцин, 5ФУ, митС), несмотря на увеличение токсичности лечения, не приводят к значительному улучшению результатов. Гормональная терапия с использованием тамоксифена и октреотида также оказалась малоэффективной. Особую сложность представляет оценка эффективности лечения РПЖ из-за особенностей реакций опухоли на терапию, таких как десмопластические изменения (воспаление и фиброз), которые искажают данные КТ и МРТ. Эти методы не позволяют точно определить распространенность заболевания, локализацию внутри окружающих тканей или адекватно оценить реакцию на лечение. В связи с этим при РПЖ все большее значение приобретает оценка качества жизни пациентов в процессе паллиативного лечения. Основными критериями становятся общее состояние здоровья, интенсивность болевого синдрома и потребление анальгетиков; динамика массы тела играет вторичную роль. Болевой синдром является ключевым проявлением РПЖ – около 80% больных сталкиваются с ним при постановке диагноза. Даже незначительное уменьшение размеров опухоли, соответствующее стабилизации заболевания, может существенно снизить болевые ощущения и потребность в анальгетиках.

Анализ Эффективности Терапии при Раке желудка (РЖ) Подгруппы: - Монолекарственная терапия (n = 18) - Комбинированная химиотерапия (n = 24) Симптоматика пациентов: Желудочно-кишечные расстройства: 32 случаев, из них 76.1% проявились значительным дискомфортом. Болевой

синдром отмечен в 57.1% (n = 24). Гипербилирубинемия диагностирована у 14.2% больных (n = 6), вызванная компрессией желчных путей опухолью. Снижение массы тела и астения: 95.2% случаев, включая выраженное похудание до -7 кг за 8 недель у некоторых пациентов; более половины больных (10-15%) вынуждены были соблюдать постельный режим свыше 50% времени. Сахарный диабет: выявлен в 3 случаях из-за поражения островковых клеток поджелудочной железы, проявлялся жаждой и полиурией (7.1%). Одышка — редкий симптом, зарегистрирован всего у одного пациента (2.3%).

Клиническая картина РПЖ: Похудание и истощение стали ключевыми признаками заболевания для 88% больных; в отдельных случаях потеря массы тела достигала значительных значений.

Оценка эффективности терапии: Больные были разделены на две группы: 1. Монолекарственная группа (n = 18) — лечение гемцитабином. 2. Комбинированная группа (n = 24)**, включавшая сочетания: гемцитабин + капецитабин, митомицин; митомицин + 5-фторурацил и фолинат.

Результаты: - Полной регрессии опухоли не наблюдалось. - Частичная регрессия зарегистрирована у 4 больных (23.5%). - Стабилизация состояния — 11 случаев (64.7%), средняя продолжительность 25 недель, максимальная — до 45 недель. - Прогрессирование отмечено в двух случаях. Средние показатели - Продолжительность частичного ответа составила около 26 недель. - Среднее время стабилизации — 25 недель; прогрессирования — 24 недели.

Эффективность традиционных методов лечения РПЖ остается недостаточной, что подчеркивает необходимость разработки и внедрения новых стратегий терапии: оптимизация комбинированного применения препаратов, использование инновационных биологических средств.

Выводы. Полученные результаты указывают на низкую эффективность лечебных схем при местнораспространенном раке поджелудочной железы. Сравнивая результаты терапии в разных группах, мы заметили, что объективные эффекты, их средняя продолжительность и время до прогрессирования были схожи, в то время как доля клинического улучшения в группе, получившей комбинированное лечение, оказалась выше по сравнению с группой, проходившей монотерапию.

Анализ долгосрочных результатов лечения показал, что медиана времени до прогрессирования и средняя продолжительность жизни пациентов в обеих группах была примерно равной. Итоги медикаментозного лечения больных с местнораспространенным раком поджелудочной железы остаются неудовлетворительными, что открывает возможности для поиска новых подходов в терапии этой патологии.

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АНАЛИЗ ДИНАМИКИ РАЗВИТИЯ ПРОМЫШЛЕННОГО СЕКТОРА УЗБЕКИСТАНА

***Аннотация.** В статье анализируется динамика объёма продукции, созданной в отраслях промышленности Узбекистана за 2000-2023 годы. При проведении анализа данные с 2000 по 2023 год были переведены в сравнительные цены 2023 года через индекс цен. Также проанализировано изменение веса объёма промышленного продукта в объёме валового внутреннего продукта, создана эконометрическая модель влияния объёма промышленного продукта на объём валового внутреннего продукта, было проведено прогнозирование.*

***Ключевые слова.** Объем промышленной продукции, валовой внутренний продукт (ВВП), индекс цен, сравнительные цены, доля промышленной продукции в ВВП, влияние промышленности на ВВП, эконометрическая модель, прогнозирование*

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ANALYSIS OF THE DYNAMICS OF THE INDUSTRIAL SECTOR OF UZBEKISTAN

***Annotation.** The article analyzes the dynamics of the volume of products created in the industries of Uzbekistan in 2000-2023. During the analysis, the data from 2000 to 2023 were translated into the comparative prices of 2023 through the price index. The change in the weight of the volume of industrial product in the volume of gross domestic product was also analyzed, an econometric model of the impact of the volume of industrial product on the volume of gross domestic product was created, and forecasting was carried out.*

***Keywords.** Industrial output, gross domestic product (GDP), price index, comparative prices, share of industrial output in GDP, impact of industry on GDP, econometric model, forecasting*

Введение

Развитие экономики, высокий уровень жизни населения во многом зависят от того, как развит промышленный сектор в стране. В экономически развитых странах промышленность занимает значительное место в объеме валового внутреннего продукта и служит основой для создания товаров и услуг в других отраслях. В связи с этим необходимо проанализировать тенденцию развития промышленного сектора, рассчитать его долю в объеме валового внутреннего продукта (ВВП), определить направление темпов развития согласно динамике изменений, провести экономический анализ, статистический анализ, поиск путей эффективного осуществления положительного влияния сектора на ВВП и составление достоверного прогноза путем создания эконометрической модели могут привести к развитию сети.

Литературный анализ. Анализ места промышленной сети в экономике страны, количественное изучение решения социально-экономических проблем за счет развития промышленности научно исследовано в научных трудах Б.Беркинова [1], Б.Салимова [2], Н.Махмудова [3], Б.Гойибназарова [4] и других ученых Узбекистана.

Литература вышеупомянутых ученых и данные, полученные с официального сайта Агентства по статистике при Президенте Республики Узбекистан, позволили проанализировать динамику производственной сети Республики Узбекистан.

Методика исследования. В этом научном исследовании показатели были изучены и статистически проанализированы на основе данных Статистического агентства. Ряды динамики были сопоставлены за несколько периодов с использованием метода сравнения. Уравнения регрессии были построены с использованием метода эконометрического моделирования.

Анализ и результаты. В таблице 1 приведены данные об объеме валового внутреннего продукта (ВВП) и промышленной продукции, созданной в Республике Узбекистан с 2000 по 2023 годы [7]. Информация в этой таблице содержит показатели, рассчитанные в текущих или текущих ценах, при этом не учитываются такие факторы, как изменение цен и уровень инфляции.

Таблица 1

**Валовой внутренний продукт Узбекистана в 2000-2023 гг.
объем промышленной продукции, в миллиардах сумов**

<i>Годы</i>	<i>ВВП, млрд сум</i>	<i>Объем промышленного производства, млрд сум¹⁾</i>	<i>Годы</i>	<i>ВВП, млрд сум</i>	<i>Объем промышленного производства, млрд сум¹⁾</i>
2000	3255,6	1888,9	2012	127590	57552,5
2001	4925,3	2830,8	2013	153311	70634,8
2002	7450,2	4494,0	2014	186830	84011,6
2003	9844,0	6127,5	2015	221351	97598,2
2004	12261,0	8123,2	2016	255422	111869,0
2005	15923,4	11028,6	2017	356454	148816,0
2006	21124,9	14640,3	2018	473653	235341,0
2007	28190,0	18447,6	2019	594660	331007,0
2008	38969,8	23848,0	2020	668038	368740,0
2009	49375,6	28387,3	2021	820537	456056,0
2010	78936,6	38119,0	2022	995573	553265,0
2011	103233,0	47587,1	2023	1192163	658992,0

¹⁾ 2000-2009 гг. по классификации ХХТУТ(ОКОНХ); С 2010 года по классификации ИФУТ(ОКЕД-2).

Источник: данные Агентства по статистике при Президенте Республики Узбекистан.

Согласно таблице 1, ВВП страны в 2023 году увеличился в 366,2 раза по сравнению с 2000 годом. Но этот показатель не описывает реальную ситуацию.

При анализе и прогнозировании динамики производственной сети целесообразно производить перерасчет показателей, выраженных в деньгах, с учетом показателей роста инфляции [5].

Таблица 2

**Индекс цен и объем ВВП и промышленного производства в
сравнительных ценах на 2023 год**

<i>Годы</i>	<i>ВВП, в миллиардах сумов</i>	<i>темпы роста ВВП, в процентах</i>	<i>Индекс цен</i>	<i>ВВП в сравнительных ценах (млрд сум)</i>	<i>Объем промышленной продукции, в сравнительных ценах (млрд сум)</i>
2000	3255,6	103,8	0,0115	283371,4	164252,174
2001	4925,3	104,2	0,0167	295273,0	169508,982
2002	7450,2	104,0	0,0243	307083,9	184938,272
2003	9844,0	104,2	0,0308	319981,4	198944,805

2004	12261,0	107,4	0,0357	343660,1	227540,616
2005	15923,4	107,0	0,0433	367716,3	254702,079
2006	21124,9	107,5	0,0534	395295,0	274162,921
2007	28190,0	109,5	0,0651	432848,0	283373,272
2008	38969,8	109,0	0,0826	471804,3	288716,707
2009	49375,6	108,1	0,0968	510020,5	293257,231
2010	78936,6	107,1	0,1445	546231,9	263799,308
2011	103232,6	107,5	0,1758	587199,3	270688,851
2012	127590,2	107,1	0,2029	628890,5	283649,581
2013	153311,3	107,3	0,2272	674799,5	310892,606
2014	186829,5	106,9	0,2590	721360,7	324369,112
2015	221350,9	107,2	0,2862	773298,6	341013,976
2016	255421,9	105,9	0,3119	818923,2	358669,445
2017	356453,8	104,4	0,4169	854955,9	356958,503
2018	473652,8	105,6	0,5246	902833,4	448610,370
2019	594659,6	106,8	0,6167	964226,1	536739,095
2020	668038,0	101,6	0,6819	979653,7	540753,776
2021	820536,6	108,0	0,7755	1058026,0	588079,948
2022	995573,1	106,0	0,8877	1121507,5	623256,731
2023	1192162,5	106,3	1,0000	1192162,5	658992,000

Источник: Подготовлено автором на основе данных Агентства по статистике.

Сравнение экономических показателей в денежном выражении с ценами определенного года позволяет сделать исследования более достоверными и эффективными.

Для расчета всех денежных показателей в относительных ценах в 2023 году индекс цен определяется с использованием официальной статистики объема ВВП и темпов экономического роста ВВП [6].

В таблице 2 Индекс цен за 2000-2023 годы рассчитан по отношению к 2023 году. Индекс цен в 2023 году был равен 1. При расчете индекса цен в 2022 году объем валового внутреннего продукта, пересчитанный путем деления объема ВВП в 2023 году на темпы экономического роста в том же году, определяется относительно ВВП, рассчитанного в текущих ценах в 2022 году.

Индекс цен на 2022 год был равен 0,887710. Индекс цен для остальных лет также определяется с использованием объемов ВВП в 2023 году, рассчитанных путем многократного деления на темпы экономического роста соответствующих лет. Индекс цен в 2010 году составил 0,144511, а индекс цен в 2000 году — 0,011489.

По пересчитанным данным таблицы 2, ВВП Узбекистана в 2023 году в 4,21 раза превышает показатель 2000 года, разница составляет 908 трлн 791 млрд 100 млн сум. За 24 года экономика страны выросла в 4,21 раза. При анализе объемов промышленного производства в это время объем выпуска

продукции увеличился в 4,01 раза. С 2000 года по конец 2023 года ВВП Узбекистана вырос в 0,2 раза больше, чем промышленное производство.

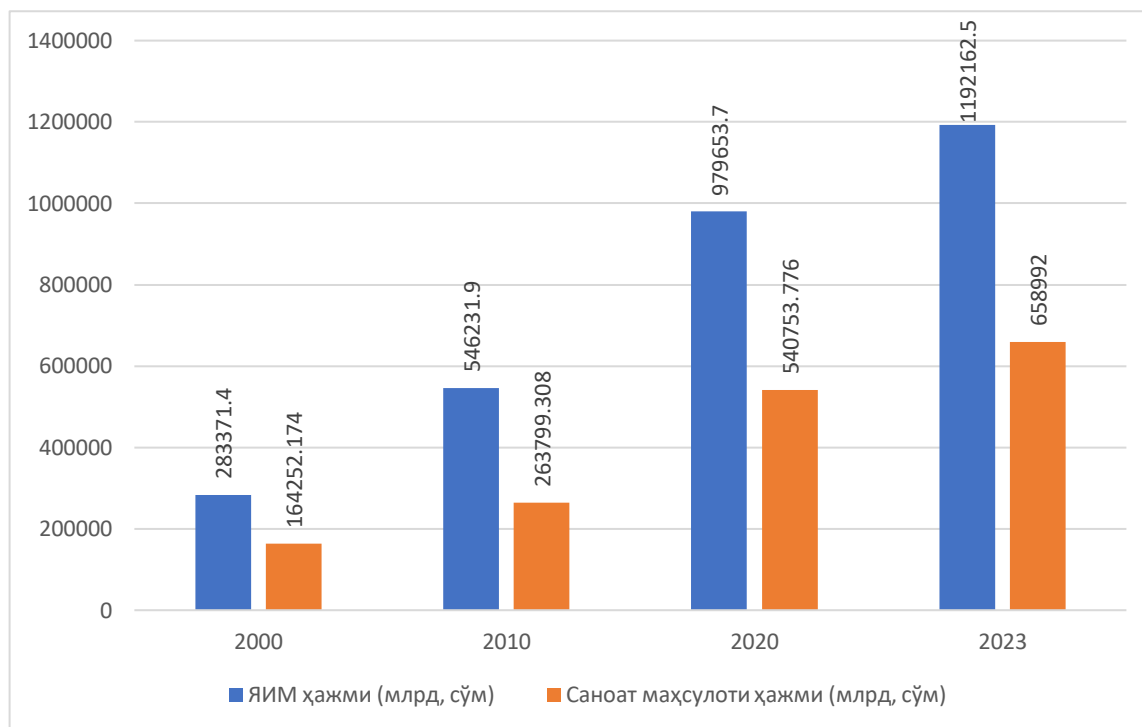


Рисунок 1. Объем ВВП и промышленного производства Узбекистана (в сравнительных ценах 2023 г.)

В то время как ВВП в 2023 году увеличился в 2,18 раза по сравнению с 2010 годом, объем промышленного производства увеличился в 2,5 раза. Итак, по состоянию на конец 2023 года видно, что промышленное производство выросло в 0,32 раза быстрее, чем объем ВВП.

В то время как ВВП в 2023 году увеличился на 21,69% по сравнению с 2020 годом, промышленное производство также увеличилось на 21,87%. Даже за этот период можно наблюдать, что объем промышленного производства рос более интенсивно - на 0,21% по сравнению с ВВП.

Модель тренда для объема выпуска промышленной продукции (SMH) во времени была рассчитана с помощью метода наименьших квадратов.

$$SMH = -5,9414 \cdot t^4 + 418,39 \cdot t^3 - 8758,3 \cdot t^2 + 76842 \cdot t + 13905; \quad R^2 = 0,9776$$

Уравнение парной регрессии валового внутреннего продукта по объему промышленного производства выглядело следующим образом:

$$ВВП = 4522,219 + 1,873 \cdot SMH; \quad R^2 = 0,9040$$

Прогнозные показатели, рассчитанные на основе уравнения регрессии, составленного на основе данных, рассчитанных по объему промышленного производства за период 2000-2023 годов, на основе сравнительных цен на 2023 год, представлены в таблице 3.

Таблица 3.

**Прогноз ВВП и промышленного производства Республики
Узбекистан**

<i>Годы</i>	<i>ВВП в сравнительных ценах (млрд сум)</i>	<i>Объем промышленной продукции, в сравнительных ценах (млрд сум)</i>
2023*	1192162,500	658992,000
2024	1273483,232	677501,875
2025	1371309,570	729731,634
2026	1468281,296	781505,113
2027	1562022,715	831553,922
2028	1649891,054	878467,077
2029	1728976,463	920691,000
2030	1796102,012	956529,521

*2023 год, факт

Источник: Подготовлено автором

Выводы и предложения. Согласно данным, рассчитанным в таблице 3, валовой внутренний продукт страны в 2030 году в сравнительных ценах 2023 года ожидается на уровне 1 квадриллиона 796 трлн 102 млрд 12 млн сумов. Объем промышленного производства достиг 956 триллионов 529 миллиардов 521 миллиона сумов. Темп роста промышленного производства может составить 45,15 процента. Определено, что рост валового внутреннего продукта достиг 50,66 процента. В результате более быстрого развития других отраслей экономики страны, чем промышленность, ожидается, что объем валового внутреннего продукта может достичь этой суммы.

Мы рекомендуем следующее для развития производственной сети в Узбекистане.

Принятие мер по сокращению разрыва между регионами в промышленном производстве республики.

Внедрение экологически чистых технологий на предприятиях и усиление системы контроля.

Применение различных льгот при создании образовательных и инновационных промышленных предприятий.

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АНАЛИЗ ОСОБЕННОСТЕЙ ФОРМИРОВАНИЯ И УПРАВЛЕНИЯ ФИНАНСАМИ БЮДЖЕТНЫХ УЧРЕЖДЕНИЙ

Аннотация: Бюджетные учреждения в связи с особенностями в ведении финансово-хозяйственной деятельности имеют сильную зависимость от полноты и своевременности поступления бюджетных средств. Данная ситуация создает опасные предпосылки для качества обеспечения бесперебойного процесса реализации бюджетными организациями своих уставных полномочий. Наличие возможности осуществления предпринимательской деятельности бюджетными организациями, с одной стороны дает возможность повысить уровень финансовой обеспеченности, но с другой создает риски некачественного управления. Это может привести к нарушению законодательства, а также санкциями со стороны контрольных органов. Следовательно детальный анализ особенностей формирования и управления финансами бюджетных учреждений является необходимым для выявления зон риска при финансовом управлении таких учреждений.

Целью исследования выступает выявление особенностей формирования и управления финансами бюджетных учреждений в России.

Задачами научного исследования являются:

- 1) **определить** сущность финансов бюджетных учреждений;
- 2) **проанализировать** нормативно-правовое регулирование финансовых отношений бюджетных учреждений;
- 3) **раскрыть** особенности управления финансами бюджетных учреждений;
- 4) **сделать предложения** по возможностям повышения эффективности управления финансами бюджетных учреждений в современных условиях.

Ключевые слова: Бюджетное учреждение, Финансы, Мониторинг, Финансирование, Ассигнования

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ANALYSIS OF THE SPECIFICS OF THE FORMATION AND MANAGEMENT OF FINANCES OF BUDGETARY INSTITUTIONS

Abstract: *Budgetary institutions, due to the peculiarities in the conduct of financial and economic activities, have a strong dependence on the completeness and timeliness of the receipt of budgetary funds. This situation creates dangerous prerequisites for the quality of ensuring an uninterrupted process of implementation by budget organizations of their statutory powers. The availability of business opportunities for budget organizations, on the one hand, makes it possible to increase the level of financial security, but on the other hand creates risks of poor management. This may lead to violations of the law, as well as sanctions from regulatory authorities. Therefore, a detailed analysis of the specifics of the formation and financial management of budgetary institutions is necessary to identify risk areas in the financial management of such institutions.*

The purpose of the study is to identify the specifics of the formation and management of finances of budgetary institutions in Russia.

The objectives of scientific research are:

- 1) determine the essence of the finances of budgetary institutions;*
- 2) analyze the legal regulation of financial relations of budgetary institutions;*
- 3) to reveal the features of financial management of budgetary institutions;*
- 4) make suggestions on ways to improve the efficiency of financial management of budgetary institutions in modern conditions.*

Keywords: *Budgetary institution, Finance, Monitoring, Financing, Allocations*

Государственное бюджетное учреждение — это некоммерческая организация, которая формируется собственником с целью выполнения различных задач некоммерческого характера, для общего блага и развития граждан. Они выделяют управленческие, культурные, образовательные или другие некоммерческие организации. Источником финансирования такого учреждения является владелец, как частично, так и полностью.

Среди государственных (муниципальных) учреждений есть: автономные, казенные, бюджетные (Рисунок 1).

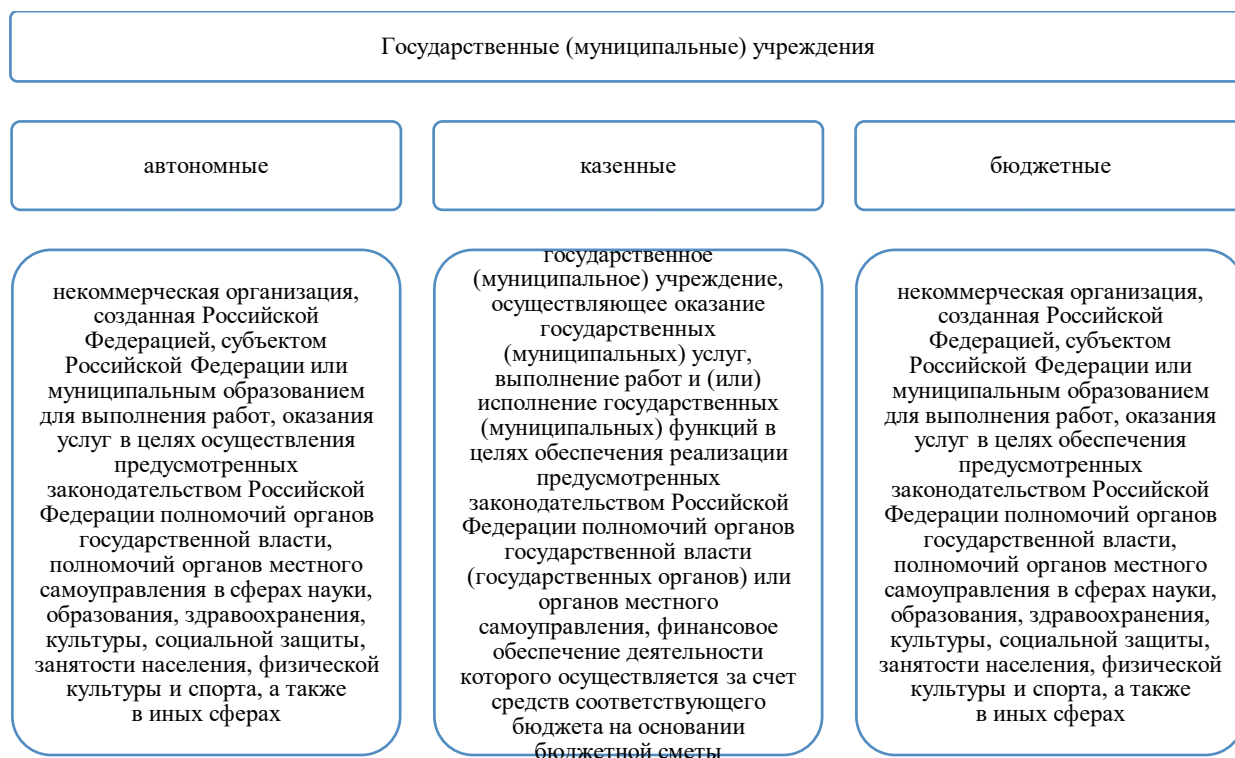


Рисунок 1 – Состав и характеристика государственных (муниципальных) учреждений

Источник: составлено автором.

Особенности финансов всех видов бюджетных учреждений заключается в следующем:

1) Чрезвычайно тесная связь с бюджетом того уровня, с которого финансируется основная часть расходов бюджетных организаций. Нехватка бюджетных ресурсов приводит к недофинансированию расходов бюджетных учреждений. Превышение доходов, предусмотренных законом о бюджете, влечет за собой дополнительное финансирование. Благодаря этой особенности финансы бюджетных учреждений гораздо более тесно связаны и взаимозависимы с государственными (централизованными) финансами, чем все остальные компоненты финансовой системы.

2) Бюджетные учреждения вправе оказывать и оказывают определенные платные услуги, связанные с целями, для которых они были созданы, формируя часть своих финансовых ресурсов за счет собственных средств, что позволяет отнести их к хозяйствующим субъектам.

Вышеупомянутые две характеристики финансирования позволяют определить место финансов бюджетных учреждений как промежуточных между государственными финансами и финансами предприятий и организаций. Кроме того, это особое расположение подтверждается следующей особенностью финансов бюджетных организаций - отсутствием самостоятельности в использовании средств.

Обе группы фондов хранятся на отдельных счетах, по каждой из групп составляется отдельная оценка их расходов, по каждой из групп составляются

независимые отчеты; –бюджетный иммунитет.

До недавнего времени основным источником финансирования бюджетных учреждений был бюджет. В связи с переходом на рынок произошли изменения в финансовой системе бюджетных учреждений в связи с изменением соотношения между бюджетными источниками и внебюджетными источниками, генерируемыми коммерческими субъектами и населением в пользу последних.

Тенденции применения экономических ресурсов вне зависимости от источника их создания (бюджетных либо внебюджетных средств), обуславливаются в точной согласованности с подразделениями классификации операций сектора государственного управления по Бюджетной классификации Российской Федерации, которые устанавливают конкретные задачи для расходования средств. К ним относятся затраты на рабочую силу и сборы за выплаты заработной платы, платежи за работы, услуги (связь, транспорт, коммунальные услуги), увеличение стоимости основных средств, нематериальных активов, запасов, уплата налогов и сборов в бюджеты бюджетной системы РФ и т.д.

Соответствие затрат также их структура разнообразны в организациях различных сфер общественно-культурной области. Основным сходством для всех учреждений является преобладающий уровень расходов по статье, связанных с заработной платой и сборами на нее. Но некоторые затраты свойственны лишь конкретным учреждениям.

Проблема финансирования бюджетных организаций имеет несколько свойств, которые важно учитывать при ее анализе и решении:

1) Недостаток финансирования. Одним из основных свойств проблемы финансирования бюджетных организаций является недостаток средств. Это означает, что организации не получают достаточного финансирования для своей нормальной деятельности. Недостаток финансирования может быть вызван различными причинами, такими как недостаточное выделение средств из бюджета, неправильное планирование расходов или недостаточное привлечение внебюджетных источников финансирования.

2) Неравномерность финансирования. Еще одним свойством проблемы финансирования является неравномерность поступления средств. Бюджетные организации могут столкнуться с ситуацией, когда финансирование поступает неравномерно в течение года. Например, в начале финансового года организация может получить большую сумму средств, а в последующих месяцах финансирование может сократиться или вообще прекратиться. Это создает проблемы в планировании и осуществлении деятельности организации.

3) Неэффективное использование средств. Еще одним свойством проблемы финансирования является неэффективное использование полученных средств. Бюджетные организации могут столкнуться с ситуацией, когда имеющиеся средства не используются оптимально. Например, средства могут быть направлены на неприоритетные задачи или

использоваться неэффективно из-за недостаточного контроля и управления. Это приводит к неэффективному использованию ресурсов и ухудшению финансового состояния организации.

4) Влияние на качество предоставляемых услуг.

Проблема финансирования бюджетных организаций может оказывать влияние на качество предоставляемых услуг. Недостаток финансирования может привести к сокращению объема и качества услуг, которые организация может предоставить своим клиентам. Например, организация может быть вынуждена сократить штат сотрудников или снизить уровень обслуживания из-за недостатка средств. Это может негативно сказаться на удовлетворенности клиентов и репутации организации.

Исследование особенностей финансов бюджетных учреждений позволяет отметить, что особую роль играет именно управление расходами бюджетного учреждения. Т.к. расходы ежегодно растут, а возможности бюджета растут не такими темпами. На рисунке 2 представлены возможности оптимизации расходов и эффекты, которые могут получиться от предложенных мероприятий.



Рисунок 2 – Мероприятия, направленные на экономию бюджетных средств в бюджетных учреждениях

Источник: составлено автором.

Таким образом, анализ проблем управления финансами бюджетных учреждений показал, что к основным проблемам можно отнести: недостаточное выделение бюджетных средств; неправильное планирование при управлении финансами; изменение экономической ситуации; недостаточное привлечение внебюджетных источников финансирования; недостаточная квалификация персонала, занимающегося управлением финансами. Следует отметить, что именно недостаточное финансирование является основным источником, порождающим другие проблемы, в частности создает ограничение возможности бюджетных организаций в реализации своих задач и функций; снижает качество бюджетных услуг; влияет на качество персонала и др.

Для повышения эффективности управления финансами бюджетных учреждений необходимо повышать качество управления расходами. Для чего необходимо: проводить мониторинг и анализ цен при определении максимальной цены контракта; изменить условия доставки техники; списать нерабочую технику, ремонт которой нецелесообразен; провести работы по замене измерения теплоэнергии и приборов электроэнергии.

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МЕТОД МОДЕЛИРОВАНИЯ ПРИРОДНЫХ ПРОЦЕССОВ И ЯВЛЕНИЙ НА УРОКАХ ОКРУЖАЮЩЕГО МИРА

Аннотация. В данной статье рассматривается моделирование как приём обучения младших школьников естествознанию. В тексте перечисляются и описываются различные способы моделирования на уроках окружающего мира.

Ключевые слова: моделирование, модель, признак, объект, приём, схема, применение.

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A METHOD OF MODELING NATURAL PROCESSES AND PHENOMENA IN THE LESSONS OF THE SURROUNDING WORLD

Annotation. This article discusses modeling as a method of teaching elementary school student's natural science. The text lists and describes various ways of modeling in the lessons of the surrounding world.

Keywords: modeling, model, feature, object, technique, scheme, application.

В настоящее время методу моделирования уделяется большое значение. Одной из главных особенностей моделирования является его модельный характер. То есть все явления, объекты или процессы изучаются с помощью моделей, опираясь на которую можно определить их значимость.

А.А. Семенова утверждает, что модель – это «форма, в которой основные отношения объекта связаны с наглядно-образной формой мышления. Прежде всего, модели и их представления входят в познавательную деятельность».

Е.В. Григорьева определяет модель как «систему, в которой отношения между элементами отражают другую систему».

Проблеме использования моделей при обучении младших школьников уделено внимание во многих педагогических, психологических и методических исследованиях (М.А. Бантова, С.П. Баранов, В.В. Давыдов, Н.Б.

Истомина, А.И. Савенков, Н.Ф. Талызина, Л.М. Фридман и др.).

Как отмечает А.И. Савенков, выделяют три типа моделей:

- в виде некой физической конструкции, состоящей из нескольких связанных между собой предметов;
- в виде некоторых компонентов, выделенных в объекте познания и обозначенных при помощи графических знаков, и предметов – заместителей;
- в виде графиков, схем, формул и т.д.

Исходя из практической и теоретической направленности, модели также подразделяют:

- прагматические – способ управления и метод организации неких практических действий;
- познавательные – представление знаний и форма организации, помогающая, соединить новые полученные знания с уже имеющимися.

В.В. Давыдов считает, что моделирование как таковое «является одним из основных методов изучения и изменения окружающего мира, с развитием науки получившее известную популярность. В начальной школе образование очень часто моделирование используется в качестве наглядно-образного средства».

Используя метод моделирования, учитель ставит перед собой определенные цели и задачи, такие как:

- формирование учебных знаний, умений и навыков;
- решение определенных поставленных задач;
- систематизация и обобщения новой полученной информации;
- для лучшего запоминания детьми выданного учебного материала.

Чаще всего, в начальной школе в основном используются знаковые и образные модели, по причине доступности и легкости в усвоении.

По мнению Н.Г. Салминой и В.П. Сохиной метод моделирования обладает некоторой силой способной сделать любой сложный объект, предмет или явление наиболее понятным и доступным для его всестороннего изучения. «Данный метод подразумевает собой совместную работу учителя и учащихся при подробном изучении исследуемого предмета, объекта или явления.

Отличительной особенностью моделирования является его наглядность, выявляющая все скрытые связи, свойства, отношения, объектов, используемых для более детального понимания явлений, фактов». Главным и основным принципом метода моделирования является принцип, замещения: изучая какой-либо предмет, объект или явление школьник может заменить его каким-либо другим похожим объектом, предметом или явлением и посмотреть, что из этого получится. В начальной школе ребенок рано учится пользоваться принципом замещения: в игровой, изобразительной деятельности.

Е.Ф. Козина выделяет основные требования к моделям, используемым на уроках окружающего мира в начальной школе:

- наглядность построения модели;

- обозримость основных свойств;
- доступность модели для ее исследования или воспроизведения;
- простота исследования, воспроизведения;
- сохранение информации, содержащейся в оригинале (с точностью рассматриваемых при построении модели гипотез) и получение новой информации.

З.А. Клепинина определяет следующие свойства моделей:

- конечность – модель отображает оригинал лишь в конечном числе его отношений;
- упрощенность – модель отображает только существенные стороны объекта;
- приблизительность – действительность отображается моделью приблизительно или грубо;
- адекватность – модель успешно описывает моделируемую систему;
- информативность – модель должна содержать достаточную информацию о системе-в рамках гипотез, принятых при построении модели.

Истинное же назначение метода моделирования заключается в представлении его в качестве объекта для более тщательно изучения и изменения его свойств. Например, на уроках окружающего мира в начальной школе широко применяется моделирование детьми различных природных процессов, явлений и т.д. из песка, глины, пластилина и других подручных материалов.

Для успешной учебы в начальной школе ребенок должен иметь довольно развитое логическое мышление. Для того чтобы его развить, необходимо показать ребенку определенные признаки предмета без которых этот предмет не может существовать. В этом ему помогает метод моделирования. То есть ребенок создает модель этого предмета, а затем, используя принцип замещения, начинает изучать этот предмет, анализировать его свойства, и находить его отличные от других признаки.

На уроках окружающего мира можно моделировать схемы, алгоритмы, интеллектуальные карты, графические конспекты. Также очень которыми можно работать, поворачивая и разглядывая их со всех сторон. Например, модель вулкана, модель барометра, универсальная модель, позволяющая продемонстрировать сразу несколько доказательств шарообразности земли и пр.

В 3 классе при изучении темы «Охрана растений» детям предлагается дома с помощью взрослых из картона или альбомных листов сделать и оформить книжку-малышку для дошкольников «Береги природу!». В которой на первой странице нужно написать, что сказали бы растения людям, если бы могли говорить.

В 4 классе при изучении темы «Планеты Солнечной системы» детям предлагается коллективно построить живую модель Солнечной системы. Для этого им необходимо каждому выбрать себе название одной из планет, а кому-то одному назваться солнцем. Распределив названия планет и солнце, им

следует приготовить таблички с этими названиями. Суть задания заключается в следующем: взяв в руки выбранные таблички, дети должны встать вокруг солнца в правильной последовательности планет. Затем им необходимо двигаться вокруг солнца так, чтоб не нарушалось движение планет по орбите. Тот, кто собьется с «орбиты», выходит из игры. Выигрывает тот, кто дольше всех останется на «орбите». Поучаствовав в этом задании, дети повторяют и закрепляют как название планет, так и их расположение, и движение в Солнечной системе.

Таким образом, сущность метода моделирования состоит в том, что модели, используемые на уроках в начальной школе, способствуют систематизации и обобщению полученных знаний, а также играют важную роль в развитии всех мыслительных операций, в том числе и логического мышления.

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ИССЛЕДОВАТЕЛЬСКАЯ ДЕЯТЕЛЬНОСТЬ СТУДЕНТОВ МЕДВУЗА КАК СРЕДСТВО СОВЕРШЕНСТВОВАНИЯ ПРОФЕССИОНАЛЬНЫХ КОМПЕТЕНЦИЙ

***Аннотация.** В статье рассматривается роль исследовательской деятельности как средства повышения профессиональных компетенций студентов медицинского вуза. Описаны методы и подходы, направленные на развитие у обучающихся навыков самостоятельного анализа, критического мышления и практической ориентированности. Подчёркивается значимость исследовательской деятельности для формирования профессиональных навыков и мотивации к обучению.*

***Ключевые слова:** исследовательская деятельность, профессиональные компетенции, медицинский вуз, студенты, критическое мышление, практика.*

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RESEARCH ACTIVITIES OF MEDICAL UNIVERSITY STUDENTS AS A MEANS OF IMPROVING PROFESSIONAL COMPETENCES

***Abstract.** The article examines the role of research activities as a means of improving the professional competencies of medical students. It describes methods and approaches aimed at developing students' skills of independent analysis, critical thinking and practical orientation. It emphasizes the importance of research activities for developing professional skills and motivation for learning.*

***Keywords:** research activities, professional competencies, medical school, students, critical thinking, practice.*

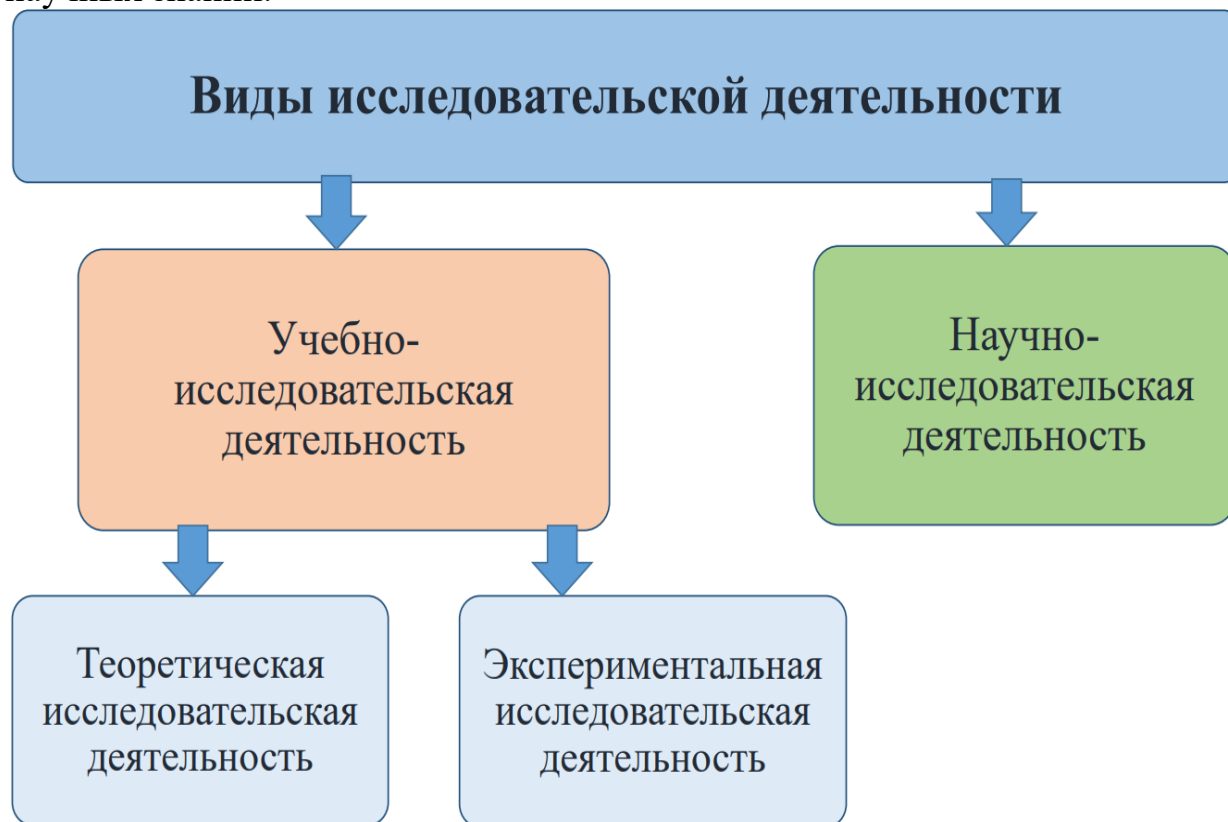
Исследовательская деятельность является важным инструментом в образовательном процессе медицинского вуза в Узбекистане, способствующим развитию у студентов профессиональных навыков и компетенций. В условиях медицинского образования исследовательская работа помогает студентам углубить теоретические знания, приобрести навыки самостоятельного поиска информации и сформировать ответственное отношение к профессиональным задачам. Привлечение студентов к исследовательской деятельности помогает им лучше ориентироваться в

профессиональной литературе, развивает аналитическое мышление и укрепляет мотивацию к обучению.

До недавнего времени исследовательскую деятельность понимали в качестве процесса получения новых знаний или результатов. В настоящее время в контексте инновационных реформ в образовании мы определяем исследовательскую деятельность как комплекс методов, приёмов и форм организации учебного процесса, связанных между собой и направленных на обретение студентами полифункциональных навыков исследования (универсальный способ освоения действительности), стимулирующих развитие исследовательского типа мышления и креативности, раскрытие личности студента в учебном процессе путём обретения субъектом новых знаний. Следовательно, исследовательская деятельность имеет определённый результат – получение принципиально нового знания.

В зависимости от значимости результатов исследования для личностного развития студента классифицируются виды исследовательской деятельности. При этом цель исследовательской деятельности обучающихся заключается в получении новых знаний, которые они могут самостоятельно открыть; она требует определения степени новизны и значимости этих знаний для каждого субъекта образования. Это позволяет различать «научно-исследовательскую» и «учебно-исследовательскую» деятельность.

Научно-исследовательская деятельность студентов, являясь особым видом познавательной деятельности, ориентирована на получение новых научных знаний.



Учебно-исследовательская деятельность ориентирована на образовательный результат и развитие учебно-исследовательских компетенций студентов. Основная функция учебно-исследовательской деятельности – стимулирование познавательной активности обучающихся и развитие их стремления к научному познанию, а также трансформации себя и окружающего мира.

Таким образом, «научно-исследовательская» и «учебно-исследовательская» деятельность тесно связаны, но не идентичны [6].

В процессе учебно-исследовательской деятельности у студентов формируются такие компетенции, как способность увидеть проблему, задать вопрос, предложить гипотезу, выбрать направление работы, собрать и классифицировать информацию, организовать и провести эксперимент, умение прийти к выводу, систематизировать собранный материал, доказать свою точку зрения. Значит, учебно-исследовательская деятельность способствует развитию исследовательских компетенций учащихся.

Н.Л.Стефанова даёт определение исследовательским умениям как совокупности дифференциальных умений, необходимых для проведения учебно-исследовательской работы разными методами [8].

Т.Д.Поликарпова в своём анализе подходов к развитию исследовательских навыков обучающихся указывает, что, несмотря на различия в используемых средствах в разных образовательных программах, этапы организации исследовательской работы остаются неизменными [8].

Формирование исследовательской деятельности целесообразно начать с овладения студентами самостоятельных элементов, которые составляют ступени работы такого типа. Для того чтобы реализовать каждый из элементов в исследовании, необходимо наличие квалификационных умений студентов.

Педагоги выделяют несколько типов умений:

Умение выделить проблему. Данная ситуация равна проблемной и надо понимать её как препятствие при решении задачи, притом, что наблюдается отсутствие знаний и средств. Этот компонент наиболее сложный для любого вида исследовательской деятельности. Заметить и выделить проблему зачастую труднее, чем её решение.

Умение задавать вопросы. Наличие учебных текстов предполагает формирование этого навыка с градацией усложнения и вопросов, и ситуаций, которые направлены для анализа решения проблемы.

Умение высказывать гипотезу. Это формулировка возможных решений проблемы, которые будут проверяться в ходе исследования. В зависимости от уровня исследования возможны теоретические и эмпирические методы, чтобы проверить гипотезу.

Умение структурировать текст. Это часть общего умения манипулировать текстом, включая довольно большой набор операций, что особенно важно на уроках русского языка в медвузе или медицинских факультетах.

Умение выявлять литературные концепции. Это умение, являясь логической операцией, направлено на установление сути дефиниции или значения термина, что немаловажно при получении медицинского образования, в котором терминология играет важную роль.

Умение наблюдать. На данном этапе работы существуют цель и познавательные задачи как главные характеристики.

Умение провести эксперимент. Данная методика исследования предполагает наличие соответствующих навыков и то, что основные теоретические положения исследования должны быть проверены экспериментальным путём.

Умение делать выводы. Это умение является формой мышления, при которой новые знания приобретаются на основе опыта, т.е. на основе имеющихся знаний.

Умение классифицировать. Подразумевается компоновка по группам объектов исследования на основе принципов деления [3].

Одним из ключевых направлений исследовательской деятельности в медицинском вузе является развитие у студентов навыков критического анализа и оценки информации. Учебные проекты и исследования, выполняемые студентами, помогают им освоить методы работы с источниками, научные подходы к сбору данных и навыки интерпретации результатов. Например, при изучении актуальных тем, таких как профилактика заболеваний, сбор анамнеза или влияние медицинских технологий на здоровье, студенты учатся анализировать данные и оценивать их достоверность, что является важной частью профессиональной компетенции. В образовательном процессе студентам важно научиться не только запоминать и воспроизводить учебный материал, но овладеть навыком установления причинно-следственной связи [7]. С этой целью применяются методические приёмы развития логического мышления ученика, в числе которых обучение умению ставить вопросы и отвечать на них – как кратко, так и развёрнуто. Часто для этого используется технология «Толстые и тонкие вопросы» [5].

Практическая направленность исследовательской деятельности позволяет студентам получить опыт в решении реальных профессиональных задач. Учебные проекты, связанные с анализом конкретных клинических случаев или моделированием профессиональных ситуаций, помогают студентам развивать навыки диагностики, прогнозирования и профилактики. В процессе подготовки и проведения исследований студенты учатся применять полученные знания на практике, разрабатывать рекомендации и принимать решения на основе научных данных. Эти навыки важны для подготовки будущих медицинских специалистов, так как позволяют им лучше ориентироваться в условиях практической деятельности.

Важным аспектом исследовательской деятельности является командная работа, которая способствует развитию у студентов коммуникативных и организационных навыков. В ходе проведения исследований студенты учатся

эффективно взаимодействовать, распределять обязанности и принимать совместные решения, что укрепляет их способность работать в коллективе. Командные проекты, требующие сотрудничества и обмена идеями, развивают у студентов коммуникативные умения [2] и поддерживать коллег, что является важным элементом медицинской практики.

Использование современных информационных технологий в исследовательской деятельности также является важным аспектом повышения профессиональных компетенций студентов. Применение программ для анализа данных, медицинских симуляторов и ресурсов по поиску научной информации помогает студентам освоить инструменты, которые они будут использовать в своей будущей практике. Учебные исследования с применением современных технологий позволяют студентам развивать цифровую грамотность и навыки обработки больших массивов данных, что повышает их конкурентоспособность и профессиональную готовность. Кроме того, исследовательская деятельность способствует формированию у студентов самостоятельности и ответственности за свои учебные результаты. Самостоятельная работа над проектами требует от студентов умения планировать свои действия, распределять время и достигать поставленных целей [4]. Подготовка к исследовательской работе включает в себя изучение методологической базы, анализ данных и представление результатов, что развивает навыки самоуправления и укрепляет внутреннюю мотивацию студентов медицинского вуза к постоянному обучению и профессиональному развитию.

Таким образом, исследовательская деятельность в медицинском вузе способствует развитию у студентов профессиональных компетенций, таких как критическое мышление, умение работать в команде, использование современных технологий и навыки самоорганизации. Эти аспекты делают исследовательскую работу эффективным средством подготовки будущих медицинских специалистов, развивая у них уверенность в своих силах и ответственность за результаты своей работы.

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ИННОВАЦИОННЫЕ ТЕХНОЛОГИИ В ОБУЧЕНИИ И РАЗВИТИИ ДЕТЕЙ СРЕДНЕЙ ГРУППЫ ДОШКОЛЬНОГО ВОЗРАСТА

Аннотация: В данной работе рассматриваются инновационные технологии, применяемые в обучении и развитии детей средней группы дошкольного возраста. Анализируются современные интерактивные методы, направленные на повышение познавательной активности и формирование ключевых компетенций у дошкольников. Особое внимание уделяется использованию игровых образовательных сценариев, которые способствуют развитию когнитивных, речевых и социальных навыков. Представляется методика, основанная на интеграции цифровых технологий в учебный процесс, что позволяет повысить эффективность образовательного воздействия.

Ключевые слова: инновации, технологии, обучение, развитие, методика, дошкольники, исследование, когнитивность, мотивация, взаимодействие

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INNOVATIVE TECHNOLOGIES IN THE TRAINING AND DEVELOPMENT OF CHILDREN OF THE MIDDLE GROUP OF PRESCHOOL AGE

Abstract: This paper examines innovative technologies used in the education and development of children of middle preschool age. Modern interactive methods aimed at increasing cognitive activity and forming key competencies in preschoolers are analyzed. Particular attention is paid to the use of educational game scenarios that contribute to the development of cognitive, speech and social skills. A methodology based on the integration of digital technologies into the educational process is presented, which allows increasing the effectiveness of educational impact.

Key words: innovation, technology, learning, development, methodology, preschoolers, research, cognition, motivation, interaction

Введение: Современное дошкольное образование претерпевает значительные изменения под влиянием инновационных технологий, которые позволяют сделать процесс обучения более увлекательным, интерактивным и эффективным. В средней группе (дети 4–5 лет) важно создавать условия для комплексного развития, включая когнитивные, социальные и речевые навыки. Использование инновационных технологий, таких как цифровые интерактивные платформы, игровые образовательные приложения и робототехника, помогает повысить мотивацию детей к обучению и способствует их всестороннему развитию. Однако внедрение таких технологий требует осмысленного подхода, учитывающего возрастные особенности дошкольников и педагогические принципы.

Методология: Интерактивные игровые сценарии для развития детей средней группы. Данная методика основана на использовании интерактивных технологий и цифровых образовательных ресурсов для создания увлекательных игровых сценариев, способствующих всестороннему развитию детей средней группы. В процессе занятий дети взаимодействуют с интерактивными досками, обучающими приложениями и мультимедийными материалами, что помогает им лучше усваивать информацию и развивать ключевые навыки — речевые, познавательные и социальные. Основной принцип методики — вовлечение дошкольников в образовательный процесс через сюжетно-ролевые игры с использованием виртуальных персонажей и анимационных элементов, которые помогают детям исследовать окружающий мир, решать логические задачи и учиться взаимодействовать друг с другом. Методика предполагает поэтапное обучение, начиная с простых интерактивных заданий (например, выбор правильного ответа на экране) и заканчивая более сложными сценариями, где дети самостоятельно принимают решения в игровой форме. Использование адаптивных технологий позволяет учитывать индивидуальные особенности ребенка, предлагая ему задания соответствующего уровня сложности. Например, интерактивная доска может выступать в роли «живого помощника», который подсказывает, корректирует и мотивирует детей на поиск правильного решения. Такой подход способствует формированию когнитивных способностей, развивает креативность и повышает интерес к обучению, делая образовательный процесс увлекательным и эффективным.

Результат: В ходе проведенного исследования по методике «Интерактивные игровые сценарии для развития детей средней группы» были получены значимые результаты, подтверждающие эффективность использования инновационных технологий в дошкольном образовании. Экспериментальная группа из 40 детей, обучавшихся по данной методике в течение трех месяцев, показала улучшение когнитивных и коммуникативных навыков. По итогам наблюдений и диагностических заданий было выявлено, что 85% детей стали активнее участвовать в игровых и образовательных процессах, 78% быстрее усваивали новый материал, а уровень речевого развития улучшился у 72% детей. В контрольной группе, где использовались

традиционные методы обучения, аналогичные показатели были ниже в среднем на 25–30%. Кроме того, результаты анкетирования педагогов и родителей подтвердили, что применение интерактивных технологий повышает интерес детей к обучению и способствует их самостоятельной познавательной активности. 90% воспитателей отметили, что дети стали более вовлеченными и мотивированными на занятиях, а 82% родителей заметили улучшение речи и логического мышления у своих детей. Таким образом, исследование показало, что методика «Интерактивные игровые сценарии» является эффективным инструментом для комплексного развития дошкольников, повышая уровень усвоения знаний и способствуя формированию ключевых компетенций.

Таблица 1.

**Результаты исследования эффективности методики
интерактивных игровых сценариев**

Показатель	Экспериментальная группа (%)	Контрольная группа (%)
Активность на занятиях	85	~55
Быстрота усвоения материала	78	~50
Улучшение речевого развития	72	~45
Повышение мотивации	90	~60
Улучшение логического мышления	82	~50

Заключение: Инновационные технологии открывают новые возможности для обучения и развития детей средней группы в дошкольном образовании. Интерактивные методы, игровые платформы и адаптивные технологии позволяют сделать образовательный процесс более интересным, эффективным и соответствующим потребностям современного ребенка. Однако успешная реализация этих технологий требует подготовки педагогов и осмысленного подхода к их внедрению. Развитие и совершенствование методик, таких как «Игровое взаимодействие с ИИ», поможет достичь новых высот в дошкольном образовании, обеспечивая гармоничное развитие детей и их готовность к дальнейшему обучению.

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НАСТАВНИЧЕСТВО В СОВРЕМЕННОМ ОБЩЕСТВЕ: ИСТОРИЧЕСКИЙ КОНТЕКСТ И АКТУАЛЬНЫЕ ЗАДАЧИ

***Аннотация.** Статья посвящена анализу значения наставничества в контексте современных социально-экономических вызовов. Рассматриваются исторические аспекты развития наставничества, его роль в профессиональном образовании и кадровой политике. Выделены ключевые проблемы внедрения наставнических программ, включая дефицит квалифицированных кадров, и предложены эффективные пути их решения. Наставничество представлено как механизм адаптации, мотивации сотрудников и повышения квалификации, способствующий укреплению корпоративной культуры и устойчивому развитию организаций.*

***Ключевые слова:** наставничество, профессиональное развитие, кадровая политика, адаптация сотрудников, образование, квалификация, корпоративная культура, рынок труда.*

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MENTORING IN MODERN SOCIETY: HISTORICAL CONTEXT AND CURRENT TASKS

***Abstract.** The article analyzes the importance of mentoring in the context of modern socio-economic challenges. The article considers the historical aspects of mentoring development, its role in professional education and personnel policy. The key problems of implementing mentoring programs, including the shortage of qualified personnel, are identified and effective solutions are proposed. Mentoring is presented as a mechanism for adaptation, motivation of employees and advanced training, contributing to the strengthening of corporate culture and sustainable development of organizations.*

Keywords: *mentoring, professional development, personnel policy, employee adaptation, education, qualification, corporate culture, labor market.*

Современные социально-экономические условия развития России обуславливают необходимость значительного повышения качества подготовки кадров на основе обновления системы непрерывного профессионального образования.

После детального анализа ситуации на рынке труда, с учётом нехватки представителей рабочих профессий и недооценки роли педагогов, Президент Российской Федерации своим Указом объявил 2023 год «Годом учителя и наставника».

Наставничество стало предметом пристального внимания общества, так как представляет собой востребованную практику в социальных и образовательных сферах. Его эффективность в решении образовательных, профориентационных и других значимых задач получила признание на государственном уровне. В Концепции общенациональной системы выявления и развития молодых талантов (утверждённой Президентом Российской Федерации 03.04.2010 № Пр-827) подчёркивается важность наставничества: «Основное внимание должно быть уделено повышению профессионального мастерства учителей и наставников, обеспечению высококачественного содержания образовательных программ, внедрению современных средств обучения». В рамках этих проектов к 2024 году предполагается вовлечь в различные формы наставничества и сопровождения не менее 70% обучающихся и работников организаций.

Анализ рынка труда свидетельствует о том, что внедрение программ наставничества актуально и необходимо.

Для внедрения модели наставничества на предприятиях и в организациях можно выделить следующие ключевые положения: наставничество способствует развитию личности, способной адаптироваться и раскрывать потенциал в условиях нестабильности и неопределённости; оно представляет собой перспективную технологию, ориентированную на переход образовательной системы от трансляции знаний к формированию метакомпетенций; эта технология вносит значительный вклад в реализацию стратегических целей организаций и предприятий.

Необходимость и значимость внедрения наставничества обусловлены его возможностью охватить все сферы деятельности современного общества и создать регулярные механизмы взаимодействия между обучающимися и работодателями в рамках программ наставничества.

В современных условиях одной из ключевых проблем российской промышленности остаётся дефицит квалифицированных рабочих кадров. Недостаток специалистов с необходимыми знаниями и навыками, а также слабая организация трудовой деятельности являются основными барьерами для развития экономики России.

Сложившаяся ситуация особенно остро ощущается на уровне руководителей предприятий. Несмотря на большое количество заявок от потенциальных работников, только незначительная часть из них соответствует требованиям высокой квалификации. Практика показывает, что высококлассные специалисты редко находятся в поиске работы — чаще работа сама их находит.

Эксперты считают, что дефицит профессионально подготовленных кадров — это закономерный процесс, вызванный рядом объективных факторов. Прогнозы улучшения ситуации затруднены, однако ясно, что ключ к её решению лежит в повышении престижа рабочих профессий и создании условий для их подготовки.

Увеличение числа высококвалифицированных специалистов возможно за счёт внедрения программ дополнительного обучения, переподготовки и наставничества. Система профессионального образования играет здесь важную роль, поскольку её задачи многогранны: обеспечение знаниями, альтернатива занятости населения, удовлетворение потребностей экономики в рабочей силе. Спрос и предложение на рынке труда часто находятся в дисбалансе, что может приводить как к безработице, так и к дефициту кадров. Например, нехватка рабочей силы зачастую приводит к неравномерному росту заработных плат среди высококвалифицированных специалистов.

На российском рынке труда безработица имеет структурный характер. Это означает, что в различных сегментах одновременно наблюдаются как избыток работников, так и дефицит квалифицированных кадров. Специалисты отмечают, что одной из причин такой ситуации является несоответствие заработной платы уровню профессиональных знаний и навыков, а также неспособность многих предприятий обеспечить достойные условия труда.

Отдельное внимание следует уделить проблемам образовательной системы. Её недостаточное финансирование, отсутствие современной методической базы и несовершенная материально-техническая инфраструктура существенно затрудняют подготовку квалифицированных специалистов. Эти трудности обостряются на фоне низкой мотивации предприятий к взаимодействию с выпускниками учебных заведений.

Для устранения дефицита кадров необходим комплексный подход. Кадровая политика предприятий должна базироваться на следующих принципах:

- согласование стратегии развития предприятия с кадровыми потребностями;

- баланс экономических и социальных аспектов управления персоналом;
- предоставление работникам социальных гарантий, учитывающих задачи предприятия;

- адаптация кадровой политики к особенностям регионального рынка труда;

- учёт ожиданий работников при принятии управленческих решений.

Эффективная трансформация кадровой политики требует анализа внутренних ресурсов предприятия и условий рынка труда. Кроме того, постоянное совершенствование инструментов управления персоналом, оптимизация организационной структуры и развитие мотивационных систем становятся ключевыми элементами успеха.

Для формирования эффективной кадровой политики можно выделить несколько направлений:

- повышение осведомлённости о правилах и нормах кадровой работы;
- активное влияние руководителей на кадровую ситуацию;
- ориентация как на внутренний, так и на внешний персонал;
- открытость компании к изменениям кадрового состава.

Рассмотренные меры направлены не только на решение проблемы дефицита квалифицированных специалистов, но и на профилактическую работу с выпускниками образовательных учреждений и безработными гражданами. Комплексный подход к организации труда и кадровой политике позволит повысить социальную и творческую активность работников, вовлечь их в решение производственных задач и трансформировать эти усилия в устойчивое развитие предприятия.

Наставничество представляет собой неформальный процесс передачи знаний, обмена социальным опытом и оказания психологической поддержки, направленных на профессиональное развитие обучаемого. Этот процесс включает в себя продолжительное взаимодействие между более опытным сотрудником и тем, кто только начинает развиваться в своей сфере. Личность наставника играет важнейшую роль в достижении положительных результатов этого метода. Наставник не только должен обладать профессиональными знаниями и навыками, но и быть способным эффективно передавать их обучаемому.

Важно отметить, что не каждый человек может стать наставником. Помимо профессиональной компетенции, наставнику необходимы такие качества, как ответственность, целеустремлённость, отзывчивость, терпение, тактичность, развитые коммуникативные навыки и высокая самоорганизация. Способность заинтересовать подопечного и увлечь его процессом обучения значительно увеличивает мотивацию и эффективность работы. После завершения стажировки наставник должен продолжать наблюдать за подопечным, помогая ему в сложных ситуациях.

Основные задачи наставничества:

1. Повышение качества профессиональной подготовки сотрудников.
2. Формирование у новых работников позитивного отношения к труду и ускорение достижения необходимых рабочих показателей.
3. Сокращение времени, затрачиваемого руководителями на обучение и оценку новых кадров.
4. Обеспечение наставникам опыта управления и создание возможностей для карьерного роста; признание их заслуг компаний.

5. Укрепление командного духа и повышение лояльности сотрудников к корпоративным ценностям.

6. Снижение текучести кадров и сокращение числа увольнений в период испытательного срока.

Эффективность наставничества объясняется его индивидуальным подходом. Никакая другая форма обучения не способна так точно учитывать потребности обучаемого и адаптироваться к реальным условиям работы. Наставник оперативно реагирует на ошибки подопечного, подробно разбирает их и помогает найти оптимальное решение. Наставничество может быть как дополнительной обязанностью специалиста, так и его основной деятельностью на определённый срок. В некоторых компаниях эта роль достаётся самым опытным сотрудникам с большим стажем. Однако, по мнению многих экспертов, хороший наставник — это, прежде всего, человек, умеющий слушать, быть терпеливым и понятно объяснять.

Преимущества наставничества для всех участников процесса:

Для наставника: развитие управленческих навыков, повышение профессионального статуса, укрепление репутации в компании и формирование сплочённой команды.

Для подопечного: адаптация в коллективе, профессиональная поддержка, помощь в решении рабочих задач и карьерное развитие.

Для компании: стабилизация численности сотрудников, снижение текучести кадров, формирование квалифицированной и лояльной команды.

Наставничество остаётся незаменимым инструментом адаптации новых сотрудников и развития корпоративной культуры. Оно способствует не только профессиональному росту отдельных работников, но и укреплению позиций компании в целом.

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ЛЕКСИЧЕСКИЕ ЗАИМСТВОВАНИЯ КАК МАРКЕР КУЛЬТУРНОЙ ИДЕНТИЧНОСТИ (НА МАТЕРИАЛЕ ИНТЕРНЕТ МЕДИА)

***Аннотация:** Данная статья посвящена исследованию лексических заимствований в Российских и Узбекистанских интернет медиа на современном этапе их ассимиляции в узбекском и русском языке. В представленной статье анализируются лексические заимствования как маркера культурной идентичности.*

***Ключевые слова:** лексические заимствования, интернет медиа, медиалингвистика, культурная идентичность, ассимиляция.*

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LEXICAL BORROWINGS AS A MARKER OF CULTURAL IDENTITY (BASED ON INTERNET MEDIA)

***Abstract:** This article is devoted to the study of lexical borrowings in Russian and Uzbek Internet media at the current stage of their assimilation in the Uzbek and Russian languages. The presented article analyzes lexical borrowings as a marker of cultural identity.*

***Key words:** lexical borrowings, Internet media, media linguistics, cultural identity, assimilation.*

Современный этап развития лингвистики связан с повышением интереса к изучению лексических заимствований в европейских, российских и узбекистанских интернет медиа. Сфера медиа привлекает внимание лингвистов своим динамичным развитием.

Анализ теоретических источников выявил, что медиалингвистика выделилась в самостоятельную область лингвистики в 2000 году. В этом контексте важным для нас является тот факт, что в русскоязычных источниках данный термин был впервые использован Т. Г. Добросклонской в работе

«Теория и методы медиалингвистики» [1]. В зарубежной лингвистике языке он был представлен ранее в статье Джона Корнера «The Scope of Media Linguistics».

Российский исследователь Ю.О.Журавлева в своем исследовании заимствований в английских СМИ отмечает, что медиалингвистика изучает функционирование языка в СМИ, опираясь на основы социалингвистики, психолингвистики, когнитивной, политической лингвистики, а также медиаобразования и дискурсивного анализа. Так, автор определяет, что предпосылки возникновения медиалингвистики появляются в европейских и российских публикациях 1970-х годов, посвященных функционированию языка в массовой коммуникации. Авторы исследовали широкий спектр вопросов, который включал в себя определение статуса языка СМИ и методов описания различных типов медиатекстов, рассмотрение влияния социокультурных факторов и языковых приемов воздействия СМИ на массовое и индивидуальное сознание. Таким образом, по мнению автора, медиалингвистика представляет собой комплексное исследование конкретной социальной области использования языка – производства речи в средствах массовой информации [2].

Лексические заимствования может называть социокультурное понятие, относящееся к определенной культуре и не имеющее аналогов в другой. По справедливому замечанию российского исследователя И. В. Мазуренко, который рассматривает культурную идентичность в контексте глобализации, определяет ее как диалектический процесс интеграции и дифференциации, способствующий сближению культур и расширению коммуникативного пространства, но в то же время и как источник деструктивных тенденций [3]. В связи с этим заимствования, обозначающие культурный концепт, могут также иметь экспрессивно-эмоциональную окрашенность.

Обратимся к лексическим заимствованиям в Интернет медиа. В нашей работе мы проанализировали Интернет-газеты России, а также русскоязычные и узбекскоязычные СМИ Республики Узбекистан. Для поиска и обработки иноязычной лексики мы остановили свой выбор на таких новостных порталах сети Интернет и на таких печатных периодических изданиях, как «woman.ru», «elle.ru», «KP.RU», «elledcoration.ru», «StarHit.Ru», «Podrobno.uz», «uznews.uz», «Ўzbekiston ovozi.uz», «Пресса.uz», «qalampir.uz», «edujournal.uz», «edu.uz», «Пресса.uz», «gazeta. uz», «xalq ovozi.uz», «davr24.uz» и выявили следующие группы слов, с разной степенью ассимилированности, выполняющих функцию культурной идентичности.

В первую группу полностью ассимилированных слов английского происхождения вошли слова, которые имеют как русские, так и узбекские формы словоизменения и дают производные. Рассмотрим их функционирование в интернет-медиа: «Ижтимоий тармоқларда InFinBank'га хакер хужум қилгани ва пул маблағларини ўғирлаган ҳақида хабарлар тарқатилмоқда»<https://qalampir.uz> ;“...илмий лойиҳалар, ишланма ва стартапларни тижорийлаштириш...”; “...инновацион ишланмаларни амалиётга

трансфер қилишдан ташқари, молиявий даромадларни диверсификациялаш имконини ҳам беради” www.edujournal.uz .

Во вторую группу входят частично ассимилированные англицизмы, имеющие формы словоизменения, но не имеющие словообразовательных производных: «...пре-продакшн, скорее всего, начнется на последних стадиях разработки другого»; «В рамках летней State of Play был показан новый геймплейный трейлер хоррор-экшена в декорациях космической станции»; «Assassin's Creed Valhalla завершит свою историю последним дополнением в конце года и получит roguelite-режим» <https://www.playground.ru/>.

В третью группу входят слова неассимилированные, которые иногда называют варваризмами. «Fallout 5 будет, это официально. Это сказал не инсайдер, а сам Тодд Говард, рассказывая некоторые подробности о Starfield в интервью IGN, кстати, говоря также о The Elder Scrolls 6. По сути, он сказал, что активная разработка нового Fallout начнется сразу после завершения работ над новым Elder Scrolls...; «Релиз космического хоррора The Callisto Protocol состоится 2 декабря этого года»; «В рамках летней State of Play был показан новый геймплейный трейлер хоррор-экшена в декорациях космической станции»; «Assassin's Creed Valhalla завершит свою историю последним дополнением в конце года и получит roguelite-режим» <https://www.playground.ru/>.

«Лучшим сериалом-2022 по версии Die Serieale стал второй сезон российского вэб-шоу о сестринской любви, сообщает ТАСС»; «Тин-драмеди «Сама дура» режиссера Анны Зайцевой отметили главным призом немецкого фестиваля вэб-сериалов Die Serieale» portal-kultura.ru/articles/news/342075; «В шоуруме KS Lux приготовили барбекю на ванне Bette из титановой глазурированной стали...» <https://uznews> . «Что такое Chek-up и почему вам нужно записаться на него уже сегодня? Новым подходом к жизни и здоровью стала программа комплексного медицинского обследования CHEK-UP, которая имеется в нашей клинике»; «Vazirlik freelancer bʻ lib ish ʻrganmoqchi bʻ lgan yoshlarga zamonaviy IT- kasblarni ʻrgatadigan foydali video kurslar ishlab chiqibdi»; «Kurslar rʻ yxati:

1. AutoCAD
2. Logistika
3. 2D Animatsiya
4. 3D Animatsiya
5. 3D MAX Start
6. 3D MAX Interyer
7. 3D MAX Eksteryer
8. Frontended
9. JavaSkript Node JS
10. Elektron tijorat
11. Digital marketing»

Таким образом лексические заимствования употребляются в интернет медиа в большинстве случаев употреблены полностью ассимилированные

англицизмы; неассимилированные англицизмы встречаются чаще всего в текстах о спорте, культуре, науке и технике; частично ассимилированные англицизмы встречаются достаточно редко.

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РОЛЬ РЕЗОНАНСНОГО ИНВЕРТОРА В ГИБРИДНЫХ ЭНЕРГОСИСТЕМАХ

***Аннотация.** Резонансные инверторы играют важную роль в современных гибридных энергосистемах, обеспечивая высокую эффективность преобразования энергии и стабилизацию работы различных источников энергии, таких как солнечные панели и ветрогенераторы. Данная статья рассматривает ключевые особенности резонансных инверторов, их применение в гибридных системах и влияние на улучшение общей эффективности и устойчивости энергоснабжения.*

***Ключевые слова:** резонансные инверторы, гибридные энергосистемы, эффективность преобразования энергии, устойчивость энергоснабжения, солнечные панели, ветрогенераторы.*

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THE ROLE OF RESONANT INVERTERS IN HYBRID POWER SYSTEMS

***Abstract.** Resonant inverters play a crucial role in modern hybrid power systems by ensuring high energy conversion efficiency and stabilizing the operation of various energy sources such as solar panels and wind turbines. This paper examines the key features of resonant inverters, their application in hybrid systems, and their impact on improving overall efficiency and energy supply stability.*

***Keywords:** resonant inverters, hybrid power systems, energy conversion efficiency, energy supply stability, solar panels, wind turbines.*

Введение

Гибридные энергосистемы, которые комбинируют несколько источников энергии для обеспечения стабильного и надежного электроснабжения, приобретают все большую популярность благодаря своей способности адаптироваться к переменчивым условиям окружающей среды. Одним из важных компонентов таких систем является инвертор, преобразующий постоянный ток, генерируемый источниками, в переменный ток для питания бытовых и промышленных объектов. Резонансные инверторы, основанные на принципах резонансных схем, предлагают ряд преимуществ в плане эффективности и управления мощностью.

Методы

Для анализа роли резонансных инверторов в гибридных энергосистемах был проведен сравнительный анализ традиционных и резонансных инверторов. Оценивались ключевые параметры, такие как эффективность, стабильность работы системы при изменяющихся нагрузках и способность интеграции с различными источниками энергии. В исследование были включены модели работы инверторов в рамках гибридных систем, использующих солнечные панели и ветрогенераторы. Также были изучены практические примеры применения резонансных инверторов в реальных системах с целью оценки их воздействия на производительность системы и энергоэффективность.

Кроме того, были проведены симуляции для оценки реакции резонансных инверторов при различных эксплуатационных условиях, включая колебания в генерации энергии от возобновляемых источников. Произведено сравнение производительности резонансных инверторов с традиционными инверторами по таким параметрам, как эффективность преобразования энергии, способность обработки мощности и адаптивность к гибридным конфигурациям. Для предсказания потенциальных улучшений в процессе преобразования энергии были использованы теоретические модели резонансных схем.

Результаты

Резонансные инверторы показали более высокую эффективность преобразования энергии по сравнению с традиционными инверторами. В ходе исследования было установлено, что резонансные инверторы обеспечивают меньшие потери энергии на преобразование, что позволяет значительно повысить общую эффективность гибридных энергосистем. Особенно это проявляется в системах, использующих возобновляемые источники энергии, такие как солнечные панели и ветрогенераторы, где колебания мощности могут быть значительными.

В ходе моделирования и симуляций была выявлена способность резонансных инверторов адаптироваться к изменениям входных параметров (напряжения и частоты) с минимальными потерями и сбоями. Это позволило улучшить стабильность работы гибридных систем в условиях, когда источники энергии (например, солнечные панели и ветрогенераторы) не обеспечивают постоянную мощность из-за изменения погодных условий.

Кроме того, резонансные инверторы продемонстрировали более высокую эффективность в регулировании переходов между различными источниками энергии, что способствует улучшению стабильности системы и снижению пиковых нагрузок. Это особенно важно в гибридных системах, где требуется плавное переключение между солнечной и ветровой энергией, а также в моменты изменений потребления.

Обсуждение

Основные преимущества резонансных инверторов заключаются в их способности работать с широким диапазоном входных напряжений и частот, а также в возможности более точного контроля над процессом преобразования энергии. Это особенно важно в гибридных системах, где источники энергии могут значительно изменяться в зависимости от погодных условий и времени суток. Использование резонансных инверторов способствует улучшению общей устойчивости системы и снижению риска сбоев в электроснабжении.

Заключение

Резонансные инверторы играют ключевую роль в повышении эффективности и надежности гибридных энергосистем. Их использование в таких системах позволяет минимизировать потери энергии, повысить стабильность работы и снизить эксплуатационные расходы. В будущем ожидается дальнейшее развитие технологий резонансных инверторов, что откроет новые возможности для улучшения гибридных энергосистем и расширения их применения в различных сферах.

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ОЦЕНКА ЭФФЕКТИВНОСТИ ПРИМЕНЕНИЯ ФИНАНСОВЫХ ТЕХНОЛОГИЙ В КОНТЕКСТЕ ЭКОНОМИЧЕСКОЙ СОЦИОЛОГИИ

***Аннотация:** В современном мире финансовые технологии оказывают значительное влияние на развитие экономики. Следствием этого становится рост востребованности компаний, деятельность которых основана на передовых бизнес-моделях, предполагающих сочетание устоявшихся организационных подходов с передовыми цифровыми технологиями. Крупнейшим игроком в данной сфере является ПАО «Сбербанк». На протяжении своей истории Сбербанк активно интересуется новейшими финансовыми технологиями и предпринимает попытки по их внедрению во все свои бизнес-процессы. Опыт Сбера позволяет не только выявить и систематизировать современные финансовые и иные риски, но и проследить наиболее эффективные пути работы по снижению вероятности наступления их негативных последствий.*

***Ключевые слова:** экономическая социология, финансовые системы, финтех, цифровая экономика, финансовая сфера, риски*

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ASSESSMENT OF THE EFFECTIVENESS OF FINANCIAL TECHNOLOGY APPLICATION IN THE FRAMEWORK OF ECONOMIC SOCIOLOGY

***Abstract:** In modern times, financial technologies have a significant impact on the development of the economy. As a result, there is a growing demand for companies based on advanced business models that combine established organisational approaches with advanced digital technologies. The biggest player in this sphere is Sberbank. Throughout its history, Sberbank has taken an active interest in the latest financial technologies and has made attempts to implement them in all of its business processes. Sberbank's experience allows it not only to*

identify and systematise modern financial and other risks, but also to trace the most effective ways to reduce the likelihood of its negative outcomes.

Keywords: *Economic Sociology, Financial Systems, Fintech, Digital Economy, Financial Industry, Risks*

Сбербанк по праву является одним из крупнейших российских банков, который не ограничивается исключительно банковскими услугами, но достаточно активно выходит на новые рынки, результатом чего является созданная им экосистема Сбер. Данная бизнес-экосистема в современной России занимает одну из ведущих позиций, как по своему масштабу, так и по широте перечня предоставляемых услуг – банковских и небанковских. В рамках экосистемы создана цифровая платформа, ориентированная на постоянное улучшение клиентского сервиса и опыта взаимодействия с клиентами.

Принадлежащая Сберу цифровая платформа аккумулирует в своих рамках разнообразные услуги, начиная с классических банковских операций, продолжая всевозможными B2B-сервисами, решениями для электронной коммерции, и заканчивая клиентскими приложениями для доставки продуктов питания и готовой еды из обычных магазинов, а также с собственных складов.

Экосистема Сбера была бы невозможна без создания целого комплекса технических решений, основанных на передовых финансовых технологиях. К их числу можно отнести собственно финансовые сервисы, инструменты для инвестирования, возможности для электронной коммерции, стандартные и уникальные опции развлекательного характера, инструменты поддержания здоровья, все разновидности страхования, а также иные инструменты и сервисы, ориентированные на бизнес и на частных лиц²¹. Созданное многообразие предложений для участников экосистемы обеспечивает не только количественный рост российских и зарубежных клиентов, но и систематически повышает уровень их удовлетворенности от клиентского опыта.

По результатам изучения деятельности Сбера можно обнаружить, что суммарно количество разнонаправленных сервисов, предлагаемых на цифровой платформе его экосистемы, составляет более 70 наименований. Инновационные финансовые технологии, лежащие в основе платформы, позволяют развивать соответствующие возможности как в автономном режиме, так и посредством интеграции с внешними решениями, имеющими достаточно широкое распространение на соответствующих рынках и бизнес-площадках.

Масштаб Сбера является настолько значительным, что разработка и применение в его рамках инновационных финансовых технологий не только

²¹ Финтех. Каталог финтех продуктов и сервисов Сбера // ПАО СберБанк. URL: <https://developers.sber.ru/portal/categories/fintech>.

развивает саму компанию, но и оказывает существенное влияние на преобразование всей экономики в целом. Фактически примеры и образцы, задаваемые бизнес-экосистемой Сбера, ложатся в основу стратегий развития множества других компаний на рынке, что задает общие тренды и тенденции.

Предложения Сбера на финансовом рынке позволяют выводить на новый уровень деятельность множества малых, средних и крупных предприятий. Созданные сервисы упрощают автоматизацию множества финансовых операций, других организационных процессов, что, в свою очередь, дает шанс сократить время, затрачиваемое на рутинную работу, и высвободить его для более эффективного решения более приоритетных бизнес-задач.

Важным социальным эффектом деятельности Сбера можно считать повышение уровня доверия клиентов как к самой компании, так и в целом к техническим решениям на базе цифровых платформ. Удобство интерфейса, надежность транзакций, прозрачность всех совершенных действий – эти и другие обстоятельства становятся основой для пересмотра негативных установок и для формирования устойчивого позитивного восприятия новых и классических услуг в контексте цифровой экономики. Это же фактически перезапускает устоявшийся рынок банковских услуг, выводя его на принципиально новый качественный уровень²².

Так как ни одна компания в одиночку не может обеспечить максимальный объем развития, Сбер ориентирует свою платформу на путь открытости для интеграции с наработками и решениями внешних разработчиков. С целью осуществления этого была создана технология Sber API (Сбер АПИ). Данная разработка помогает автоматизировать основные бизнес-процессы в различных организационных и цифровых средах благодаря их кооперации с ресурсными мощностями Сбера²³. Это помогает существенно сокращать издержки и повышать качество делопроизводственного сопровождения бизнеса.

Несмотря на все те позитивные аспекты, которые цифровая трансформация привносит в хозяйственную деятельность, вместе с внедрением преобразований возникают дополнительные риски и угрозы, в том числе те, которые не имели актуальности в предшествующие периоды. Наиболее заметными из них можно считать вопросы информационной безопасности, обостряющиеся по мере совершенствования технологий. Финтех ориентирован на активную всестороннюю работу с данными, собранные массивы которых представляют ценность не только для компаний, но и для злоумышленников.

²² Егорова С.Ю., Новикова М.М. Технологическое развитие как фактор экономического роста // Экономика и предпринимательство в современном цифровом пространстве сборник статей Международной научно-практической конференции. Пенза, 2021 С. 146-149.

²³ Fintech API Сбербанка: как современные технологии упрощают взаимодействие бизнеса с банком // Рамблер/новости. URL: <https://news.rambler.ru/internet/44395723-fintech-api-sberbanka-kak-sovremennye-tehnologii-uproschayut-vzaimodeystvie-biznesa-s-bankom/>.

С ростом цифровой экономики возрастают и методы взлома, остановки и нарушения работы платформ, количественно и качественно увеличиваются DDoS-атаки. Целями подобной противоправной активности становится противодействие нормальному течению деятельности коммерческих и некоммерческих организаций, похищение их активов и ресурсов. Это, как следствие, приводит к потерям финансов и репутационным издержкам, а в глобальном масштабе – к снижению интенсивности и разнонаправленности экономического развития²⁴.

История борьбы с хакерскими атаками в недавние годы приобрела для Сбера особую актуальность. Так в 2022 году Сбер пережил целую серию хакерских атак, бывших особенно интенсивными в весенний и осенний периоды. В нападениях на инфраструктуру бизнес-экосистемы принимали участие более 104 тысяч злоумышленников, из-за чего компания испытывала ощутимое техническое давление, а ее клиенты – неудобства по причине перебоев в работе привычных инструментов и сервисов. На следующий год количество зафиксированных атак, совершенных цифровым способом, увеличилось примерно на 40%, что не могло не сказаться на клиентском опыте и на уровне удовлетворенности услугами²⁵.

Большая дискуссия, ставшая следствием мошеннических действий, развернулась по вопросам надежности и сохранности личных данных, устойчивости технических решений по ведению учета, безопасности совершения платежей через цифровые платформы и т.д. К прямым следствиям данных обсуждений можно отнести финансовые потери, возникшие у компаний, в том числе у Сбера, из-за роста скептических настроений среди пользователей.

Формирование бизнес-экосистемы Сбера стало естественным продолжением тех тенденций и трендов, которые утвердились в финансовой сфере в недавние годы. Сбер за относительно короткий период не только вышел на цифровой рынок, но и достаточно быстро занял на нем одну из лидирующих позиций. Особую ценность приобрели созданные Сбером возможности по интеграции внешних наработок в его собственную бизнес-экосистему за счет технологических возможностей, а также благодаря продумыванию организационных возможностей для партнерства.

Качественный скачок в клиентском сервисе произошел после подключения Сбера к Системе быстрых платежей (СБП), облегчающей совершение оплат по всем направлениям – за товары и услуги, между пользователями, а также между счетами одного и того же человека, открытыми в разных банках. Эта инновация стала возможной

²⁴ Отчет центра мониторинга и реагирования на компьютерные атаки в кредитно-финансовой сфере Департамента информационной безопасности Банка России 1.09.2018 – 31.08.2019 // Банк России. URL: https://cbr.ru/Collection/Collection/File/32087/FINCERT_report_20191010.PDF.

²⁵ Филимонова Н. Н., Кувшинова Ю. А., Егоров А. Ю. Роль цифровизации экономики в условиях кризиса // Вестник Российского нового университета. 2022. № 4. С. 60–64.

преимущественно благодаря внедрению новой бизнес-модели Сбера, потому как прежние подходы исключали такую возможность.

Новым стратегическим соглашением в 2021 году стал договор с Росатомом, который согласился вести совместные исследования в области квантовых технологий, в том числе для создания вычислительных систем нового поколения. Это не только внесло в банковскую сферу новый импульс развития, но и побудило другие крупнейшие компании задуматься о создании на своих базах подразделений по исследованиям и разработке.

За годы реализации новой модели Сбер смог создать и зарегистрировать более 420 патентов на изобретения разного рода, более 150 из которых пришлись на последние три года. Технологические решения Сбера были направлены как на оптимизацию классических банковских задач, так и на работу с новыми рисками, связанными с потенциальными техническими ошибками пользователей, мошенническими действиями со стороны злоумышленников, регулярным возникновением новых законодательных ограничений разного рода.

Особый интерес представляют инвестиции Сбера в технологическое развитие, как в свои собственные подразделения, так и во внешних разработчиков. Так, например, порядка 720 млн. рублей были выделены в качестве тендера на разработку инструментов Python и Hadoop, способных повысить эффективность работы банковских структур. Они же применялись и в других продуктах из новой линейки Сбера²⁶. Не останавливалась работа и в небанковском секторе экономики. В 2023 году была инициирована разработка профильного программного пакета для обеспечения процессов производства микроэлектроники. Новые этапы развития были пройдены и на пути вложения средств в робототехнику, результаты чего презентовались на многочисленных выставках.

Рассмотренные примеры опыта, накопленного Сбером, показывают, что вложения в финтех оказывают положительное социальное и экономическое влияние как на бизнес, так и на экономику в целом. Новацией в сфере цифровых финансовых сервисов стали риски, обусловленные возможными ошибками пользователей, сотрудников компании и программного обеспечения. Эти самые риски способны привести к различным негативным последствиям, включая нарушение целостности данных или их конфиденциальности. Опыт Сбера позволяет не только выявить и систематизировать подобные риски, но и проследить наиболее эффективные пути работы по снижению вероятности наступления связанных с ними негативных последствий.

На протяжении недавнего десятилетия Сбербанк показывал достаточно хорошие финансовые результаты, благодаря чему стала возможной его инвестиционная активность. Так в 2023 году рентабельность составила около 25%, а показатели чистой прибыли достигли отметки в 1508,6 млрд. руб.

²⁶ Сбербанк // Tadviser. URL: <https://www.tadviser.ru/a/80115>.

Размер клиентской базы был доведен до 3,2 млн. компаний и 108 млн. человек, которые суммарно получили более 28 трлн. руб. в форме кредитных продуктов²⁷. Для этого от частных лиц было привлечено около 23 трлн. руб. вкладов, что на 4,4 трлн. Больше, чем годом ранее. Благодаря всему этому прибыль акционеров в пересчете на 1 акцию достигла цифры 69,1 руб.²⁸. Подобные экономические результаты для Сбера стали рекордными, по сравнению с предыдущими десятилетиями деятельности. Инвестиции Сбера в онлайн-сервисы позволили ему достигнуть заметного роста пользовательской активности по всем показателям. Это наглядно представлено в Таблице 1, отражающей действия различных категорий клиентов Сбера.

Таблица 1 - Основные показатели активности клиентов, млн. руб.²⁹

Категория клиентов	на 31.12.2023	на 31.12.2022	изменение
Активные клиенты – физические лица	108,5	106,4	2,1
Активные ежемесячные пользователи Сбербанк Онлайн	81,9	78,6	3,3
Ежедневные пользователи Сбербанк Онлайн	43,7	40,9	2,8
Активные корпоративные клиенты	3,2	3,0	0,2

Важную роль в обеспечении устойчивости Сбера сыграла его ориентация на создание собственных программных продуктов, что приобрело особенную актуальность в условиях роста количества санкций, а также обусловленного ими первичного и вторичного санкционного давления. К примеру, разработанная Сбером нейросеть не только восполнила пробелы, возникшие по причине ухода с рынка ряда технологических компаний, но и заложила основания для существенного влияния на оказываемые услуги. По собственным расчетам Сбера достигнутый экономический эффект в сумме превышает 550 млрд. руб. Это помогло достигнуть соотношения расходов к доходам на рекордных показателях ниже 30%.

Технологическое лидерство Сбера видно на примере GigaChat – созданного данной компанией искусственного интеллекта. За короткий

²⁷ Сокращенные результаты Сбербанка по МСФО за 2023 год // ПАО СберБанк. URL: https://www.sberbank.com/ru/investor-relations/groupresults/ifrs__2023/.

²⁸ Отчетность ПАО Сбербанк // Банк России. URL: <https://cbr.ru/finorg/foinfo/reports/?ogrn=1027700132195>.

²⁹ Результаты Группы Сбер. Информация по операционным и финансовым показателям // ПАО СберБанк. URL: <https://www.sberbank.com/ru/investor-relations/groupresults>.

отрезок времени Сберу удалось привлечь на платформу порядка 2,6 млн. активных пользователей, что стало не только успехом в части повышения качества и прибыльности услуг, но и серьезным техническим испытанием для отдела разработок.

Сравнение финансовых показателей Сбера за прошедшие годы и фактической численности его сотрудников показывает, что автоматизация основных бизнес-процессов и оптимизация производственных задач дала возможность существенно снизить кадровый состав компании. При этом ни в части дохода, ни в части прибыли компания не понесла заметных потерь.

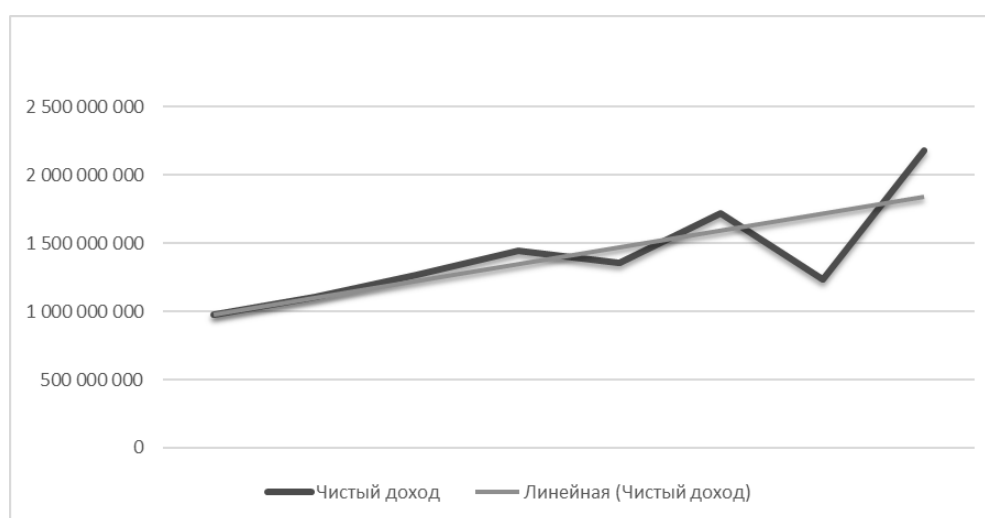


Рис 2. Чистый доход Сбербанка за 2016-2023 гг., трлн. руб.³⁰

Инвестирование в технологические решения и их повсеместное внедрение позволили Сберу обеспечить себе устойчивое развитие, как за счет повышения эффективности использования имеющихся ресурсов, так и посредством существенного расширения клиентской базы через новые направления деятельности и специализированные проекты.

Опыт Сбера позволяет не только выявить и систематизировать различные риски, но и проследить наиболее эффективные пути работы по снижению вероятности наступления связанных с ними негативных последствий. Рассмотренные примеры опыта, накопленного Сбером, показывают, что вложения в финтех оказывают положительное социальное и экономическое влияние как на бизнес, так и на экономику в целом. На основе этих данных видны и риски, сопутствующие инновационным преобразованиям компаний, желающих выйти на принципиально новые финансовые показатели. В целом, подобная ситуация является типовой, поскольку на протяжении истории всегда новые изобретения применялись как

³⁰ Отчетность ПАО Сбербанк // Банк России. URL: <https://cbr.ru/finorg/foinfo/reports/?ogrn=1027700132195>.

для общественного развития, так и для совершения различных противоправных действий.

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ИСПОЛЬЗОВАНИЕ СОВРЕМЕННЫХ ТЕХНОЛОГИЙ ДЛЯ ПОВЫШЕНИЯ ИНТЕРЕСА ШКОЛЬНИКОВ К ИНФОРМАТИКЕ

Аннотация: в статье мы обсуждаем внедрение современных технологий в учебный процесс может вдохновить на создание творческих и инновационных проектов, которые выходят за рамки стандартной учебной программы

Ключевые слова: индивидуальный подход, образовательные современные технологии, игр или анимаций на языке программирования, интерактивные приложения и мультимедийные контент, онлайн-соревнованиях и хакатонах.

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USE OF MODERN TECHNOLOGIES TO INCREASE STUDENTS' INTEREST IN COMPUTER SCIENCE

Abstract: In this article we discuss how the introduction of modern technologies into the educational process can inspire the creation of creative and innovative projects that go beyond the standard curriculum.

Keywords: individual approach, educational modern technologies, games or animations in programming language, interactive applications and multimedia content, online competitions and hackathons.

В наше время технологии развиваются стремительными темпами, и учитель информатики должен быть на шаг впереди, чтобы заинтересовать и увлечь своих учеников. Использование современных технологий, таких как виртуальная или дополненная реальность, может значительно усилить интерес школьников к изучаемому предмету. Такие методы позволяют ученикам не только изучать теорию, но и применять полученные знания на практике, что улучшает запоминание и понимание материала.

Еще одним важным аспектом является интеграция программирования в повседневную жизнь. Введение игровых элементов и геймификации в обучение помогает сделать процесс изучения информатики более увлекательным. Например, создание простых игр или анимаций на языке программирования, который изучают школьники, может мотивировать их к углубленному изучению предмета и самостоятельной реализации проектов. Это не только развивает творческие способности учащихся, но и формирует навыки критического мышления и решения проблем.

Кроме того, использование облачных технологий дает возможность учителю создавать интерактивные уроки и лабораторные работы, которые доступны в любое время. Это обеспечивает индивидуальный подход к обучению, где каждый ученик может изучать материал в своем темпе. Также ученики могут работать над совместными проектами онлайн, что развивает навыки коллективной работы и коммуникации. Внедрение таких технологий требует от учителя не только технической компетенции, но и способности адаптировать учебный процесс к новым реалиям, что делает его обязанности еще более значимыми и ответственными.

Современные технологии также открывают возможности для участия школьников в международных онлайн-соревнованиях и хакатонах, которые стимулируют их интерес к информатике. Эти мероприятия позволяют учащимся применять свои знания в реальных задачах, соревноваться с ровесниками из других стран и обмениваться опытом. Участие в таких конкурсах способствует развитию у школьников важных навыков, таких как работа в команде, управление временем и стрессоустойчивость. В результате, они не только становятся более уверенными пользователями технологий, но и расширяют свои горизонты и лучше понимают потенциал, который предоставляет карьера в области информационных технологий.

Одной из проблем, с которыми сталкиваются современные учителя, является поддержание концентрации внимания школьников в классной комнате. Использование интерактивных приложений и мультимедийного контента может быть эффективным методом решения этой задачи. Видеоуроки, анимации и интерактивные задания увлекают учеников и делают сложный материал более доступным для понимания. Такие технологии позволяют учителю предоставлять разнообразные методы подачи информации, что делает процесс обучения более динамичным и адаптивным под потребности каждого ученика.

Нельзя забывать и о важности кибербезопасности в образовательном процессе. Обучение основам защиты данных и безопасного поведения в сети становится всё более значимым аспектом в школьной программе. Применение современных технологий должно сопровождаться объяснением потенциальных рисков и методов их предотвращения. Школьники, понимающие принципы безопасности в информационном пространстве, будут более подготовлены к вызовам современного цифрового мира, что является неотъемлемой частью их общего образования и способствует формированию ответственного отношения к использованию технологий.

Использование современных технологий в обучении информатике, несомненно, требует постоянного профессионального развития со стороны учителя. Регулярное повышение квалификации, участие в тематических конференциях и вебинарах позволяют педагогам оставаться в курсе последних трендов и новшеств. Это желание учиться новому и применять полученные знания в образовательном процессе не только способствует повышению интереса учеников к информатике, но и формирует у них навык непрерывного самообучения, который будет полезен на протяжении всей жизни.

Современные технологии также предоставляют учителям новые инструменты для оценки успеваемости и сопровождения учебного процесса. Платформы для онлайн-обучения и автоматизированные системы тестирования позволяют педагогам получать мгновенную обратную связь о прогрессе каждого ученика. Эти инструменты облегчают идентификацию сильных и слабых сторон учащихся, способствуя индивидуальному подходу и оперативной корректировке учебного курса. Помимо этого, данная аналитика помогает учителям модерировать учебные планы и внедрять новые методики в соответствии с текущими образовательными потребностями.

Одновременно с этим технологии предлагают и возможности для более тесного взаимодействия между родителями и школой. Многие образовательные платформы позволяют родителям отслеживать академическую успеваемость своих детей в реальном времени, получая доступ к отчетам об успеваемости и оповещениям о важных событиях. Это прозрачность взаимодействия способствует большему вовлечению родителей в учебный процесс и позволяет им лучше понимать области, в которых их дети нуждаются в дополнительной поддержке. Таким образом, формируется треугольник сотрудничества между учениками, учителями и родителями, что благотворно сказывается на образовательных результатах.

Кроме того, внедрение современных технологий в учебный процесс может вдохновить на создание творческих и инновационных проектов, которые выходят за рамки стандартной учебной программы. Например, создание мобильных приложений, разработка веб-сайтов или участие в конкурсах проектов может не только укрепить технологические компетенции школьников, но и развить у них предпринимательские навыки. Такие инициативы способствуют укреплению критического мышления,

инициативности и творческого подхода к решению задач, что особенно важно в сегодняшней быстро меняющейся экономике.

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ОРГАНИЗМНИНГ ХАМРОХ КАСАЛЛИКЛАРИДА МИОПИЯДА СКЛЕРОМАЛЬЯЦИЯ РИВОЖЛАНИШИ ВА ЗАМОНАВИЙ ДАВОЛАШ

***Аннотация** Миопиянинг оғир асоратларидан бири бўлган склеромальяциянинг олдини олиш ва даволаш турли хил усулларни талаб қилади. Кўзойнак ёрдамида мақсадли оптик тузатишнинг замонавий усуллари, оптик акс эттириш усуллари, таянч-ҳаракат тизими учун машқлар ва болаларда , аккомодация ҳолати, турли хил жисмоний ва аппарат техникаларида келтирилган. Даволашнинг замонавий ёндашувлари ва асосий стандартлари "клиник тавсиялар"да ўз аксини топган.*

***Калим сўзлар:** миопия, функционал даволаш, антиоксидант, аккомодация.*

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AN INTEGRATED APPROACH TO THE PREVENTION AND TREATMENT OF PROGRESSIVE MYOPIA IN SCLEROMALACIA

***Abstract:**An integrated approach to the prevention and treatment of scleromalacia, one of the severe complications of myopia, requires various treatment methods. A complete clinical examination for this disease, optical correction, functional and drug therapy. Local and systemic drugs with antioxidant and vasoconstrictive effects were mentioned, which improve the hemodynamics of strong muscles and myopic eyes. Modern approaches and basic standards of complex treatment are reflected in the "clinical recommendations".*

***Keywords:** myopia, functional treatment, antioxidant.*

Долзарблиги. Маълумки, миопия рефракциянинг энг кенг тарқалган патологияси бўлиб, мактабнинг қуйи синфларида унинг частотаси 6-8% ни ташкил қилади ва мактаб охирига келиб, яъни 17 ёшга келиб, у камида 25-30% ни ташкил қилади [1]. Гимназия ва лицейларда бу кўрсаткич 50% га этади, бу янада кучли ва узок муддатли визуал юклар, узок вақт компютер иши ва бошқа электрон воситалардан тез-тез фойдаланиш билан боғлиқ [2]. Дунёда миопия тарқалиши нотекис бўлади: максимал рақамлар Жануби — Шарқий Осиёда кузатилмоқда: Жанубий Корея — 96,5% [3], Хитой — 80% [4], Сингапур — 73,9% [5], Гонконг-61,5% [6]. Ёшларда миопиянинг минимал ставкалари Африка мамлакатлари да кузатилади-тахминан 11% [7]. Прогнозига кўра Б. Holden ва бошқ., 2050 йилга келиб аҳолининг 49,8%

узокни кўра олади, шундан 9,8% юқори миопияга эга бўлади [8]. Ноқулай курсда миопия тўр парда патологиянинг ривожланишига сабаб бўлади, бу оғир ҳолатларда тузатилган кўриш ўткирлигининг қайтарилмас пасайишига ва 2018 йил 2 71-сонли меҳнатда юзага келадиган кўриш ногиронлигига олиб келади. Мактабгача ёшдаги болаларда учрайдиган эрта орттирилган миопия одатда айниқса ноқулай прогнозга эга [9]. Сўнгги йилларда миопиянинг келиб чиқишида заифлашган аккомадациянинг роли ҳақидаги маълумотларга асосланиб, жисмоний машқлар ва дорилар ёрдамида кўзнинг аккомодатив аппарати таъсир қилиш орқали унинг ривожланишини олдини олиш усуллари ишлаб чиқилди [10-13]. Миопияда доривор таъсир усуллари миопик жараёнга патогенетик таъсир цилиар мушаклари ва кўзнинг гемодинамикасини яхшилайдиган дорилар томонидан таъминланади. Цилиар мушакларига таъсир қилувчи дорилар хорижий адабиётларда миопияни тиббий назорат қилиш учун холинолитик атропиннинг турли концентрациясини инстиляциялаш таклиф этилади. Маълумки, М-холинолитиклар цилиар мушак толаларининг думалоқ ва меридионал қисмига — бруке ва Мюллер мушакларига таъсир қилиб, циклоплегик таъсир кўрсатади. Одатда, дори-дармонларни даволаш, шу жумладан миопик кўз тўқималарида гемодинамикани яхшилайдиган трофик воситалар йилига 2 марта уйда курслар ўтказилади [35-47]. Витамин ва минерал комплекс лар миопияни даволашда кенг қўлланилади. Лютеин ва зеаксантин, макула пигментининг асосини ташкил этувчи каротеноидлар кўзларни прогрессив миопияга ҳос оптик ва оксидловчи стрессдан ҳимоя қилади. Турли муаллифларнинг фикрига кўра, бу моддалар қоннинг реологик хусусиятларини яхшилашга ёрдам беради, чунки улар камаяди қон томир девори тонуси ва унинг мустаҳкамланишига ҳисса қўшади. Бета-каротин хужайраларни реактив кислород турлари ва эркин радикаллар таъсиридан ҳимоя қилади.

Шуни таъкидлаш керакки, орттирилган ривожланиб боровчи миопия билан кўрув анализаторнинг кортикал қисми фаолиятини компьютер биоэлектрик тузатиш усулидан фойдаланиш тавсия этилмайди [36, 38, 66]. Ушбу усулни мақсадга мувофиқ — амблиопияни даволаш учун ишлатиш мақсадга мувофиқдир. Бундай тренинг курсидан сўнг, прогрессив миопия билан, аккомадация даражасини ошириш ва ҳатто аккомодациянинг қисман спазминини ривожлантириш мумкин. Орттирилган прогрессив миопия учун амблиопия ва бошқа плеоптик усуллари даволаш учун компьютер дастурларидан фойдаланиш тавсия этилмайди [35, 36, 38]. Бундай тренинг кўзнинг динамик рефракциясини кучайтиради, одатий аккомодация ва аккомодацияни оширади, миопиянинг тезроқ ривожланишини келтириб чиқаради. Миопия билан оғриган одамларнинг жисмоний фаоллигини чеклайдиган умумий чоралар, яқинда тавсия этилганидек, нотўғри деб тан олинган. Аксинча, миопия ва унинг ривожланишининг олдини олишда жисмоний маданиятнинг муҳим роли кўрсатилган, чунки жисмоний машқлар тананинг умумий мустаҳкамланишига, унинг функцияларини фаоллашишига, цилиар мушакларининг иш фаолиятини яхшилашга ва кўзнинг склерал

мембранасини мустаҳкамлашга ёрдам беради. Махсус машқлар орқа ва бўйин мушакларини, қорин олд деворини кучайтириш машқлари, шунингдек нафас олиш машқлари билан алмаштирилади. Очик ўйинлар танани машқ қилиш, ўйинчиларнинг ҳиссий ҳолатини ошириш яқинда ўтказилган тадқиқотда кўрсатилгандек ажойиб воситадир. Morgan [69], тоза ҳавода бундай жисмоний фаоллик бошқа тиббий воситалар билан биргаликда миопиянинг пайдо бўлиши ва ривожланишининг олдини олишга катта ҳисса қўшади. Қисқа тез югуриш (10-15 м), тўпни узатиш ва ушлаш, деворга ёки нишонга отиш билан ўйинларни ўтказиш тавсия этилади. Шу билан бирга, сезиларли интенсивликдаги циклик машқларни (пулс 180 зарба / мин ва ундан юқори), шунингдек гимнастика ускуналари, арқон билан сакраш, акробатик машқларни бажаргандан сўнг, кўзнинг аниқ ишемияси қайд этилади, бу узок вақт давом этади ва цилиар мушакларининг ишлашининг ёмонлашиши қайд этилади. Ҳозирги вақтда кўриш органи касалликлари, хусусан, рефракцион хатолар учун турли хил спрт турларига қабул қилиш даражалари аниқланди [71], бу миопияси бўлган болалар ва ўспиринларга алоҳида тавсиялар беришда ҳисобга олиниши керак.

Хулоса кўп факторли офтальмопатология сифатида прогрессив миопия ривожланишининг самарали олдини олиш комплекс ёндашувни, шу жумладан мақсадли даволашнинг турли усуллари, функционал таъсирларни ва дори терапиясини талаб қилади. Замонавий ёндашувлар ва комплекс даволаш стандартлари клиник кўрсатмалари акс эттирилган. Етарли даволаш комплексини тайинлашда боланинг соғлиғи ва унинг кўриш органининг функционал хусусиятларини ҳисобга олган ҳолда алоҳида ёндашув зарур, бу миопиянинг ривожланишини тўхтатади ва миопик генезис фондусида қайтарилмас патологик ўзгаришларнинг ривожланишига тўсқинлик қилади.

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РИВОЖЛАНИБ БОРУВЧИ МИОПИЯДА ФИЗИОЛОГИК СКЛЕРОМАЛЯЦИЯ ХАВФИНИ АНИКЛАШ

Аннотация. Ушбу илмий мақолада ўсмирларда ривожланиб боровчи миопияни юқори даражасида склеромальяцияни ривожланишига таъсир кўрсатувчи хавф омиллари, уларни келиб чиқиши, этиологияси, патогенези, клиникаси, диагностикаси, асоратлари ва уларни бартараф этиши ҳамда даволаш усуллари кенг замонавий йўналишда таҳлил қилинган.

Ключ сўз: миопия, стафилома, склеромальяция, конус.

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RISK FACTORS FOR THE DEVELOPMENT OF PHYSIOLOGICAL SCLEROMALACIA IN PROGRESSIVE MYOPIA

Annatation. In this review modern views on the etiological factors of the pathogenesis of the complication and the influence of the climatogeographic conditions on the progression of myopia are considered. The mechanism of action and effectiveness of the drug luberrin and cortexin injections are presented in the article.

Key words: myopia, shaphiloma, cone.

Миопия муаммоси Аристотел (милoddан аввалги 384-322 йиллар) давридaн бери маълум. Миопия билан содир бўладиган кўриш ўткирлиги бузилиши ахборотни тўлиқ идрок этишни қийинлаштиради ва аҳолининг ўқув ва меҳнат салоҳиятини шаклланишига тўсқинлик қилади (Захаренков В. В. 2010).

2015 йилдан бошлаб миопия касаллиги давр эпидемиясига айланди. БЖССТ маълумотига кўра ер шарида 290 миллиондан ортиқ, бундан 19 миллиони 18 ёшгача бўлган болалар инсонлар рефракция касалликлари билан оғрийди. Халқаро миқёсда бундай таҳдидли нохуш тенденцияга ишора қилувчи статистик маълумотлар бисёр: Россияда мактабгача бўлган болалар (7 ёшгача) ўртасида миопия касаллиги -7-10 %ни, мактаб болалари (7-15 ёшгача) ўртасида 50-60% ташқил этади. Аҳоли орасида юқори даражали миопия 25-30% ташқил этади. АҚШ, Ғарбий Европада ўртача 40 %, Япония,

Гонг-Конг да 70-75%, кам ривожланган давлатларда 12-15% ташкил этади . Аҳоли орасида юқори даражали миопия 25-30% ташкил этади. АҚШ, Ғарбий Европада ўртача 40 %, Япония, Гонг-Конгда 70-75%, кам ривожланган давлатларда 12-15% ташкил этади. Экспертларнинг айтишича 2025 йилга бориб миопия ер шари масштабида эпидемия ҳолатига киради. Касаллик ўсиши йил сари ривожланиб борапти. Маълумотларга кўра 2050 йилда 4,5 млрд одам касалланади ва 115 миллион одамни кўзи ожиз бўлади. Бу ер шарини ярмини ташкил этади. Хитойда 1,4 млрд аҳоли бўлиб шундан 600 миллиони миопия билан оғрийди. Мактаб болаларида миопия 40% , талабаларда 70% ташкил этмоқда. Ўзбекистонда рефракция аномалиялари ҳозирги кунда 30,9% ни ташкил этапти. Мактабга 10% болалар миопия касаллиги билан киради ва мактабни тамомлашда бу кўрсаткич 30% этади. Кўпчилик тадқиқотчилар исботли таъкидлашларича, бундай вазиятни бартараф қилишни асосий йўли битта – миопияни ва уни ривожланишини эртанги аниқлаш, баҳолаш ва кузатиб боришда эпидемиологик натижаларга аксариат таяниб амалиёт олиб бориш, миопиянинг профилактикаси тизимини такомиллаштириш ҳамда унинг донозогик ташхисотида оид технологияларни яратиш бўйича илмий изланишларни жадаллаштиришдир.

Кўпгина тадқиқотчилар кўриш ўткирлиги бузилган одамлар сонининг кўпайишига салбий таъсир кўрсатади. Баъзи ҳисоб-китобларга кўра, бу ўн йил охирига келиб, дунё аҳолисининг учдан бир қисми миопиядан азият чекади. 96% гача - миопия энг юқори тарқалганлиги ставкалари Шарқий ва Жануби-Шарқий Осиё мамлакатларида аҳоли рўйхатга олинган. Европада ва Ақшда тарқалиш частотасининг ошиши ҳақида далиллар мавжуд.

Мақсад: Ўсмирлар ўртасида ривожланиб борувчи миопияда склеромальцияни ривожланишидаги хавф омилларини аниқлаш ва ушбу ҳолатни тизимлаштириш масаласи катта қийинчиликларни кўрсатиб бериш.

Тадқиқотларни осонлаштириш ва турли популяциялар ўртасида таққослаш имкониятини яратиш учун патологик миопияда склеромальцияни таснифлаш учун стандартлаштирилган таърифлар тўпламини яратиш.

Материал ва методлар: Беморлар ёши ривожланиб борувчи миопияда склеромальцияни ва бошқа патологик ўзгаришларнинг ривожланиши учун муҳим хавф омилдир. Ривожланиб борувчи миопияси бўлган ўсмирларда склеромиалациянинг тарқалиши паст ва ёшга қараб ортиб бориши кузатилди. Ўсмирларда энг кенг тарқалган ўзгаришлар кўрув нерви дискини қайрилиши (37%) ва кўрув нерви атрофи атрофияси (39%).

Аниқланишича, 20 ёшдан 35 ёшгача склеромиалазия частотаси 3,8 баробар, 35 ёшдан 50 ёшгача эса яна 1,4 баробар ортади. Тадқиқотлар шуни кўрсатдики, склеромиалация частотасининг " чўққиси " 22-30 ёшдаги ўсмирларда кузатилади. Миопия юқори бўлган катталар популяциясида (40 ёш ва ундан катта) склеромиалациянинг тарқалиши ва ривожланиши сезиларли даражада юқори (стафилома — 23%). Бундан ташқари, кўз олмасининг давомий чўзилиши ва склеромиалациянинг ривожланиши ўртасида ассоциация намоиш этилди. Юқори прогрессив миопия бўлган

беморларнинг кўзларининг 40 фоизида склеромиалациянинг пайдо бўлиши ёки ривожланиши ўртача 5 йиллик бўлган кузатув даврида қайд этилганлиги аниқланди. Қайд этилган ўзгаришларга янги кўринишлар ва аллақачон мавжуд склеромиалациянинг ривожланиши, шунингдек, тўр парда ёриқлари сонининг пайдо бўлиши ёки кўпайиши киради.

Ҳозирги вақтда патологик миопия бутун дунё бўйлаб соғлиқнинг сақлашнинг асосий муаммоларидан бири эканлиги аниқ бўлиб, у йилдан-йилга эпидемияга айланиб бормоқда. Ушбу ҳолатни тизимлаштириш масаласи катта қийинчиликларни келтириб чиқаради.

Биринчидан, кейинги тадқиқотларни осонлаштириш ва турли популяциялар ўртасида таққослаш имкониятини яратиш учун патологик миопияда склеромиалацияни таснифлаш учун стандартлаштирилган таърифлар тўплами зарур.

Иккинчидан, патологик миопия статик касаллик эмаслиги аниқ, у деярли ҳар бир ҳолатда склерани чўзилиши ва тўр пардани ўзгариши орқали ривожланишни кўрсатади. Шунга қарамай, патологик миопиядаги склеромиалациянинг ривожланиши учун хавф омиллари тўлиқ ўрганилмаган ва ёшга қараб ортиб бораётган механик стресс, дегенерация ва ишемия каби мумкин бўлган сабабларнинг таъсирини баҳолаш учун шошилишч эҳтиёж мавжуд. Ҳеч шубҳа йўқки, юқори миопия кўз олмасининг (ПЗО) прогрессив ва ҳаддан ташқари чўзилиши билан боғлиқ. Натижада, тўр пардада ва склерада турли хил ўзгаришлар ривожланади, шу жумладан юқори миопияси бўлган кўзларда кузатиладиган орқанги стафилома патологик миопиянинг асоратидир.

В. Куртин (1977) таснифига кўра стафиломаларнинг 10 тури жойлашуви ва оғирлигига қараб ажратилади:: кенг макула; тор макула; парапапилляр; бурун; пастки; уларнинг комбинациялари — стафилома ҳудудида носимметрикликлар мавжудлиги билан ажралиб туради.

Хулоса:шундай қилиб ўсмирларда ривожланиб боровчи миопияда склеромиалацияни ривожланишига таъсир кўрсатувчи асосий факторлар булар кўз олмаси биомеханикаси, биохимияси, морфологияси, ва гидродинамикаси эканлиги аниқланди.Бунинг натижасида кўз склерасидаги микроэлементларни етишмовчилиги ва склерани юмшаб қолишига сабаб бўлади.Бу факторлар ривожланиб боровчи миопияда склеромиалацияни ривожланишига таъсир кўрсатувчи асосий омиллар эканлиги аниқланди.Бундан ташқари болалар ва ўсмирларда коллогеноз касалликлари ва ошқозон ичак системаси касалликларини бўлиши склерадаги микроэлементлар фаолиятини бузилишига сабаб бўлади. Касалликни даволашда қўшимча мутахассислар билан ҳамкорликда даволаш мақсадга мувофиқ бўлади.

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НЕКОТОРЫЕ АСПЕКТЫ РАЗВИТИЯ ТУРИЗМА В БУХАРСКОЙ ОБЛАСТИ

***Аннотация:** В статье рассмотрены ключевые аспекты развития туризма в Бухарской области, включая влияние природно-географических факторов, культурно-историческое наследие и современные проблемы туристической инфраструктуры. Основное внимание уделено анализу текущего состояния туристического потенциала региона, включая использование природных, культурных и рекреационных ресурсов. Выявлены основные направления развития туризма, такие как экологический, оздоровительный, культурно-исторический туризм, а также обозначены рекомендации по созданию современной инфраструктуры и улучшению качества туристических услуг.*

***Ключевые слова:** туризм, природно-географические факторы, культурно-историческое наследие, туристическая инфраструктура, экологический туризм, оздоровительный туризм, культурно-познавательный туризм, рекреационные ресурсы.*

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SOME ASPECTS OF TOURISM DEVELOPMENT IN BUKHARA REGION

Abstract. *The article examines the key aspects of tourism development in the Bukhara region, including the influence of natural and geographical factors, cultural and historical heritage and modern problems of tourism infrastructure. The main focus is on analyzing the current state of the region's tourism potential, including the use of natural, cultural and recreational resources. The main directions of tourism development, such as ecological, health, cultural, historical and adventure tourism, are identified, as well as recommendations for creating modern infrastructure and improving the quality of tourist services.*

Keywords: *tourism, natural and geographical factors, cultural and historical heritage, tourist infrastructure, ecological tourism, health tourism, cultural and educational tourism, recreational resources.*

Туризм является одной из важнейших отраслей международного рынка услуг, выступая не только мощным инструментом экономического развития, но и эффективным средством формирования положительного имиджа территорий, продвижения их достижений и сохранения исторического наследия. Согласно отчетам Всемирной туристской организации (UNWTO), ключевыми задачами в сфере туризма являются раскрытие инновационных подходов, совершенствование туристической инфраструктуры и повышение туристского потенциала в рамках программ устойчивого развития [1]. Важное внимание уделяется развитию географии туризма, который рассматривается как стратегическое направление, способствующее увеличению потока туристов к природным, культурным и историческим объектам.

Современные тенденции в туризме требуют проведения всесторонней и точной оценки туристских ресурсов. Это включает анализ их природных, историко-культурных и социальных характеристик, а также выявление уникальных особенностей, способных привлечь туристов. Устойчивое развитие туризма предполагает разработку новых маршрутов и направлений, которые позволят сбалансированно использовать ресурсы, избегая их истощения.

В Республике Узбекистан реализуются комплексные меры для развития туризма и отдыха, с учетом современных методов и природно-географических особенностей страны. В частности, 35 целью «Стратегии развития Нового Узбекистана на 2022–2026 годы», утвержденной Указом Президента Республики Узбекистан Ш. М. Мирзиёевым № УП-60 от 28 января 2022 года, является увеличение числа местных туристов до свыше 12 миллионов и доведение числа зарубежных туристов, пребывающих в республику, до 9 миллионов в рамках реализации программы «Путешествуйте по Узбекистану», в том числе «Реализация отдельной программы по ускоренному развитию туризма в Бухарской области» [2]. В связи с этим, необходимо четко определить приоритетные направления для опережающего развития туризма, а также разработать меры по улучшению качества туристических услуг, расширению инфраструктуры и увеличению привлекательности страны для туристов. Стратегическое развитие туризма

требует комплексного подхода, включающего в себя как совершенствование внутренней инфраструктуры, так и использование природных и культурных ресурсов для устойчивого роста туристической отрасли.

Многие важные теоретические и практические проблемы развития туристической отрасли были исследованы в работах таких зарубежных ученых, как Р. Дэвидсон, У. Цильтенер, О. Мартин, Р. Бланшард, А. Мариотти, Н. Лейпер, И. Г. Коль и других [3]. Эти ученые разработали теории и подходы, которые позволяют глубже понять процессы формирования и развития туризма, а также определить эффективные стратегии его дальнейшего роста. Также значительный вклад в развитие туризма сделан учеными стран СНГ. Среди них можно выделить таких исследователей, как А. Ю. Александрова, Н. Н. Баранский, Ю. А. Веденин, С. Р. Ердавлетов, П. Н. Зачиняев, И. И. Пирожник, Ю. Д. Дмитриевский, Н. С. Мироненко, М. Б. Биржаков, И. Т. Твердохлебов, Д. В. Николаенко и Н. С. Фалкович. Эти ученые занимались изучением различных аспектов туризма, включая его экономическую значимость, организацию туристической инфраструктуры и разработку новых туристических направлений. В Узбекистане ряд проблем, связанных с географией туризма, влиянием туризма на экономику, экотуризмом и агротуризмом, освещены в работах отечественных ученых, таких как З.М. Акрамов, Э.А. Ахмедов, Ю.И. Ахмадалиев, А.А. Рафиков, А.С. Солиев, А.Н. Нигматов, С. Б. Аббасов, Ш. А. Азимов, А. З. Зокиров, М. Р. Усмонов, Н.К. Комилова и других [4]. Эти исследования дают всесторонний анализ развития туризма в стране, выявляют перспективы использования природных и культурных ресурсов, а также предложений по улучшению туристической инфраструктуры и увеличению экономической выгоды от этого сектора. Современное увеличение значения туристских услуг объясняется их возрастающей ролью в жизни населения и их влиянием на экономику множества стран. Развитие дополнительных услуг в сфере туризма способствует созданию новых рабочих мест, организации размещения, питания, транспортировки туристов, а также предоставлению широкого спектра дополнительных услуг.

Существует два основных вида туризма: внутренний и международный. Внутренний туризм подразумевает путешествия в пределах страны без необходимости преодолевать визовые, таможенные или другие барьеры. Он предоставляет туристам возможность свободно передвигаться, отдыхать и участвовать в различных видах туристической деятельности. Внутренний туризм отличается простотой организации, меньшими языковыми барьерами, доступностью местной кухни, транспорта и других сервисов. Международный туризм, в свою очередь, может осуществляться как индивидуально, так и группами, в зависимости от выбранного маршрута и цели поездки. Туристы получают возможность познакомиться с уникальными историческими памятниками, культурой, искусством и традициями других стран, а также насладиться их природными пейзажами [5].

Развитие туристической отрасли требует увеличения притока туристов к объектам туризма, грамотной оценки туристических ресурсов, совершенствования инфраструктуры и определения новых направлений для роста. Рациональное использование туристского потенциала способствует укреплению экономики, созданию рабочих мест и привлечению внимания к культурному и природному наследию.

Бухарская область, известная как «жемчужина старого Востока», ежегодно привлекает тысячи туристов со всего мира, включая Россию, Испанию, Японию, Малайзию, Индонезию, Великобританию, Германию и многие другие страны. Для создания комфортных условий в регионе за последние годы количество туристических компаний увеличилось до 40, а гостиниц - до 114, которые способны принимать более 4,5 тыс. туристов ежедневно.

Программа развития туризма в Бухарской области на 2022–2026 годы предусматривает увеличение числа туристов до 5 млн человек и объема экспорта до 600 млн долларов США. Эффективное использование туристических возможностей региона включает сохранение и интеграцию исторических памятников в маршруты, а также популяризацию культурного наследия, включая экотуризм, народные ремесла, музыкальные традиции (например, шашмаком) и фольклор. За последние пять лет поток туристов в Бухарской области увеличился на 15–20% [6]. При полном использовании потенциала региона эти показатели могут значительно возрасти. Реализация запланированных реформ и инфраструктурных проектов станет важным шагом в укреплении позиции Узбекистана на международной туристической арене.

Хотя Бухарская область славится своим богатым историко-культурным наследием, значение физико-географических факторов в развитии её туристического потенциала немаловажно. Рельеф Бухарской области в основном равнинный, с понижением высот с северо-востока и севера на юг и юго-запад, в сторону долины Амударьи. На северной окраине области расположены останцовые горы Кульджуктау, где находится самая высокая точка региона (785 м), а также горы Бельтау. На крайнем северо-востоке области можно встретить периферийные отроги хребтов Каратау и Бахилтау, а на юго-востоке - останцовое плато Джаркак. Абсолютная высота большей части территории региона не превышает 300 метров [7]. Для этой местности характерны значительные температурные колебания между днем и ночью, а также между летом и зимой. Среднее количество осадков составляет около 90–150 мм, при этом возможное испарение с поверхности Земли достигает 2000–2300 мм в год. Климатические условия создают уникальные возможности для проведения различных туристических мероприятий в разные сезоны, особенно в весной и осенью, когда комфортные температуры являются идеальными для экологических туров, полевых экскурсий и изучения природы.

Что касается водных ресурсов, территория Бухарской области снабжается водой в основном за счет Аму-Бухарского канала. Этот канал начинается на территории соседнего Туркменистана и доставляет воду в регион с помощью насосных станций. Вода из реки Зарафшан также играет важную роль в орошении северных районов Бухарского оазиса. Важнейшими объектами ирригационной системы региона являются Тудакульское, Куйимазарское и Шуркульское водохранилища. Все эти ирригационные системы подчиняются Аму-Бухарскому бассейновому управлению ирригационными системами. В области также находятся несколько озер, которые питаются коллекторными водами. Крупнейшими из них являются Денгизкуль, Каракыр, Шуркуль (Солёное), Аякагытма и Хадича. Некоторые из этих озер имеют статус заказников, специализирующихся на охране водоплавающих птиц, что открывает дополнительные возможности для развития экологического туризма. Эти природные условия создают уникальные возможности для развития рыболовства, организации прогулок на лодках и наблюдения за биоразнообразием. Следовательно, территория области подразделяется на две крупные природно-хозяйственные зоны: Бухара-Каракульский оазис и пустыни Кызылкум и Сундукли. Эти природно-географические факторы имеют важное значение для развития туристической инфраструктуры региона, включая экологический туризм, рыболовные туры и наблюдение за природой.

Нам известно, что Бухара в древности была одним из главных центров Великого Шелкового пути и местом остановки многих путешественников. Это географическое преимущество сохраняется и в современном туризме, предоставляя уникальные возможности для региона. Сегодня существует потенциал для превращения Бухары в центр международного туризма, особенно с учетом развития транспортной инфраструктуры. Региональный туризм тесно связан с другими туристическими направлениями Узбекистана, а города Бухара, Самарканд и Хива образуют знаменитый «Золотой треугольник», который является важным фактором для развития международного туризма благодаря их взаимной интеграции. В совокупности эти города и регионы могут стать привлекательным туристическим кластером. Анализируя статистические данные, касающиеся развития туристической отрасли в Бухарской области, можно оценить текущее состояние сферы обслуживания туристов, выявить существующие проблемы и выработать эффективные решения для улучшения ситуации. В качестве примера приведены некоторые результаты наших исследований по данному вопросу.

Одной из основных проблем развития сферы туризма в Бухарской области является крайне слабое развитие туристической инфраструктуры в разрезе районов и неравномерное распределение гостиничного фонда. Так, по данным статистического управления Бухарской области 88% всех гостиниц и других мест размещения для туристов сосредоточено в городе Бухара. В районах Жондор, Караулбазар, Пешку деятельность гостиниц и аналогичных

объектов размещения вовсе не осуществляется, несмотря на наличие в этих районах множества исторических памятников и природных рекреационных ресурсов (рис.1).

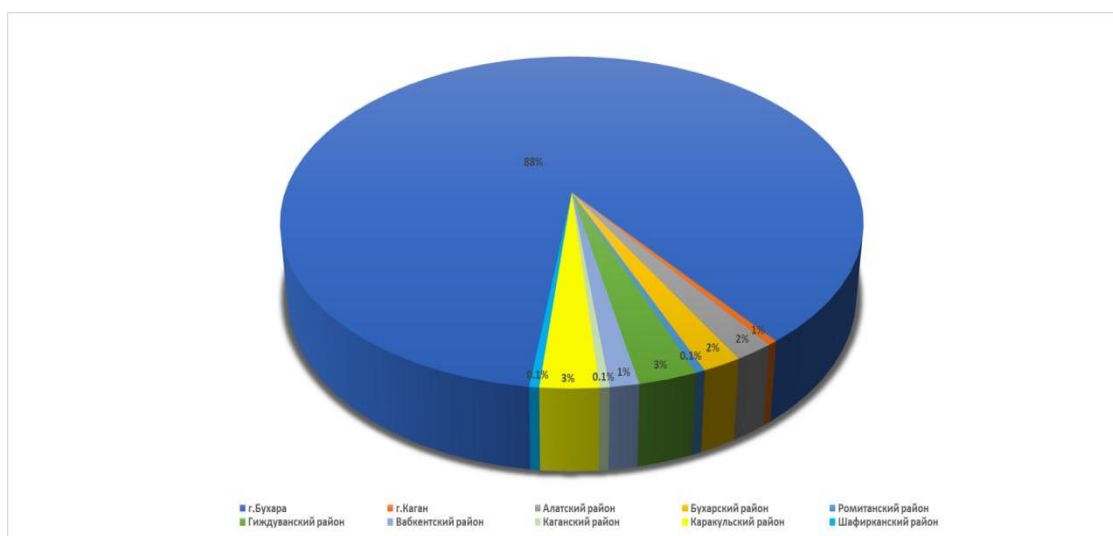


Рисунок-1. Деятельность гостиниц и других мест размещения для туристов в разрезе городов и районов Бухарской области (2023г.)
Источник: данные Управления статистики Бухарской области.

Учитывая потенциал всех районов области, создание комфортабельных и современных номеров для размещения туристов имеет важное значение для развития отрасли.

Анализ данных о размещении граждан в гостиницах и других видах туристического жилья в 2023 году показывает, что 25,7% от общего числа составляют граждане стран СНГ, 34,5% - местные жители, а 39,7% - иностранные граждане (рис.2). Подавляющее большинство (69,1%) посетителей организуют свои поездки с целью отдыха и развлечений. Остальные приезжают для встреч с друзьями и родственниками, обучения и профессиональной подготовки, лечения и оздоровления, а также для паломничества. Эти данные свидетельствуют о том, что основная часть посетителей выбирает поездки с рекреационными и туристическими целями.

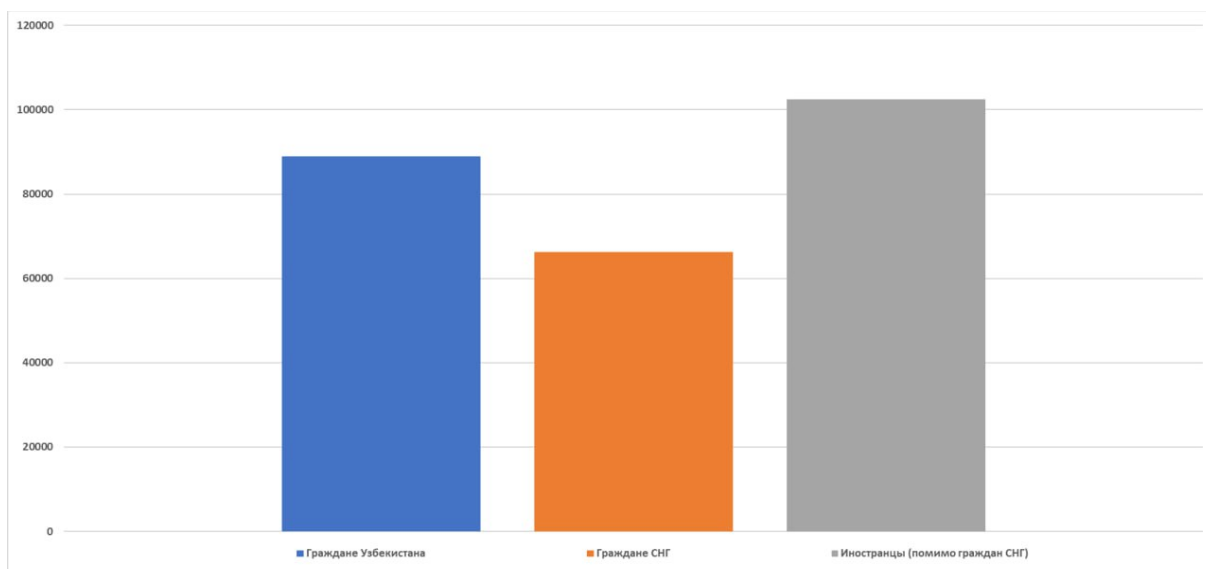


Рисунок-2. Распределение граждан, размещенных в гостиницах и других видах туристического жилья по целям поездок (2023 г.)

Источник: данные Управления статистики Бухарской области.

Из этого следует, что развитие современных рекреационных объектов и создание комфортной инфраструктуры являются важными факторами, способствующими увеличению доходов, получаемых за счет туризма.

В Бухарской области существует значительный потенциал для развития туризма благодаря её уникальным природным, историко-культурным ресурсам и выгодному географическому положению. Однако эффективное использование этих возможностей требует улучшения инфраструктуры, создания новых туристических продуктов и маршрутов, а также внедрения современных технологий для продвижения региона. Особое внимание необходимо уделить развитию экологического, оздоровительного, культурно-исторического и приключенческого туризма, что позволит привлечь больше туристов и увеличить вклад отрасли в экономическое развитие региона.

Рекомендации по развитию туризма в исследуемом регионе:

► **Создание современной инфраструктуры.** Развитие транспортной и туристической инфраструктуры в районах Бухарской области, включая строительство современных гостиниц, зон отдыха и развлекательных комплексов, особенно в недостаточно развитых районах, таких как Караулбазар, Пешку и Жондор.

► **Использование цифровых технологий.** Продвижение туристических объектов через интернет, разработка мобильных приложений для удобного планирования поездок, виртуальные туры и онлайн-бронирование туристических услуг.

► **Повышение качества обслуживания.** Организация программ профессиональной подготовки кадров для сферы туризма, создание учебных

центров и курсов повышения квалификации, ориентированных на международные стандарты.

► **Разработка комплексных туристических маршрутов.** Развитие связей с другими туристическими регионами Узбекистана, такими как Самарканд и Хива, для продвижения концепции «Золотого треугольника». Включение Бухары в маршруты международного туризма.

► **Обеспечение экологической устойчивости.** Сохранение природных и культурных ресурсов путем внедрения программ устойчивого туризма, ограничение антропогенной нагрузки на особо охраняемые природные территории.

Развитие туристической инфраструктуры, повышение качества услуг, внедрение инноваций и устойчивое использование природных ресурсов позволят укрепить позиции Бухарской области в мировой туристической индустрии и увеличить его вклад в социально-экономическое развитие страны.

Использованные источники:

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РАЗРАБОТКА ПЛАТФОРМЫ ДЛЯ ОБУЧЕНИЯ В ОНЛАЙН-ШКОЛЕ

Аннотация: в данной статье авторами проводится разработка платформы для проведения образовательного процесса.

Ключевые слова: разработка, образовательный процесс.

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DEVELOPING A PLATFORM FOR LEARNING IN AN ONLINE SCHOOL

Abstract: in this article, the authors develop a platform for conducting the educational process.

Key words: development, educational process.

В настоящее время, эффективное информационное управление играет важную роль при развитии разных видов деятельности. Именно поэтому создание и применение информационных систем становится неотъемлемой составляющей бизнес-процессов.

Одной из самых популярных систем для автоматизации бизнес-процессов является «1С: Предприятие».

В результате выявления инструментов для разработки, было решено создавать информационную систему для онлайн-школы с помощью ПО «1С: Предприятие». Данное средство позволяет улучшить и оптимизировать работу школы.

Для создания информационной системы в «1С: Предприятие» существует режим запуска «конфигуратор». Данный режим предназначен для разработчиков.

В первом этапе разработки системы были добавлены справочники (Рис. 1.).

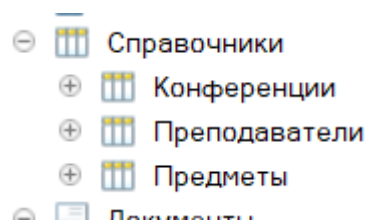


Рис. 1. Справочники конфигурации

Справочник «Конференции» содержит номера конференции, которые являются уникальными и не могут повторяться.

Справочник «Преподаватели» содержит ФИО и код преподавателя. Код добавляется автоматически при создании преподавателя в базе данных.

Справочник «Предметы» содержит: название предмета, конференцию и преподавателя. Для того, чтобы данные о конференции и преподавателе в справочнике «Предметы» не отличались от данных в справочниках «Конференции» и «Преподаватели», были созданы реквизиты, которым присвоены типы: «СправочникСсылка.Конференции» и «СправочникСсылка.Преподаватели» (Рис. 2.).

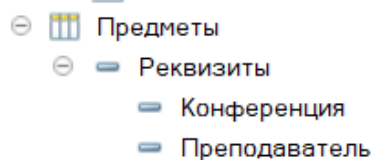


Рис. 2. Реквизиты справочника «Предметы»

Следующим шагом в разработке было создание документа «Расписание», который состоит из табличной части и форм: «ФормаСпискаРасписание», «ФормаДокументаРасписание».

Табличная часть содержит наименование предмета, домашнее задание, оценку и комментарий (Рис. 3.).

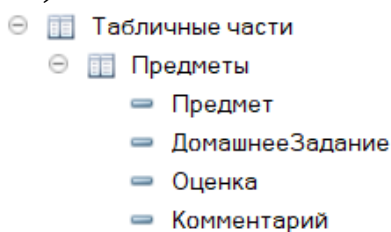


Рис. 3. Табличная часть документа «Расписание»

«ФормаСпискаРасписание» иллюстрирует окно, которое содержит список созданных расписаний (Рис. 4.).

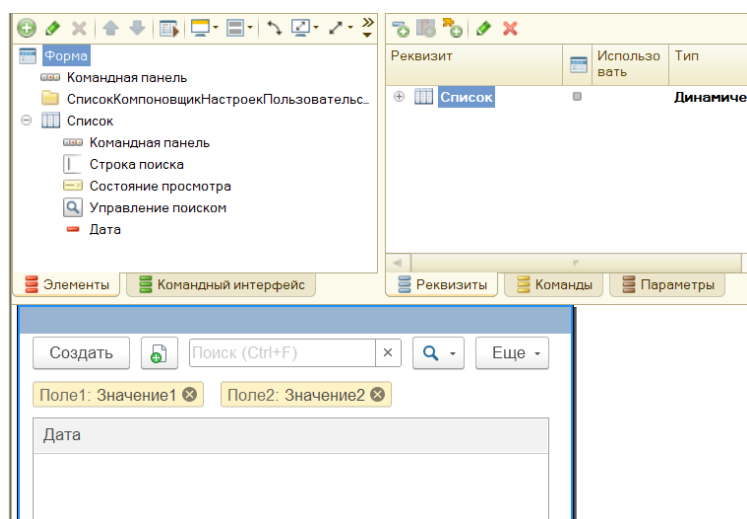


Рис. 4. «ФормаСпискаРасписание»

«ФормаДокументаРасписание» иллюстрирует окно создание нового расписания (Рис. 5.).

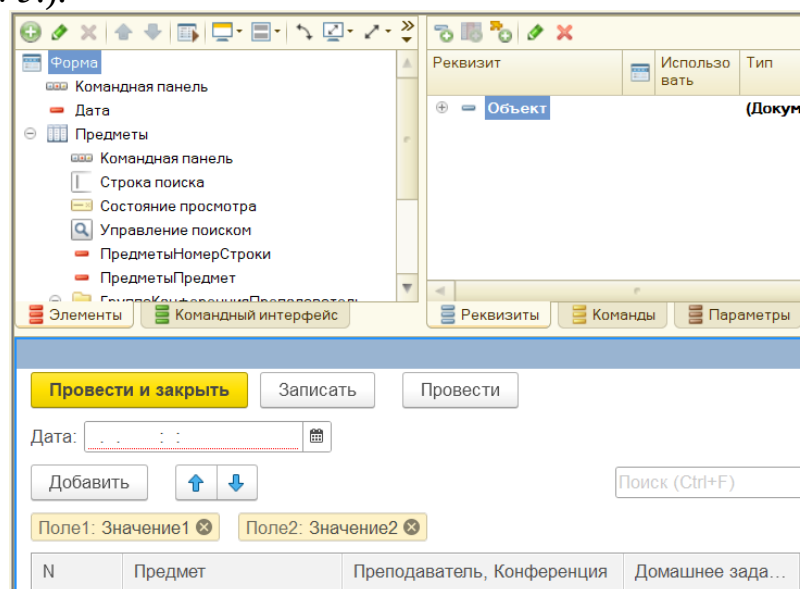


Рис.5. «ФормаДокументаРасписание»

Вторым этапом разработки было создание регистра сведений «Оценки», который содержит в себе элементы измерения: «Предмет», «НомерЗанятия», а также ресурс – «Оценка» (Рис. 6.).

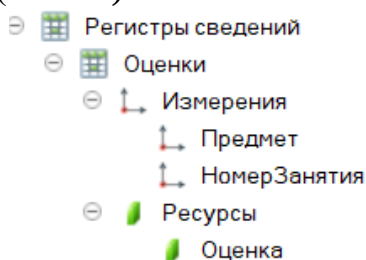


Рис. 6. Регистр сведений «Оценки»

Последним этапом разработки было создание отчета «Успеваемость», который включает в себя макет «ОсновнаяСхемаКомпоновкиДанных».

С помощью конструктора запроса были выбраны элементы отчета (Рис. 7.).

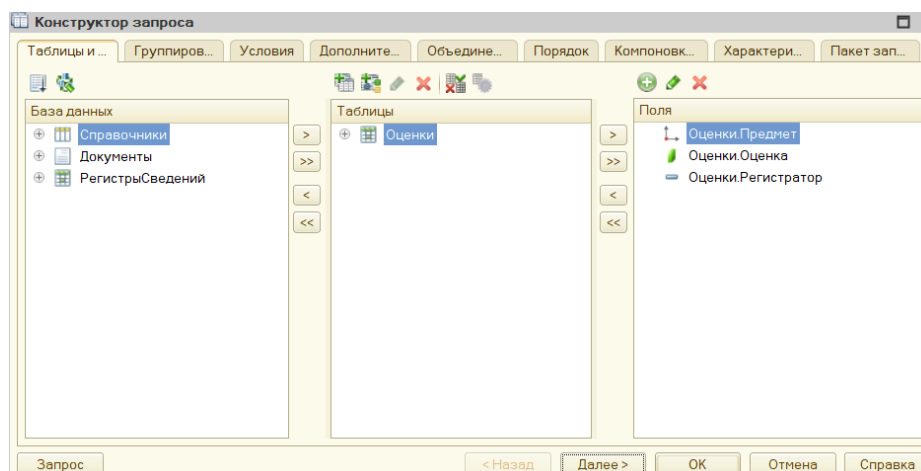


Рис. 7. Конструктор запроса

Далее для того, чтобы в отчете подсчитывалось среднее значение оценок, задали выражение в окне «Ресурсы» (Рис. 8.).

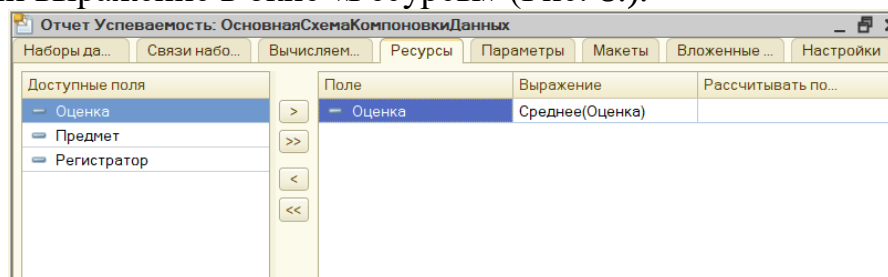


Рис. 8. Вкладка «Ресурсы»

Последним шагом были выбраны элементы отчета в окне «Настройки» (Рис. 9.).

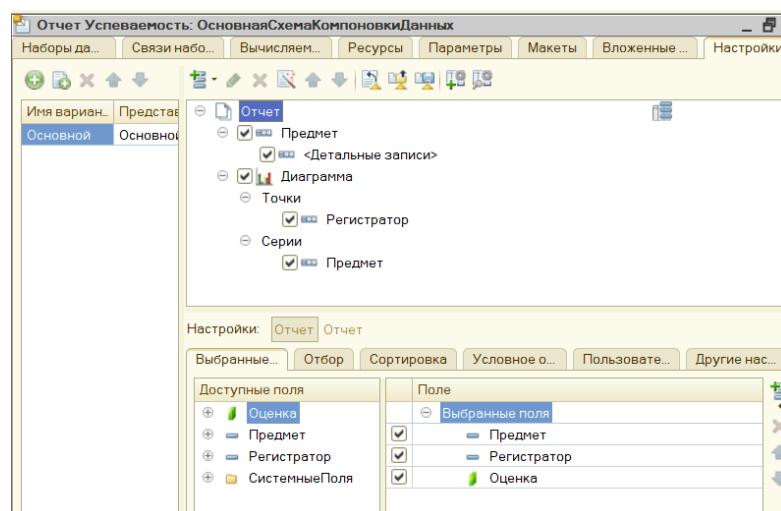


Рис. 9. Вкладка «Настройки»

Результатом разработки является готовая информационная система для онлайн-школы.

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СОВРЕМЕННЫЕ ПОДХОДЫ К СИНТЕЗУ КЕРАМИЧЕСКИХ ФЛЮСОВ С ИСПОЛЬЗОВАНИЕМ МЕСТНЫХ РЕСУРСОВ УЗБЕКИСТАНА

***Аннотация:** В работе рассматриваются методы синтеза керамических флюсов для сварки с акцентом на использование минеральных ресурсов Узбекистана, таких как каолины, бокситы и кварциты. Анализируются традиционные и современные технологии синтеза флюсов, включая сол-гель, механохимический и плазмохимический методы, а также оценивается их пригодность для переработки местного сырья.*

***Ключевые слова:** керамические флюсы, местное сырье Узбекистана, каолин, бокситы, кварциты, полевые шпаты, сол-гель метод, механохимический синтез, гидротермальный синтез, плазмохимический метод.*

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MODERN APPROACHES TO THE SYNTHESIS OF CERAMIC FLUXES USING LOCAL RESOURCES OF UZBEKISTAN

***Abstract:** The paper examines methods of synthesizing ceramic fluxes for welding, with an emphasis on using mineral resources of Uzbekistan, such as kaolins, bauxites, and quartzites. It analyzes traditional and modern flux synthesis technologies, including sol-gel, mechanochemical, and plasma-chemical methods, and evaluates their suitability for processing local raw materials.*

***Keywords:** ceramic fluxes, Uzbek raw materials, crystallographic transformations, phase transformations, mullite, glass phase, sintering, process optimization, chemical composition, heat treatment.*

Узбекистан обладает значительным потенциалом для производства керамических флюсов благодаря своим богатым минеральным ресурсам, таким как каолины, бокситы, кварциты и полевые шпаты. Эти материалы идеально подходят для создания флюсов с нужными физико-химическими

характеристиками. Каолины обеспечивают оптимальное соотношение кремния и алюминия, бокситы придают флюсам термостойкость, кварциты дают необходимый кремнезем, а полевые шпаты снижают температуру плавления. Минеральные ресурсы страны стабильно высокого качества, что обеспечивает постоянство свойств флюсов. Географическое расположение и доступность месторождений делают их эксплуатацию экономически эффективной, а развитая транспортная инфраструктура облегчает доставку сырья на перерабатывающие предприятия. Производство керамических флюсов из местных материалов создаёт хорошие перспективы для Узбекистана, повышая конкурентоспособность на международных рынках и способствуя экономическому росту. Флюсы, в свою очередь, играют важную роль в сварочных процессах, улучшая качество соединений и предотвращая дефекты.

Тип флюса	Преобладающие оксиды	Применение
Основные	CaO, MgO	Высоколегированные и углеродистые стали
Кислые	SiO ₂ , Al ₂ O ₃	Низкоуглеродистые и низколегированные стали
Нейтральные	Сбалансированный состав CaO, SiO ₂	Универсальное применение

Физико-химические свойства керамических флюсов, такие как температура плавления, вязкость и смачиваемость, существенно влияют на процесс сварки. Температура плавления должна быть оптимальной, чтобы обеспечить эффективную защиту сварочной ванны. Вязкость флюса влияет на текучесть шлака и его способность удалять примеси. Смачиваемость определяет, насколько хорошо флюс взаимодействует с расплавленным металлом, что влияет на формирование шва[2].

Свойство	Основные флюсы	Кислые флюсы	Нейтральные флюсы
Температура плавления, °C	1300–1500	1100–1300	1200–1400
Вязкость	Высокая	Низкая	Средняя
Смачиваемость	Умеренная	Высокая	Высокая

Применение современных методов синтеза керамических флюсов к минеральным ресурсам Узбекистана открывает новые перспективы для развития отечественной промышленности. Местные материалы, такие как каолин, бокситы и кварциты, идеально подходят для инновационных технологий. Сол-гель методы эффективно перерабатывают каолин в алюмосиликатные флюсы, а механохимический синтез превращает бокситы в наноструктурированные материалы с улучшенными свойствами. Гидротермальные методы синтезируют флюсы на основе кварцитов, а плазмохимические технологии обеспечивают высококачественные флюсы при низких энергозатратах. Нанотехнологии позволяют создавать нанокompозитные материалы, что улучшает свойства флюсов и повышает их

конкурентоспособность на мировом рынке. Эти методы также положительно влияют на экологию, снижая энергозатраты и выбросы загрязняющих веществ. Использование местного сырья сокращает транспортные расходы и экологический след. Химический состав местных материалов соответствует требованиям современных методов синтеза. Бокситы с высоким содержанием Al_2O_3 подходят для сол-гель методов, а оптимальное соотношение SiO_2 и Al_2O_3 в каолине — для механохимического синтеза. Внедрение этих технологий в промышленность Узбекистана повысит экономическую эффективность и конкурентоспособность на мировом рынке.

Таблица 4. Химический состав узбекского сырья и соответствие методам синтеза

Сырье	Основные компоненты	Рекомендуемые методы синтеза
Каолин	SiO_2 , Al_2O_3	Механохимический, сол-гель
Бокситы	Al_2O_3 , Fe_2O_3	Сол-гель, гидротермальный
Кварциты	SiO_2	Гидротермальный, плазмохимический
Полевые шпаты	SiO_2 , Al_2O_3 , K_2O , Na_2O	Нанотехнологический, сол-гель

Технологические аспекты использования узбекского сырья требуют учета необходимости предварительной обработки материалов. Например, бокситы могут содержать примеси железа, что требует этапа обогащения для удаления избыточного Fe_2O_3 перед применением в сол-гель методах. Каолиновые глины могут нуждаться в очистке от органических примесей и диспергировании для повышения эффективности механохимического синтеза. Возможность масштабирования производственных процессов является важным фактором при выборе метода синтеза. Сол-гель методы и механохимический синтез обладают высоким потенциалом для масштабирования благодаря относительно низким требованиям к оборудованию и энергозатратам. Гидротермальные и плазмохимические методы, хотя и обеспечивают получение материалов с уникальными свойствами, могут быть более сложными в промышленной реализации из-за необходимости специализированного оборудования и строгого контроля параметров процесса. Таблица 5. Примеры применения узбекского сырья в современных методах синтеза

Сырье	Метод синтеза	Результаты
Каолин	Механохимический	Наноструктурированные флюсы с высокой активностью
Бокситы	Сол-гель	Высокочистые флюсы для специальных применений
Кварциты	Гидротермальный	Флюсы со специфической кристаллической структурой
Полевые шпаты	Нанотехнологический	Композитные флюсы с улучшенными свойствами

Использование современных методов синтеза керамических флюсов на основе местных ресурсов Узбекистана открывает значительные перспективы для развития сварочной промышленности. Однако для успешной промышленной реализации необходимо решить несколько технологических проблем, таких как оптимизация параметров процессов, разработка методов предварительной обработки сырья и обеспечение стабильности качества продукции. Эти методы также способствуют снижению зависимости от импорта, сокращению производственных затрат и повышению конкурентоспособности продукции на международном рынке. Экологические и экономические преимущества, такие как снижение выбросов парниковых газов, уменьшение использования ископаемого топлива и сокращение транспортных расходов, соответствуют глобальным тенденциям устойчивого развития. Внедрение этих технологий способствует экономическому росту, улучшению качества жизни и укреплению позиций Узбекистана в мировой сварочной индустрии.

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УГЛЕВОДОРОДНЫЕ СМЕСИ В РЕКТИФИКАЦИИ: ЭФФЕКТИВНОСТЬ ПЕРЕДАЧИ МАССЫ

***Аннотация:** Ректификация — это основной метод разделения газовых и нефтяных смесей на промышленном уровне. Исследования показывают, что даже небольшие улучшения процесса и оборудования в больших объемах производства могут значительно повысить экономическую эффективность.*

***Ключевые слова:** Концентрация компонента, сложные гидродинамические условия, равновесие и концентрации тяжёлых веществ.*

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HYDROCARBON MIXTURES IN RECTIFICATION: MASS TRANSFER EFFICIENCY

***Abstract:** Rectification is the main method for separating gas and oil mixtures at an industrial scale. Studies show that even small improvements in the process and equipment in large-scale production can significantly increase economic efficiency.*

***Keywords:** Component concentration, complex hydrodynamic conditions, equilibrium, and concentrations of heavy substances.*

Ректификация является одним из самых эффективных и распространенных методов разделения углеводородных смесей в химической промышленности, особенно в нефтехимической отрасли. Она используется для разделения смеси на компоненты, которые имеют различные точки кипения, и является ключевым процессом в переработке нефти, газов и других углеводородных смесей. Основной задачей ректификации является эффективная передача массы между фазами (паром и жидкостью) для достижения высокого разделения компонентов. Важным параметром ректификационных процессов является эффективность передачи массы, которая определяет производительность и экономическую эффективность установки.

Принцип работы ректификационных колонн

Ректификация происходит в специальных колоннах, которые представляют собой вертикальные сосуды, разделенные на несколько тарелок или насадки. Смесь подается в колонну на определенном уровне, а пар, поднимаясь вверх, взаимодействует с жидкостью, которая омывает тарелки или насадки, в результате чего компоненты смеси разделяются в зависимости от их летучести. Процесс ректификации основан на различии в летучести компонентов смеси. Каждое вещество имеет свою собственную температуру кипения, и в процессе нагрева более летучие компоненты переходят в паровую фазу, а менее летучие компоненты остаются в жидкой фазе. Этот процесс многократно повторяется на разных уровнях колонны, что позволяет достичь высокого уровня очистки и разделения.

Эффективность передачи массы

Эффективность передачи массы — ключевой показатель ректификационного процесса, определяющий количество вещества, переносимого между фазами за единицу времени. Это напрямую влияет на производительность установки, её размеры и энергоэффективность. Повышение эффективности возможно через увеличение площади контакта между жидкостью и паром, например, с помощью насадок с высокой поверхностью или улучшенных тарелок. Такие меры способствуют более интенсивному обмену массами и уменьшению требуемого контактного периода.

Факторы, влияющие на эффективность передачи массы

1. Температурный режим

2. Температура является одним из самых важных факторов, влияющих на процесс ректификации. Более высокие температуры способствуют улучшению диффузии и увеличению парообразования, однако это также приводит к увеличению потребления энергии.

3. Скорость потока жидкой и паровой фаз

4. Скорость потока имеет значительное влияние на эффективность передачи массы. Если скорость потока слишком высока, это может привести к снижению времени контакта между фазами, что в свою очередь уменьшает эффективность обмена массой. Слишком низкая скорость потока также может привести к неэффективному использованию оборудования.

5. Конструкция колонны

6. Правильная конструкция ректификационной колонны, выбор типа тарелок или насадок, а также их расстановка влияют на площадь поверхности контакта между фазами, что напрямую связано с эффективностью передачи массы. Для сложных углеводородных смесей с большим числом компонентов часто используют специальные конструкции колонн, которые способствуют более равномерному распределению жидкой и паровой фаз.

4. Массовая нагрузка

Массовая нагрузка, то есть количество вещества, проходящее через колонну за единицу времени, также оказывает влияние на эффективность

ректификации. Более высокие массовые нагрузки требуют больших размеров колонн и увеличенного времени контакта, что может снизить эффективность передачи массы. Поэтому для каждого типа смеси необходимо находить оптимальную массовую нагрузку.

5.Химический состав состав смеси

Химический состав углеводородной смеси играет важную роль в процессе ректификации. Смеси с большим количеством легких углеводородов (например, метан, этан) будут легче разделяться на компоненты, чем смеси с тяжелыми углеводородами (например, битуминозные фракции). Химические реакции, происходящие в процессе ректификации, могут также изменять эффективность передачи массы.

Модели и методы оценки эффективности передачи массы

Для оценки эффективности передачи массы в ректификационных колоннах разработано несколько моделей, включая математические и эмпирические подходы. Наиболее распространенной является модель идеальной колонны, которая предполагает равномерное распределение вещества по всем уровням колонны и постоянный коэффициент передачи массы. В реальных условиях колонны имеют отклонения от идеальных моделей, поэтому часто используются более сложные методы для оценки эффективности. Одним из таких методов является использование численных методов моделирования, которые позволяют предсказывать поведение системы в различных условиях. Эти методы могут учитывать все параметры процесса, такие как температура, скорость потока, тип смеси и конструкцию оборудования. Программное обеспечение для моделирования ректификационных процессов позволяет оптимизировать проектирование колонн и улучшить их эксплуатационные характеристики.

Заключение

Эффективность ректификации углеводородных смесей зависит от множества факторов, включая конструкцию оборудования, химический состав смеси, температурные условия и скорость потоков. Повышение эффективности передачи массы в ректификации может привести к значительному снижению затрат на энергоресурсы, увеличению производительности и уменьшению размеров оборудования. Поэтому оптимизация этих факторов является ключевым моментом для достижения высокой экономической эффективности процесса ректификации. Технологические улучшения в области ректификации могут сыграть важную роль в повышении производительности и эффективности переработки углеводородных смесей, что имеет важное значение для нефтехимической промышленности в целом.

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ПЕДАГОГИЧЕСКИЕ ПСИХОЛОГИЧЕСКИЕ ОСОБЕННОСТИ ПРОФЕССИОНАЛЬНОГО РАЗВИТИЯ СТУДЕНТОВ

Аннотация: В статье описываются особенности трудов великих ученых, влияющие на профессиональное развитие студентов, важные профессиональные качества специалистов и задачи психолого-педагогического сопровождения их развития, изучаются психологические особенности.

Ключевые слова: Ученые, поведение, поступки, мотивы деятельности, талант, интеллект, одаренность.

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PEDAGOGICAL PSYCHOLOGICAL FEATURES OF PROFESSIONAL DEVELOPMENT OF STUDENTS

Abstract: The article describes the features of the works of great scientists that influence the professional development of students, important professional qualities of specialists and the tasks of psychological and pedagogical support for their development, psychological features are studied.

Keywords: Scientists, behavior, actions, motives of activity, talent, intelligence, giftedness.

В трудах великих ученых взгляды на проблемы поведения, поступков, мотивов деятельности, профессиональной направленности сосредоточены на необходимости внимания к психике человека, и поэтому психологию по праву можно назвать наукой, сформировавшейся на основе философия.

Среди мыслителей прошлого Абу Наср аль-Фараби, Абу Райхан аль-Бируни, Абу Али ибн Сина, Алишер Навои, Ахмад Фергани, Джалалиддин Давани и другие были людьми уникального человеческого ума и таланта. Особое внимание они уделили вопросу приобретения человеком профессии и

образования с юных лет, высказали свое мнение о мотивах профессиональной направленности, которые их обуславливают и впоследствии мотивируют.

В Авесте, священной книге зороастрийской религии, дети, рожденные в семье, независимо от того, девочки они или мальчики, изображаются равными по социальному статусу с точки зрения знаний и приобретения необходимых навыков, а женщины изображаются мужественными, не меньше, чем их мужья. В данной работе определяется уникальная особенность народов Центральной Азии, в частности узбекских племен и народностей, а именно необходимость для каждого человека трудиться на протяжении всей своей жизни и не жалеть себя ради того, чтобы увидеть счастье и изящное совершенство своих детей. Потому что «Авеста» считается сборником правил и законов того периода (до II века), который сформировал нынешнюю узбекскую нацию, ее этническое сознание и ее уникальные корни. Этот период был направлен на формирование национального характера узбеков, и он не является делом одного поколения, а, по своей сути, является сокровищницей мудрости народов, проживавших на территориях нынешней Средней Азии и страны Востока [60].

Духовная и психологическая ценность Авесты заключается в том, что на протяжении многих веков она выполняла такие важные задачи, как обучение молодежи знаниям и просвещению, формирование нравственных качеств. «Каждый человек должен быть воспитан таким образом, — говорится в Авесте, — чтобы он, прежде всего, научился хорошо читать и писать, а затем поднялся на высшую ступень».

В «Авесте» образование и воспитание включают в себя следующее:

1) Религиозное и нравственное воспитание. 2) Физическое воспитание. 3) Обучение чтению и письму.

С раннего возраста детям уделяли внимание развитию навыков трудолюбия, стремления к знаниям и мастерству, обучали домашним делам. Учение зороастризма является одним из важнейших исторических источников для утверждения общечеловеческих и национально-культурных ценностей, а также для формирования педагогического учения, педагогико-ученического сотрудничества, этикета.

В Священном Хадисе говорится, что одна из обязанностей родителей по отношению к своим детям — отдать их в руки хороших учителей, дать им образование и научить их профессии [61].

Согласно интерпретации ученых прошлого, великий учитель является важным фактором в определении и активации внутренних мотивов. Именно через учителя происходит формирование и стабилизация осознанных мотивов и личной мотивации. Неосознаваемые мотивы, мотивация проявляются естественным образом и побуждают человека к выполнению определенной деятельности.

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ТЕХНОЛОГИЯ ПЕРЕРАБОТКИ ТЯЖЕЛЫХ НЕФТЕЙ И НЕФТЯНЫХ ОСТАТКОВ ПУТЕМ ПРИМЕНЕНИЯ КРИОЛИЗА

Аннотация: Приведены результаты лабораторных исследований образцов тяжелой нефти и вакуумного газойля с донорной присадкой путем применения криолиза и возможный химизм процесса. Предложенные способ обработки нефтей и нефтяных остатков позволяет снизить начало кипения образцов и увеличивает выход низкокипящих фракций в пределах 18-28%.

Ключевые слова: тяжелая нефть, нефтяные остатки, вакуумный газойль, термический крекинг, гидрокрекинг, висбрекинг, криолиз, донорная присадка.

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TECHNOLOGY FOR PROCESSING HEAVY OIL AND OIL RESIDUE BY USING CRYOLYSIS

Annotation: The results of laboratory studies of samples of heavy oil and vacuum gas oil with a donor additive by applying cryolysis and the possible chemistry of the process are presented. The proposed method for processing oils and oil residues can reduce the onset of image boiling and increase the yield of low boiling fractions within 18-28%.

Key words: heavy oil, petroleum residues, vacuum gas oil, thermal cracking, hydrocracking, visbreaking, cryolysis, donor additive.

В связи с постепенным уменьшением запасов традиционного нефтяного сырья увеличивается объем добычи тяжелых высоковязких нефтей и привлечение его на переработку. Структура мирового распределения запасов тяжелых высоковязких нефтей по данным ИХН СО РАН выглядит следующим образом [1]: Канада – 43,7 %, Саудовская Аравия – 4,8 %, Венесуэла – 11,5 %, Ирак – 4,4 %, Россия – 11,0 %, США – 3,6 %, Кувейт – 7,7 %, Казахстан – 2,6 %, остальные страны – от 0,5 % до 2,5 %. В России добыча высоковязких нефтей осуществляется в Татарстане, Западно-Сибирском, Тимано-Печорском, Волго-Уральском бассейнах и доведена к 2015 г. до уровня 270 тыс. тонн в год. В частности, добываемая на Ашальчинском

месторождении высоковязкая нефть по качественным параметрам неоднородна и имеет следующие показатели: плотность при 20°C – 966 кг/м³, содержание серы – 4-4,5%, вязкость при 20°C – 2300-4100 МПа•с. На данном месторождении в перспективе планируются создание головной модульной установки термоподготовки нефти по рекомендации ГУП «Институт нефтехимпереработки РБ».

В Республике Узбекистан тяжелая высоковязкая нефть схожего состава имеется в основном в Сурхандарьинском регионе, где имеются девять месторождений тяжелой нефти с ежегодным объемом добычи около 130 тыс. тонн [2].

Несмотря на то, что первые месторождения региона введены в эксплуатацию с 1935 года, из-за высокого содержания воды, хлористых солей и серы, эти нефти не перерабатывались на существующих нефтеперерабатывающих заводах. Эта нефть долгое время поставлялась потребителям как нефть, предназначенная для изготовления асфальта для дорожных покрытий. Однако, наличие в составе этой нефти топливных фракций не позволяли получать качественные дорожные покрытия. И только в 2003 году Узбекско-Российское совместное предприятие «JARKURGONNEFTQAYTAISHLASH» (СП «JNQ») приступило к поиску технологии переработки тяжелых нефтей месторождений Сурхандарьинского региона. После проведенных исследований была предложена технология предварительной подготовки тяжелой нефти в смеси с газовым конденсатом, которая позволила получить синтетическую нефть, относящаяся средним нефтям и перерабатываемая по традиционной технологии. Физико – химические характеристики газового конденсата и синтетической нефти показаны в таблице (столбцы 3 и 4).

Таблица 1.

Таблица. Физико – химические характеристики тяжелой нефти, газового конденсата и их смеси

Наименование показателя		Тяжелая нефть	Газовый конденсат	Синтетическая нефть – смесь тяжелой нефти (60%) и газового конденсата (40%)
1		2	3	4
Плотность при 20°C, кг/м ³		950-955	740-750	860-870
Содержание серы, % масс.		4,0	0,04	2,56
Содержание воды, % масс.		5,0	отс.	3,0
Содержание хл. солей, мг/л		5000	отс.	3000
Фракционный состав, % об.	НК, °C	135	37-40	37-40
	НК-180°C	4-6	65-68	28-31
	180°C-360°C	23-25	29-31	25-27
	Остаток	68-72	1	42-47
	Потери	0,2	2	1

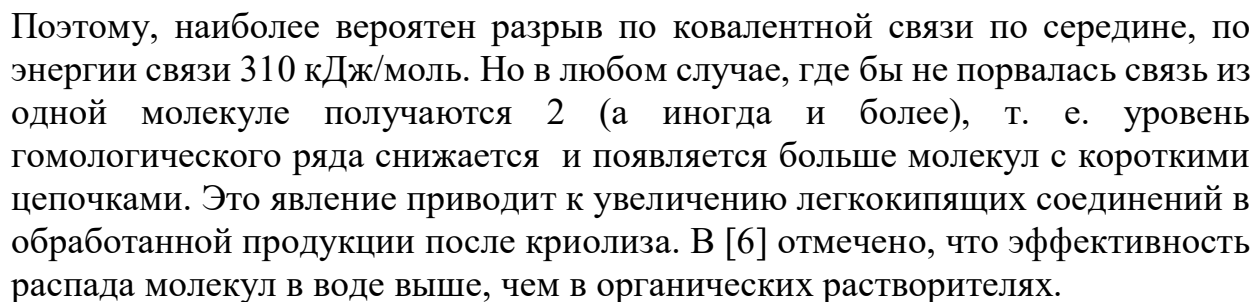
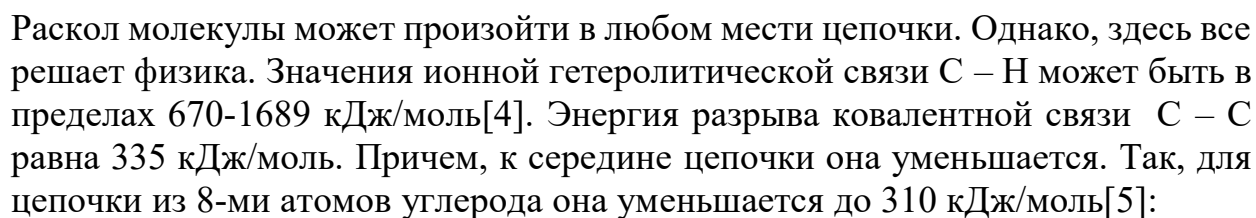
При этом подготовку подогретой тяжелой нефти осуществляют в смеси с разбавителем-растворителем углеводородного происхождения, причем для интенсификации процесса смешения разбавитель предварительно нагревается до 200⁰С. Далее нагретое разбавитель подается ниже потока тяжелой нефти в реактор смешивания с отпарной колонной и проходя через слой нефти частично охлаждается и легкие бензиновые фракции удаляются сверху отпарной колонны, а с нижней части отпарной колонны смесь поступает на установку обезвоживания и обессоливания. После обессоленная и обезвоженная смесь нагревается в печи и поступает в атмосферную колонну, где разделяются на фракции. Снизу атмосферной колонны мазут нагревается во второй печи и поступает в вакуумную колонну, где выделяются вакуумный газойль и снизу гудрон. После чего гудрон охлаждается до 240-250⁰С и подается в окислительную колонну для получения окислительного битума. Для реализации данной технологии разработан способ переработки тяжелой нефти и получен патент РУз № UZ IAP 03794 [3].

Основными процессами глубокой переработки нефти являются термический и каталитический крекинг, гидрокрекинг, висбрекинг и другие разновидности указанных процессов. Однако, при переработке тяжелой нефти и остатков возникают трудности с активностью катализатора, которые связаны с высоким содержанием смолистых и асфальтеновых соединений. Наличие этих соединений приводит к отравлению, осмолению и коксованию активной поверхности катализатора и снижению срока его службы. Для обеспечения приемлемой глубины переработки тяжелой нефти с помощью известных технологий требуются большие капиталовложения, высокие процентные нормы эксплуатационных затрат и оборотных средств.

В целях поиска малозатратных способов переработки тяжелых нефтей и остатков нами в лабораторных условиях проведены исследования образцов тяжелой нефти и остаточных продуктов с добавлением донорной присадки и последующей обработкой. В качестве испытуемых были выбраны образцы тяжелой нефти и нефтяных остатков месторождения Киргизии и месторождений Сурхандарьинского региона, а также вакуумный газойль из СП «JNQ». Образцы тяжелых нефтей и вакуумного газойля (исходное сырье и после добавки донорной присадки с последующей обработкой) были разогнаны в аппарате атмосферной перегонки нефти АСН. Получены следующие результаты:

- а) в образце нефтяного остатка Киргизии:
 - начало кипение снизилось до 123⁰С против 145⁰С в исходном сырье,
 - содержание фракций до 360⁰С увеличился до 43% против 21%;
- б) в образце нефти месторождений Сурхандарьинского региона:
 - начало кипение снизилось до 110⁰С против 135⁰С в исходном сырье,
 - содержание фракций до 360⁰С увеличился до 50% против 22%;
- в) в образце вакуумного газойля СП «JNQ»:
 - начало кипение снизилось до 313⁰С против 320⁰С в исходном сырье,
 - содержание фракций до 360⁰С увеличился до 35% против 16%.

Как известно из литературы, мономеры и полимеры на основе углерода и водорода принадлежат к одному классу органических соединений – углеводородам с ковалентными связями атомов в их молекулах. Мономеры с длинными молекулярными цепочками и полимеры, имеющие в основе те же молекулярные цепочки с одними и теми же ковалентными связями между атомами в молекуле, при обработке также распадаются на свободные радикалы. При добавлении донорной присадки и последующей обработке тяжелой нефти или нефтяных остатков в молекулах соединений, входящих в их состав при обработке происходит деструкция (разрыв) углеводородных цепей с образованием двух или нескольких свободных радикалов с более короткими цепочками.



На основании полученных данных разработана технология углубленной переработки тяжелых нефтей и нефтяных остатков, получены патенты Российской Федерации 2607089 и 2628508 [7,8]. Эти исследования находятся в начальной стадии проведения и требуют дальнейших экспериментов в модульных или в малотоннажных промышленных установках.

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БУРҒИЛАШДА НЕФТ ВА ГАЗ ҚУДУҚЛАРИНИ ЮВУВЧИ СУЮҚЛИКНИНГ ЎРНИ ВА АҲАМИЯТИ

***Аннотация:** Нефть ва газ қудуқларини бурғилаш жараёнида қатламни бирламчи очишда ювувчи суюқликнинг таъсирини ўрганиш майдон бўйича олиб бориладиган ишларни жадаллаштиради. Бурғилаш жараёнини секинлаштирмаган ва кўп маблағ сарфламаган ҳолда майдонни ўрганиш имкониятини беради.*

***Калим сўз:** кольматация зона, коллектор, кольматация, зовак оралик, гранулометрич.*

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THE ROLE AND IMPORTANCE OF OIL AND GAS WELL WASHING FLUID IN DRILLING

***Annotation:** Studying the effect of flushing fluid on the initial opening of the formation during drilling of oil and gas wells will speed up work on the site. This allows you to explore the area without slowing down the drilling process and without spending a lot of money.*

***Keywords:** zone of clogging, collector, clogging, porous interval, particle size distribution.*

Майдоннинг геологик тузилишини тўғридан-тўғри ўрганишнинг усулларида бири, бурғилаш ва бурғи қудуқлардан бурғилаш орқали олинadиган керн намуналарини олиш бўлиб, бу жараён жуда ҳам кўп меҳнат ва маблағ талаб қилади. Шунинг учун қудуқ кесимларини ўрганишда керн намуналари фақат айрим ораликлардан олинади. Қудуқлардан керн намуналарини олиш геолого-разведка ишларини давомийлигини оширади ва бу ҳол ўз ўзидан олиб бориладиган ишларни қимматлаштиради. Бугунги кунда янги очилган майдонларни қисқа вақт ичида қазиб чиқаришга топшириш долзарб масала ҳисобланади.

Маҳсулдор қатламни бурғилаш вақтидан бошлаб, бурғилаш эритмаси қатламга коллекторларни ичига сингиб киришга ҳаракат қилади. Қатламга ювувчи суюқликнинг кириши бир нечта омилларга сабаб бўлади:

А) Бурғилаш жараёнида кўп ҳолларда қудуқ ичида ортикча босим ушлаб турилади. Агар қатлам гранулометрик коллекторлардан иборат бўлса, ортикча босим таъсирида ювувчи суюқликнинг дисперсли муҳити коллекторларга киради. Кўпинча бу кимёвий реагентлар ва тузларда мавжуд бўлган сув, дисперс фаза заррачалари қудуқ деворларида тутилиб, фильтрация қобилитини ҳосил қилади ёки қатламга қисман 1-2 см кириб, кольматация зонасини ҳосил қилади.

Б) Фильтрат таркибида мавжуд бўлган дисперс фазанинг майин, чангсимон зарралари қатламга чуқур кириб бориши мумкин. Ортикча босим таъсири остида грануляр қатламга фильтратнинг кириш чуқурлиги ювувчи суюқликнинг сув бера олувчанлиги юқори бўлса, қатламни бурғилаб ўтиш давомийлигига, ҳалқа оралиғидан чиқаётган оқимнинг тезлигига, ортикча босимга, ҳароратга боғлиқ; ламинар оқимга нисбатан турбулент режимда ювувчи суюқликнинг таъсири қатламга сезиларли таъсир этади. Ортикча босим таъсирида ёриқ ғовакларга фақат дисперс фаза эмас, балки дисперс зарраларнинг чуқур кириши кузатилади.

В) Капилляр кучлар таъсири остида сувли дисперсион муҳит қатламга чуқур кириб боради ва қудуқдаги нефтни сиқиб чиқаради (чиқишга йўл қўймайди). Юза тортишиши ошиши билан капилляр кучлар таъсири остида сувнинг кириш чуқурлиги ортади.

Г) Ювувчи суюқлик таркибидаги минераллар қатламнинг минераллашганига нисбатан кам бўлса, маҳсулдор қатламда осмотик масса алмашинуви ҳосил бўлиши мумкин. Қатламга ювувчи суюқликнинг ва унинг фильтратини кириши натижасида қатлам коллектори хоссаларига салбий таъсири туфайли бурғилаш сўнгида қатламдан суюқлик олиш шароити ёмонлашади. Демак, кольматация зонанинг ўтказувчанлигини ювувчи суюқлик дисперс фазаси зарралари ғовак каналларни беркитиши натижасида кўп марта камайишига олиб келади. Маҳсулдор қатламда деярли ҳар доим маълум бир миқдорда гилли ёки шунга ўхшаш зарралар мавжуд бўлиб, улар сувга берилувчандир. Қатламга кирган сув фильтратига бу зарралар тўйиниб бўқади, яъни ҳажми кенгайиб, ғовак каналларни қисман ёки тўлиқ беркитади.

Бурғилаш жараёнида нефть, газ, сув пайдо бўлишининг олдини олиш учун, қудуқдаги босим P_k ни қатлам флюидлари босимидан бир оз каттароқ ҳолда сақлаб турилади. Қатламни бурғилаш жараёнида, кўп ҳолларда ўнга босим ўзгариши $\Delta P = P_k - P_{\text{кат}}$ таъсир этади. Шу босим ўзгариши таъсирида ўтказувчан қатламга бурғилаш эритмаси таркибидаги каттик фазалар, айрим ҳолларда эса тўлиқ бурғилаш эритмаси кириши мумкин. Қатламга бурғилаш эритмасининг кириш радиуси бир неча метргача бориши мумкин (сув бера олувчанлиги минимал бурғилаш эритмалари учун ҳам). Бундай бурғилаш эритмаларини қўллаш қатламни ифлослантиради. Бурғилаш эритмасининг қатламга кириш чуқурлиги ва табиати, физик-кимёвий таъсири, характери катта аҳамият касб этади.

Қатламга кирган фильтрат тупроқли қатламларнинг бўкишига (коллектордаги), ғовак оралиқларни гидрофиллашга олиб келади ва натижада

бу ораликда ўтказувчанлик пасайиб кетади ва қудуқнинг маҳсулдорлиги паст бўлади.

Қатламни тозалаш ва синаб кўриш натижасида ҳам олдинги ҳақиқий ўтказувчанликни қайта тиклаб бўлмайди. Шунинг учун қатламни очишда юқоридаги ҳолатларни олдини олиш учун талабга жавоб берадиган бурғилаш эритмаларини танлаш керак.

Қудуқни маҳсулдорлигининг тушиб кетишини олдини олиш чоралари қуйидагича (қатламни очиш даврида):- қатламдаги босим ўзгаришини қудуқдаги босим ва қатлам босимини тенглаштириш $P_{\kappa}=P_{\kappa m}$ ёки қудуқ тубидаги босим $P_{\kappa}=P_{\kappa, \text{туб}}$, қатлам босимидан ҳам пастрок ҳолда ушлаб турилади (маҳсулдор қатламга бурғилаш эритмаси ва унинг таркибидаги газ, суюқлик ва қаттиқ фазани киришини олдини олиш учун).

- талабга жавоб берадиган бурғилаш эритмасини танлаш;

-бурғилаш эритмаси таркибидаги қаттиқ фаза заррачаларнинг катталигини маҳсулдор қатламдаги ғовак каналларни катталигини ҳисобга олган ҳолда танлаш;

-маҳсулдор қатламда бурғилаш эритмасининг ишлаш вақтини камайтириш.

Нефт ва газ қудуқларида бурғилаш эритмасини таъсирини ўрганишнинг умумий самарадорлиги нисбатан 80 % ни ташкил этади, шунинг билан бир қаторда қудуқни бурғилаш жараёнида бурғилаш эритмасини таъсирини ўрганиш дастлабки ҳолати ҳақида маълумот беради ва қидирув қудуқлари иш олиб бораётган ҳар бир майдоннинг биринчи қудуқлари маҳсулдор қатлампидан намуна олиб, лаборатория текширишларини амалга оширгандан кейин бурғилаш эритмасини аниқ танлаш имконияти туғилади.

Шу билан бирга келиб чиқиши мумкин бўлган нохуш ҳолатни ўз вақтида бартараф қилиш имкониятини беради.

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ПОВЫШЕНИЕ ЭФФЕКТИВНОСТИ ЛЕЧЕНИЯ ПАЦИЕНТОВ С ГИПЕРПЛАЗИЕЙ ПРЕДСТАТЕЛЬНОЙ ЖЕЛЕЗЫ С ИСПОЛЬЗОВАНИЕМ А1-АДРЕНОБЛОКАТОРОВ

Резюме: Гиперплазия предстательной железы, известная также как аденома предстательной железы, является одной из самых распространенных патологий среди мужчин пожилого возраста. Частота заболевания возрастает с каждым годом. На аутопсиях у мужчин в возрасте 41-50 лет аденому диагностируют примерно в 20% случаев, в 51-60 лет эта цифра уже достигает 50%, а среди людей в возрасте 80 лет и старше – до 90%. Лечебные симптомы, связанные с ГПЖ, возникают у 60% мужчин старше 50 лет.

Эпидемиологические исследования показывают четкую тенденцию к старению населения. В настоящее время средняя ожидаемая продолжительность жизни мужчин в Европе и Северной Америке составляет 72 года и продолжает увеличиваться. Прогнозируется, что с 1980 по 2050 годы количество людей старше 65 лет удвоится, составив 15% от общего числа населения. Это, в свою очередь, приведет к росту числа пациентов с гиперплазией предстательной железы, что делает ее диагностику и терапию актуальными как с медицинской, так и с социальной точки зрения.

Ключевые слова: предстательная железа, гиперплазия, А1-адреноблокаторы, медикаментозная терапия.

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INCREASING THE EFFICIENCY OF TREATMENT OF PATIENTS WITH PROSTATE HYPERPLASIA USING A1-ADRENOBLOCKERS

Resume: Prostatic hyperplasia, also known as prostate adenoma, is one of the most common pathologies among elderly men. The incidence of the disease increases every year. At autopsies, adenoma is diagnosed in about 20% of cases in

men aged 41-50 years, this figure already reaches 50% in 51-60 years, and among people aged 80 years and older - up to 90%. Treatment symptoms associated with BPH occur in 60% of men over 50 years of age.

Epidemiological studies show a clear trend towards population aging. Currently, the average life expectancy for men in Europe and North America is 72 years and continues to increase. It is predicted that from 1980 to 2050, the number of people over 65 years of age will double, amounting to 15% of the total population. This, in turn, will lead to an increase in the number of patients with prostatic hyperplasia, which makes its diagnosis and therapy relevant from both a medical and social point of view.

Key words: prostate gland, hyperplasia, A1-adrenoblockers, drug therapy.

Актуальность. В последнее время нередко используют сочетания лекарственных средств, относящихся к разным группам [4].

Блокаторы α_1 -адренорецепторов (α_1 -АР) - стандартные препараты в терапии ДГПЖ [1]. В исследованиях последних лет доказана ведущая роль α_1 -АР в патогенезе заболевания. Стимуляция α_1 -АР повышает тонус гладкомышечных элементов шейки мочевого пузыря, простатического отдела уретры и предстательной железы (ПЖ), поддерживая в значительной степени внутриуретральное давление [3]. Сократительная функция ПЖ также находится под контролем α_1 -АР, которые локализуются преимущественно в стромальных элементах железы, занимающих до 60 % ее объема.

Активация α_1 -АР, а также увеличение их количества и повышение плотности в ткани ПЖ при ДГПЖ [2] приводят к развитию динамического компонента инфравезикальной обструкции. Кроме того, по мере прогрессирования ДГПЖ развиваются функциональные и морфологические изменения детрузора, сопровождающиеся гипоксией гладкомышечных элементов и приводящие к нарушениям биохимических процессов (в т. ч. энергетического баланса) в клетках детрузора [4].

Исходя из этого, блокаторы α -АР должны не только уменьшать уретральное сопротивление за счет снижения тонуса гладкой мускулатуры ПЖ и уретры, но и устранять вторичные изменения детрузора за счет улучшения кровоснабжения мочевого пузыря, устраняя таким образом динамический компонент инфравезикальной обструкции.

В настоящее время наибольшее распространение при лечении ДГПЖ получили так называемые селективные α -блокаторы, действующие на α_1 -АР: альфузозин, теразозин, доксазозин. Их эффективность в устранении обструктивной и особенно ирритативной симптоматики примерно одинакова: 30-45 % [3], тогда как выраженность побочных эффектов вследствие снижения артериального давления (АД; ортостатическая гипотония, сонливость, головокружение, сердцебиение и тахикардия) не одинакова. Особенности действия разных α_1 -адреноблокаторов определяются различиями химической структуры препаратов, их сродства к α_1 -АР и способности проникать в ЦНС [5].

Цель исследования. Улучшение результативности и безопасности применения $\alpha 1$ -адреноблокаторов у пациентов с доброкачественной гиперплазией простаты.

Материалы и методы исследования. Проведен анализ данных наблюдений, диагностики и лечения 60 мужчин с данной патологией, получавших различное $\alpha 1$ -адреноблокирующее терапию.

Результаты исследования. Клиническое воздействие наиболее распространенных $\alpha 1$ -адреноблокаторов на симптоматику нарушений мочевого выделения и ключевые уродинамические показатели оказалось схожим.

После отмены препаратов сохранение положительного клинического эффекта наблюдается до 2 месяцев, при этом наиболее быстро восстанавливаются параметры потока мочи (максимальной скорости) и объем остаточной мочи.

К концу месяца симптоматическая картина возвращается к 50-60% от первоначальных значений.

В клинической практике при выборе лечения для больных с доброкачественной гиперплазией простаты недостаточно полно используются инструменты оценки: международная шкала симптомов (81%), ультразвуковое измерение остаточной мочи (60%) и урофлоуметрия — лишь 37% случаев.

В повседневной практике большинство пациентов получают низкие дозы титруемых $\alpha 1$ -адреноблокаторов, но даже малые дозы теразозина могут значительно улучшить симптоматику и качество жизни у больных с начальной стадией нарушений мочеиспускания.

Нетитруемые препараты данной группы целесообразно применять в качестве прогностических инструментов для оценки эффективности лечения. Этот перефразированный текст сохраняет первоначальный смысл, структуру и объем информации, но отличается стилистически и лексически.

Исследование демонстрирует значительное (95%) уменьшение симптомов мочевых расстройств при ДГПЖ после применения Зоксона, что привело к существенному повышению качества жизни пациентов. Применение Зоксона на протяжении трех месяцев не повлияло на размеры предстательной железы и узлы гиперплазии.

Лечение Зоксоном оказало быстрый (в течение 1-7 дней) положительный эффект, значительно улучшив показатели мочеиспускания: увеличились Q_{max} и Q_{ave} , сократилось время опорожнения мочевого пузыря, уменьшился остаточный объем. Однако после отмены препарата (в течение 1-7 дней) наблюдается частичное возвращение к исходным значениям при долгосрочном наблюдении до трех месяцев. Это указывает на специфическое симптоматическое действие Зоксона, что обосновывает повторное курсовой терапию.

Побочные реакции гипотензивного характера отмечены у 15% больных (3 случая), причем в большинстве — незначительные или средней степени выраженности, что свидетельствует о сравнительно мягком побочном

профиле Зоксона. Среднее снижение артериального давления под воздействием Зоксона составило $7,4 \pm 5,77/6,0 \pm 3,87$ мм рт. ст., что указывает на умеренный гипотензивный эффект препарата.

Вывод. Рекомендации: - Зоксон целесообразно применять для терапии пациентов с ДГПЖ, характеризующихся выраженными ирритативными симптомами при наличии умеренной обструкции мочевыводящих путей.

Особенно актуален Зоксон в лечении больных с сопутствующей артериальной гипертензией, предпочтительно в комплексной терапии с другими антигипертензивными средствами для минимизации побочных эффектов и усиления общего положительного воздействия.

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АНАЛИЗ ОСЛОЖНЕНИЙ ПОСЛЕ ГЕМОРРОИДЭКТОМИИ: КЛИНИЧЕСКИЙ СЛУЧАЙ

Аннотация: Геморрой — это патологическое увеличение геморроидальных узлов, сопровождающееся обострениями, кровотечениями и выпадением узлов из анального канала. Это одно из самых распространённых заболеваний в колопроктологии среди взрослых во всём мире. В работе проведён краткий анализ историй болезни пациентов с геморроем и его осложнениями после геморроидэктомии. Исследование основано на данных из колопроктологического отделения частной клиники «Иброхим Хаким Табобат» в Фергане. Также рассмотрен один клинический случай.

Ключевые слова. Геморрой, оперативное лечение, осложнение.

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ANALYSIS OF COMPLICATIONS AFTER HEMORROIDECTOMY: CLINICAL CASE

Abstract: Hemorrhoids are a pathological enlargement of hemorrhoidal nodes, accompanied by flare-ups, bleeding, and prolapse of nodes from the anal canal. It is one of the most common diseases in coloproctology among adults worldwide. This study presents a brief analysis of medical records of patients with hemorrhoids and complications following hemorrhoidectomy. The research is based on data from the coloproctology department of the private clinic "Ibrohim Hakim Tabobat" in Fergana. Additionally, one clinical case is examined.

Keywords: Hemorrhoids, surgical treatment, complications. Hemorrhoids, surgical treatment, complications.

Введение. Геморрой, занимая лидирующее положение среди проктологических заболеваний, остается одной из наиболее сложных и до конца нерешенных задач современной колопроктологии. Его распространенность достигает 130–145 случаев на 1000 взрослых.

Несмотря на существование разнообразных хирургических и консервативных методов лечения, проблема высокого уровня послеоперационных осложнений и длительного времени госпитализации пациентов по-прежнему актуальна. На сегодняшний день известно более 300 способов хирургического вмешательства при геморрое. Наиболее часто применяемым является геморроидэктомия по Миллигану-Моргану, выполненная в модификации Государственного научного центра колопроктологии Минздрава России. Однако до сих пор не найден оптимальный метод, который бы полностью исключал ранние и поздние послеоперационные осложнения. Это подтверждается наличием противоречивых данных в литературе относительно эффективности хирургического лечения данного заболевания.

По данным ряда авторов, в 34–41 % наблюдений после геморроидэктомии имеет место интенсивный болевой синдром, в 15–26 % – рефлкторные дизурические расстройства, в 2–7 % – кровотечения из аноректальных ран, в 2 % – гнойно-воспалительные осложнения.

В исследованиях Курбонова К.М. и соавторов (2001) проанализированы отдаленные результаты 724 геморроидэктомий, выполненных в различных медицинских учреждениях. У 23,3% пациентов были зафиксированы осложнения, обусловленные следующими факторами: несвоевременное выявление сопутствующих заболеваний прямой кишки (26,7%), ошибки хирургической тактики, включая неполную геморроидэктомию (30%), а также наличие сопутствующих заболеваний других органов и систем, таких как хронический колит, цирроз печени, запоры (36,6%). Подчеркивается необходимость комплексного обследования пациентов, лечения сопутствующих патологий и проведения реабилитации в постоперационный период для снижения частоты осложнений и улучшения результатов хирургического лечения.

В ретроспективном анализе, проведенном Климентовым М.Н. и соавт. (2021), изучены результаты обследования 394 пациентов с геморроидальной болезнью, проходивших лечение в колопроктологическом отделении. Среди обследованных наибольшую долю составили пациенты с хроническим геморроем 2-й стадии (60,2%) и 3-й стадии (32,2%). Общая частота осложнений после геморроидэктомии составила 4%, из них ранние осложнения (до выписки) наблюдались в 2,5% случаев, поздние — в 1,5%. Ранние осложнения включали кровотечения (0,25%), задержку мочи (0,75%), перианальные гематомы (0,25%), отёки (0,5%) и нагноения (0,75%). Среди поздних осложнений чаще всего встречались лигатурные свищи перианальной области и анального канала (1%) и стриктуры анального канала (0,25%). Исследование подчёркивает необходимость тщательной подготовки

пациентов, применения рассасывающихся шовных материалов и соблюдения техники хирургического вмешательства для минимизации риска осложнений.

Цель исследования – изучить структуру осложнений после геморроидэктомии у пациентов, находившихся на лечении в колопроктологическом отделении в частной клинике Иброхим хаким табобат, город Фергана.

Материалы и методы исследования

Был проведён ретроспективный анализ историй болезни пациентов в 2024 году в колопроктологическом отделении частной клиники «Иброхим Хахим Табобат» города Ферганы с диагнозами хронического геморроя 1–4-й стадии и острого геморроя. В ходе исследования были выявлены случаи ранних осложнений после геморроидэктомии, а также пациенты, поступившие с осложнениями после ранее проведённых операций по поводу геморроя.

На лечении находилось 484 пациента с геморроидальной болезнью. По гендерному составу различия оказались незначительными: 69 % составили мужчины, а 31 % – женщины, что соответствует общей статистике. Среди них 27 % проживали в городских условиях, а 73 % – в сельской местности.

С диагнозом хронического геморроя 1й стадии было 0 %, 2й стадии – 11 %, 3й стадии – 68,2 %, с острым геморроем – 10,3 %, 4й стадии – 10,5 %. Средний койко день составил 5,2.

Возрастной состав варьировался от 18 до 82 лет, что также соответствует общепринятой картине заболевания. Основная волна заболевших приходится на возраст 30–70 лет (рис. 1).

Было выявлено всего 20 осложнений, что составляет 4,1%. Разделив осложнения на ранние и поздние, мы получили следующую картину: ранние – 15 (3,1 %), поздние – 5 (1,01 %).

Ранние осложнения (возникшие в раннем послеоперационном периоде до выписки из стационара): кровотечение – 10 случаев (2,25 %); острая задержка мочи (чаще встречается у мужчин старшей возрастной группы) – 3 (0,6 %); периаанальная гематома – один случай (0,2 %); отек периаанальной области – 1 (0,2 %); нагноения – 0 (0 %).

Поздние осложнения (возникшие после радикальных или малоинвазивных операций после выписки из стационара): стриктура анального канала – 4 случая (0,9 %); лигатурные свищи периаанальной области и анального канала – 1 (0,2 %); ректальные свищи – 0 (0 %).

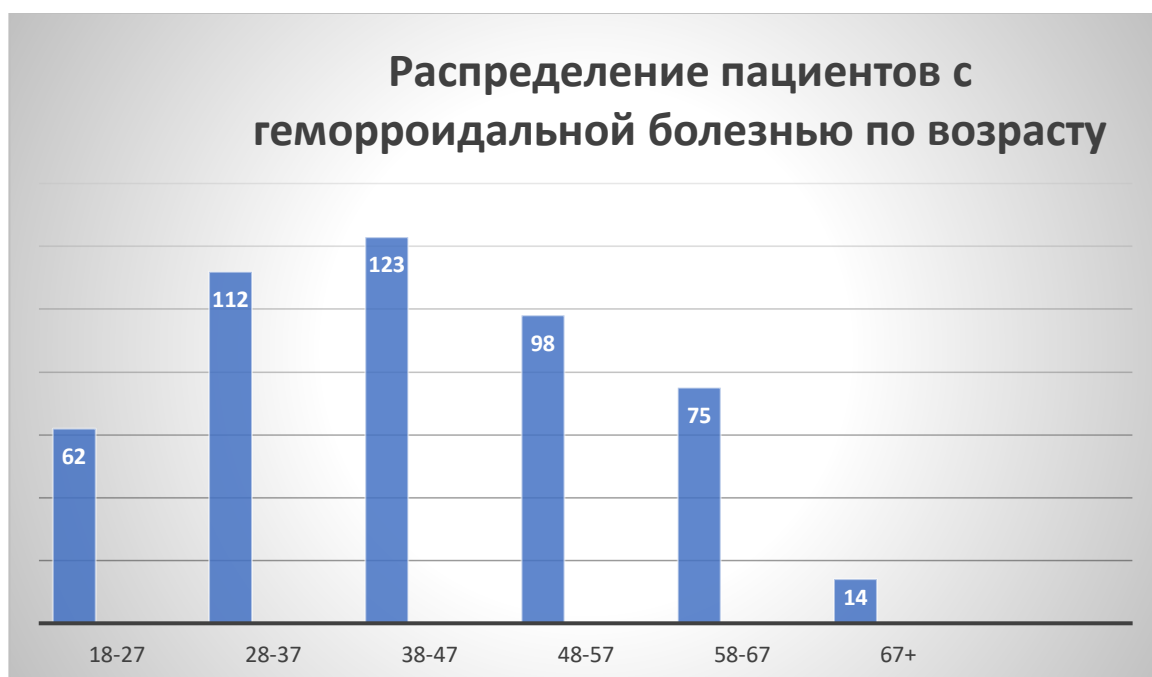


График столбиков 1.0

Клинический случай.

Пациент 1970 года рождения, мужчина. Жалобы на узловые образования в области заднего прохода, боль в этой области, а также кровотечение после дефекации.

В ходе обследования выявлены внутренние и наружные геморроидальные узлы на 15, 19 и 23 часах проекции. Консервативное лечение не принесло улучшений, в связи с чем было принято решение о проведении оперативного вмешательства.

Из анамнеза: пациент не знает о наличии у себя каких-либо сопутствующих заболеваний. В общем анализе крови показатели следующие: гемоглобин – 145 г/л, эритроциты – $4,6 \times 10^9/\text{л}$, лейкоциты – $10,6 \times 10^9/\text{л}$. Пациенту была проведена операция геморроидэктомии по Миллигану-Моргану.

Во время операции осложнений не наблюдалось. Однако на следующий день при перевязке было выявлено кровотечение из области заднего прохода. Для остановки кровотечения применена тампонада стерильным материалом, достигнут гемостаз. На следующий день при перевязке ситуация повторилась: вновь наблюдалось кровотечение из аноректальной области. Пациент был повторно доставлен в операционную, где на рану были наложены дополнительные швы.

Несмотря на это, на следующий день кровотечение повторилось. Была выполнена тампонада для достижения гемостаза. Проведён повторный анализ крови. Удивительно, но даже при значительной кровопотере уровень гемоглобина у пациента остался неизменным – 144 г/л, эритроциты – $4,4 \times 10^9/\text{л}$, лейкоциты несколько увеличились – $12,2 \times 10^9/\text{л}$.

Пациент был дополнительно обследован гематологом, в результате чего у него было выявлено гематологическое заболевание. Осложнения в послеоперационном периоде, в частности кровотечение из раны, были связаны с этим заболеванием. После остановки кровотечения пациент был переведён в гематологическое отделение для дальнейшего лечения.

ВЫВОДЫ:

Ранние и поздние послеоперационные осложнения после геморроидэктомии и малоинвазивных методов лечения встречаются в 4,1 %, включая 3,0 % ранних и 1,1 % поздних.

Геморрой и его осложнения остаются актуальной проблемой, требующей внимания. Несмотря на эффективность геморроидэктомии, в 4 % случаев наблюдаются осложнения, нередко требующие повторного вмешательства. Для их минимизации важно проводить комплексное обследование пациентов, своевременно выявлять и лечить сопутствующие заболевания.

Дополнительно, клинический случай демонстрирует роль сопутствующих гематологических заболеваний в развитии послеоперационных осложнений. Повышенная кровоточивость может быть связана с нарушением механизмов гемостаза, вызванным скрытыми патологиями крови, такими как тромбоцитопатия, коагулопатия или дисфункция сосудов. Эти состояния ухудшают заживление тканей, способствуют повторным кровотечениям и требуют специализированного лечения. Выявление таких факторов до операции с помощью расширенных гематологических анализов могло бы снизить риск осложнений и улучшить прогноз пациента.

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ГОСУДАРСТВЕННОЕ УПРАВЛЕНИЕ В СФЕРЕ БАНКОВСКОЙ ДЕЯТЕЛЬНОСТИ И ОБОРОТА ЦЕННЫХ БУМАГ В РОССИЙСКОЙ ФЕДЕРАЦИИ

***Аннотация.** Актуальность статьи обусловлена повышенным спросом на государственное управление в сфере банковской деятельности и оборота ценных бумаг в РФ. Цель исследования обозначить основную деятельность государственного управления в области банковской деятельности. Методы исследования: теоретический (изучение литературы по данной теме), аналитический (обобщение информации). Исследованы акты нормативно-правового характера, которые осуществляют регулирование оборота ценных бумаг на территории РФ.*

***Ключевые слова:** государственное управление, банковская деятельность, ценные бумаги, регулирование, оборот ценных бумаг.*

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PUBLIC ADMINISTRATION IN THE SPHERE OF BANKING AND SECURITIES TURNOVER IN THE RUSSIAN FEDERATION

***Annotation.** The relevance of the article is due to the increased demand for public administration in the field of banking and securities turnover in the Russian Federation. The purpose of the study is to identify the main activities of public administration in the field of banking. Research methods: theoretical (study of literature on this topic), analytical (summarization of information). The regulatory acts that regulate the turnover of securities in the territory of the Russian Federation are studied.*

***Keywords:** public administration, banking, securities, regulation, securities turnover.*

Одной из функций в любых областях является управление и регулирование. Это касается и сферы банковской деятельности, в том числе оборота ценных бумаг. Государственное регулирование осуществляется с

целью обеспечения результативного управления банковской деятельности, как на государственном уровне, так и на региональном.

Государственное управление ставит перед собой цель: выполнить программы государства в области финансов. Также к целям государства относится общее развитие системы банков. Оборот ценных бумаг также подвергается регулированию со стороны государства. Основным инструментом в данном случае выступают акты нормативно-правового характера.

Управление банковской системой со стороны государства имеет два уровня:

1. На первом уровне происходит регулирование различных областей деятельности банков, а также регулирование отношений денежно-кредитного характера.

2. На втором уровне регулируются органы, которые осуществляют операции финансово-экономического характера (Российский Банк, банки государства коммерческого характера, Правительство РФ). Данные органы могут регистрировать и выдавать лицензию организациям, которые осуществляют банковскую деятельность.

Управление государства на уровне один воздействует на все элементы, которые относятся к банковской системе России, в том числе Центральный Банк. Существуют несколько направлений в данной области:

1. Расшифровка и установка единой денежной политики и кредитной политики.

2. Осуществление контроля над исполнением законодательства в области денежно-кредитной политики.

3. Разработка норм, относящихся к банковской деятельности.

На втором уровне осуществляется регулирование деятельности органов исполнения прямого или косвенного характера. Органы должны иметь лицензию на осуществление банковской деятельности.

Акты законодательного характера, образующие систему, дают определение деятельности, которую осуществляют банки. Основной Закон страны определяет место системы банков в общей системе экономики. Здесь прописаны статус и полномочия, которыми обладает Банк России. Также прописаны все нормы и правила, относящиеся к деятельности, осуществляемыми банками России [1].

В том случае, если система Конституции будет изменена, останется возможность уточнения положений по банковской деятельности, а также ее различных областей, в том числе подробности осуществления оборота ценных бумаг.

Также регулирование в данной области помогают осуществить акты законодательного характера. За понятиями и определениями, касающимися осуществления банковской деятельности и оборота ценных бумаг в РФ можно обратиться к ГК РФ [2].

Непосредственно регулирование оборота ценных бумаг в РФ осуществляется с помощью Федерального Закона «О рынке ценных бумаг». В нем описаны все возможности и правила пользования ценными бумагами на территории России.

Система правового регулирования рынка ценных бумаг и в целом банковской деятельности была разработана в 1998 году после произошедшего финансового кризиса. Данная система была создана для решения важных следующих задач:

1. Создать единую систему соответствия ценных бумаг принципам, которые являются базовыми в гражданском праве. Важно было создать систему, которая бы объединила объекты права в единую систему, а также смогла бы осуществлять контроль и давала гарантии над исполнением существующих обязательств в данной области.

2. Создать методы юридической защиты, предотвращающие нарушения прав людей, вкладывающих свои деньги в ценные бумаги. В первую очередь это касалось крупных держателей ценных бумаг, в том числе само государство (РФ).

3. Были вынесены предложения по балансу между интересами частного и общественного характера на рынке финансов. Осуществляться это должно совместно с механизмами регулирования гражданско-правового и административно-правового характера. Баланс должен был способствовать росту экономики, а также должен был повысить уровень защиты прав частных инвесторов. Это позволяло инвесторам получать максимально возможную прибыль от своих вложений.

4. Создать необходимые условия со стороны права, которые окажут помощь в развитии инфраструктуры рынка финансов. При этом должны были быть исключены привилегии разных уровней для определенных групп участников.

5. Способствовать развитию юридических методов интеграции рынка ценных бумаг России в систему финансового характера на мировом уровне. При этом частные лица смогут принимать участие в финансовых операциях, осуществляемых на международном уровне. При этом должны применяться:

- депозитарные расписки;
- субдепозитарные отношения,
- борьба с финансовыми операциями, которые осуществляются нелегально, чему способствует либерализация контроля валют.

6. Предоставить защиту без условий для владельцев ценных бумаг в обладании имущественными правами, вне зависимости от действий лиц, которые являются уполномоченными и производят учет прав на безналичные ценные бумаги [3, с. 88].

Таким образом, осуществление регулирования области банковской деятельности и оборота ценных бумаг включает в себя наличие специальных инструментов, с помощью которых органы регулирования могут оказать

воздействие на тот объект, который контролируется в процессе достижения поставленных целей [5, с. 59].

Для правильной политики регулирования банковской деятельности и оборота ценных бумаг государство должно поставить четкие цели и задачи в развитии общей системы финансовых рынков.

Важно понимать и учитывать все особенности финансовых рынков и оборота ценных бумаг в Российской Федерации. Важно развивать механизмы сдерживания и предупреждения. В том числе необходимо привести к единой системе способы оценки квалификации специалистов для всех существующих типов рынков финансов [4, с. 27].

На сегодняшний день государственное управление в области деятельности банков и оборота ценных бумаг в Российской Федерации имеет систему, состоящую из двух уровней. Система имеет данный вид исходя из актуальных запросов и потребностей на сегодняшний день.

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ФОРМЫ И СПОСОБЫ РЕГУЛИРОВАНИЯ БАНКОВСКОЙ ДЕЯТЕЛЬНОСТИ И ОБОРОТА ЦЕННЫХ БУМАГ В РОССИИ

***Аннотация.** Статья анализирует формы и способы регулирования банковской деятельности и оборота ценных бумаг в России. Рассматриваются правовые механизмы обеспечения стабильности финансовой системы, включая нормативное регулирование, надзор Центрального банка и саморегулирование участников рынка. Особое внимание уделено законодательству, регулирующему банковскую сферу и рынок ценных бумаг, его применению, а также вызовам цифровизации и внедрения новых технологий. Подчеркивается необходимость адаптации регуляторных подходов и гармонизации законодательства с международными стандартами для повышения конкурентоспособности российского финансового рынка.*

***Ключевые слова:** регулирование банковской деятельности, рынок ценных бумаг, Центральный банк России, финансовое право, цифровизация, саморегулирование, законодательство России.*

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FORMS AND RULES FOR REGULATING BANKING ACTIVITIES AND SECURITIES TURNOVER IN RUSSIA

***Annotation.** The article analyzes the forms and methods of regulating banking activities and securities turnover in Russia. The article examines the legal mechanisms for ensuring the stability of the financial system, including regulatory regulation, supervision of the Central Bank and self-regulation of market participants. Particular attention is paid to the legislation regulating the banking sector and the securities market, its application, as well as the challenges of digitalization and the introduction of new technologies. The need to adapt*

regulatory approaches and harmonize legislation with international standards to improve the competitiveness of the Russian financial market is emphasized.

Keywords: *regulation of banking activities, securities market, Central Bank of Russia, financial law, digitalization, self-regulation, Russian legislation.*

Регулирование банковской деятельности в России представляет собой сложную и многоуровневую систему, основанную на законодательных актах, нормативных документах Центрального банка Российской Федерации (ЦБ РФ) и международных стандартах. Такая структура позволяет обеспечивать стабильность финансовой системы страны и защищать интересы вкладчиков.

Основным законодательным документом, регулирующим банковскую сферу, является Федеральный закон № 395-1 «О банках и банковской деятельности», принятый в 1990 году [1]. Этот закон устанавливает ключевые понятия, такие как кредитная организация, банк, банковская группа, а также регулирует вопросы лицензирования банков, их реорганизации и ликвидации. Закон содержит нормы, направленные на обеспечение финансовой надежности кредитных организаций, включая требования к минимальному уставному капиталу и квалификационные требования к руководителям банков.

Центральный банк Российской Федерации играет центральную роль в регулировании банковской деятельности. Его функции определены Федеральным законом № 86-ФЗ «О Центральном банке Российской Федерации (Банке России)» [3]. ЦБ РФ осуществляет надзор за кредитными организациями, устанавливает обязательные экономические нормативы, выдает и отзывает лицензии на осуществление банковских операций. Банк России также разрабатывает и проводит денежно-кредитную политику во взаимодействии с правительством, что позволяет поддерживать устойчивость национальной валюты и стабильность финансового рынка. [2, С.54]

Нормативные акты ЦБ РФ играют важную роль в детализации положений федеральных законов. Они регулируют широкий спектр вопросов: от правил проведения расчетов до требований по защите информации при осуществлении банковских операций. Например, Положение № 683-П устанавливает обязательные меры по защите информации для предотвращения несанкционированных переводов денежных средств.

Международные стандарты также оказывают значительное влияние на российскую банковскую систему. Внедрение принципов Базельских соглашений (Базель II и III) направлено на повышение устойчивости банковского сектора через ужесточение требований к капиталу и ликвидности. Эти стандарты способствуют улучшению управления рисками и обеспечению рыночной дисциплины [3, С.202]. Однако их адаптация в России сопровождается определенными трудностями из-за специфики национальной финансовой системы.

Поэтому сочетание национального законодательства, нормативных актов ЦБ РФ и международных стандартов создает комплексную систему

регулирования банковской деятельности в России. Она обеспечивает баланс между стабильностью финансовой системы и защитой интересов вкладчиков, что особенно важно для поддержания доверия к банковскому сектору.

Регулирование оборота ценных бумаг в России представляет собой сложную систему, основанную на федеральных законах, нормативных актах и деятельности ключевых регулирующих органов, таких как Центральный банк Российской Федерации (ЦБ РФ) и Московская биржа. Эта система направлена на обеспечение прозрачности, снижение рисков и защиту интересов участников финансового рынка.

Основным законодательным актом, регулирующим рынок ценных бумаг, является Федеральный закон № 39-ФЗ «О рынке ценных бумаг» [2]. Он устанавливает правовые основы эмиссии и обращения ценных бумаг, а также определяет деятельность профессиональных участников рынка. Закон закрепляет обязательные требования к эмитентам и профессиональным участникам, регулирует процесс государственной регистрации выпусков ценных бумаг и проспектов эмиссии, а также предусматривает меры по защите прав владельцев ценных бумаг. Кроме того, закон вводит механизмы лицензирования профессиональной деятельности на рынке ценных бумаг, что предотвращает участие недобросовестных участников в рыночных операциях.

Центральный банк РФ играет ключевую роль в регулировании рынка ценных бумаг. Он разрабатывает нормативные акты, устанавливает стандарты эмиссии и обращения ценных бумаг, контролирует деятельность профессиональных участников рынка и обеспечивает соблюдение законодательства. ЦБ РФ активно применяет риск-ориентированный подход в надзоре за рынком, что позволяет своевременно выявлять потенциальные угрозы и принимать меры по их минимизации [1, С. 81]. Важной частью работы регулятора является также противодействие манипулированию рынком и недобросовестным практикам.

Московская биржа выполняет функции организатора торгов ценными бумагами и обеспечивает инфраструктуру для их обращения. Биржа внедряет правила листинга, которые способствуют повышению прозрачности операций и надежности эмитентов. Например, она разделяет уровни листинга в зависимости от требований к эмитентам и их ценным бумагам. Это позволяет инвесторам получать доступ к информации о финансовом состоянии компаний и принимать обоснованные инвестиционные решения.

Особое внимание уделяется информационной прозрачности рынка. Законодательство обязывает эмитентов раскрывать информацию о своей деятельности, включая данные о выпуске ценных бумаг и финансовой отчетности. Это снижает информационные асимметрии между участниками рынка и способствует защите инвесторов от мошенничества.

Регулирование банковской деятельности и оборота ценных бумаг в России представляет собой сложную, но четко структурированную систему, основанную на взаимодействии национального законодательства,

нормативных актов Центрального банка РФ, международных стандартов и деятельности ключевых регулирующих органов. В банковской сфере такая система обеспечивает стабильность финансового сектора, защиту интересов вкладчиков и устойчивость национальной экономики. В свою очередь, регулирование рынка ценных бумаг способствует прозрачности операций, снижению рисков и защите прав инвесторов, что крайне важно для поддержания доверия к финансовой системе.

Эффективное функционирование этих механизмов позволяет минимизировать угрозы финансовой нестабильности и недобросовестных практик, создавая условия для устойчивого экономического роста. Однако в условиях глобализации и быстрого развития технологий российская система регулирования сталкивается с новыми вызовами, такими как необходимость адаптации к цифровым активам и усиление кибербезопасности. Это требует постоянного совершенствования нормативной базы и внедрения инновационных подходов в надзорной практике.

Таким образом, регулирование банковской деятельности и рынка ценных бумаг в России не только выполняет функцию защиты участников финансового рынка, но и играет важнейшую роль в обеспечении экономической стабильности страны. Успешное развитие этой системы зависит от ее гибкости и способности своевременно реагировать на изменения как внутри страны, так и на международной арене.

Использованные источники:

Нормативно – правовые акты

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2. Федеральный закон "О рынке ценных бумаг»: [Электронный ресурс]. – Текст: электронный // КонсультантПлюс.
3. Федеральный закон "О Центральном банке Российской Федерации (Банке России)»: [Электронный ресурс]. – Текст: электронный // КонсультантПлюс.

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ЗАЩИТА НАСЕЛЕНИЯ И ТЕРРИТОРИЙ ОТ ФВ И АНАЛИЗ РАБОТ, ПРОВОДИМЫХ В ОБЛАСТИ ФМ В РОССИЙСКОЙ ФЕДЕРАЦИИ

***Аннотация.** Статья призвана обеспечить реализацию мероприятий, связанных с организацией защиты граждан, территорий и материальных ценностей при чрезвычайных ситуациях в рамках требований законодательных и нормативных документов и осуществляемых в Российской Федерации по чрезвычайной защите. и дела гражданской защиты анализируются.*

***Ключевые слова:** Граждане, гражданская защита, документы, ФВДТ, природные, техногенные, технологии, Ассоциация «Женевские зоны», Российская Федерация*

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PROTECTION OF THE POPULATION AND TERRITORIES FROM PV AND ANALYSIS OF WORK CARRIED OUT IN THE FIELD OF FM IN THE RUSSIAN FEDERATION

***Annotation.** The article is intended to ensure the implementation of measures related to the organization of the protection of citizens, territories and material assets in emergency situations within the framework of the requirements of legislative and regulatory documents and carried out in the Russian Federation for emergency protection. and civil defense cases are analyzed.*

***Key words:** Citizens, civil protection, documents, FVDТ, natural, man-made, technologies, Geneva Zones Association, Russian Federation.*

Введение: В 1932 году генерал Жорж Сен-Поль из Французской медицинской службы основал в Париже Ассоциацию Женевских зон, которая позже стала международной организацией гражданской обороны. «Женевские зоны» (родина Анри Дюнан, основателя Женевского Красного Креста) относятся к нейтральным районам или открытым городам, где определенные категории гражданского населения могли найти убежище во время войн. Генерал Жорж Сен-Поль умер в 1937 году, и в том же году его просьба о переводе Ассоциации из Парижа в Женеву была удовлетворена.



Рисунок 1. Эмблема Международной организации гражданской обороны.

Эту эмблему предложил генерал Жорж Сен-Поль, основатель Международной организации гражданской обороны.

Современные геральдисты трактуют значение символов, изображенных на этой эмблеме, следующим образом:

Оранжевый и синий — контрастные цвета, которые отделяют мирных жителей от воюющих сторон.

Треугольник (символ постоянства) небесного цвета (символ мира) — зона защиты и спасения людей и имущества.

Отличительный знак используется для защиты организаций гражданской обороны, их личного состава, зданий и технических средств, а также укрытий, где скрываются гражданские лица (ст. 66, п. 4 Дополнительного протокола к Женевским конвенциям от 12 августа 1949 г.).

Рекомендуется:

1. Если на флаге, ленте или чехле изображен синий треугольник, в качестве фона на этом флаге, ленте или чехле используется оранжевый цвет;
2. Один из углов треугольника должен быть направлен вертикально вверх;
3. Ни одна точка треугольника не должна касаться края оранжевого фона.

В целом система гражданской обороны как комплекс мер по защите населения появилась в России и других странах в связи с ростом боеспособности авиации. Его зарождение в России относится ко времени Второй мировой войны. Тогда же в обращении Комитета революционной обороны «К населению Петрограда и его окрестностей» (март 1918 г.) были определены правила поведения населения в условиях воздушного нападения.

Позднее в оборонной политике государства стала проявляться тенденция объединения всех мер противовоздушной и химической защиты в единую государственную систему. Постановление бывшего Совнаркома СССР от 4 октября 1932 года «О противовоздушной обороне СССР» объединило эти три системы.

В 1940 году Отечественная ПВО была включена в систему бывшего Союзного народного комиссариата внутренних дел (позже МВД) в качестве Главного управления.

В 1961 году местная противовоздушная оборона была реорганизована в Гражданскую оборону и была введена должность начальника гражданской обороны. В 1971 году руководство гражданской обороной было возложено на бывшее союзное министерство обороны. На него было возложено оперативное руководство – начальник гражданской обороны – заместитель министра обороны.

В 1972 году пришлось привлечь большое количество сил и средств гражданской обороны для ликвидации крупных природных пожаров в Подмосковье. В связи с этим в 1974 году правительство бывшего Союза приняло постановление «О применении невоенных структур гражданской обороны в мирное время». Авария на Чернобыльской АЭС, ряд других аварий и катастроф побудили руководство СССР и РСФСР создать органы управления по защите населения и территорий от природных и техногенных ФВ.

В 1989 году бывший союз ратифицировал Дополнительный протокол 1 к Женевской конвенции. Он предназначался для проведения гражданской обороны (в частности – спасательных операций) для общей защиты от последствий военных действий. Решением Совета Министров бывшего Союза № 1175 от 21 ноября 1990 года была создана Государственная комиссия Совета Министров бывшего Союза по чрезвычайным ситуациям. Постановлением Совета Министров бывшего Союза от 15 декабря 1990 года № 1282 было утверждено положение «Об общесоюзной государственной системе предупреждения чрезвычайных ситуаций и действий в них».

На основании постановления Президиума Верховного Совета РСФСР от 17 июля 1990 года Российский корпус спасателей был создан 27 декабря 1990 года постановлением Совета Министров бывшего Союза № 606.

19 ноября 1991 года на базе Государственного комитета по чрезвычайным ситуациям РСФСР и Штаба гражданской обороны РСФСР создан Государственный комитет гражданской обороны при Президенте РСФСР по ликвидации последствий чрезвычайной ситуации. Ситуации и стихийные бедствия. Комитету передано имущество и сотрудники бывшего Союзного Минобороны по гражданской обороне и бывшей Союзной государственной комиссии по чрезвычайным ситуациям.

В марте 1992 года Россия подписала Конвенцию о трансграничных последствиях промышленных аварий и обязалась создать компетентный орган, готовый ликвидировать последствия промышленных аварий.

30 сентября 1992 года Государственный комитет по делам гражданской обороны, чрезвычайным ситуациям и ликвидации последствий стихийных бедствий при Президенте РСФСР был реорганизован и стал Государственным комитетом по делам гражданской обороны, чрезвычайным ситуациям и ликвидации последствий стихийных бедствий. В его состав входили

контрольно-спасательные пункты (созданы в 1958 г.) и контрольно-спасательные службы (созданы в 1973 г.) ВССПС.

10 января 1994 года Государственный комитет Российской Федерации по делам гражданской обороны, чрезвычайным ситуациям и ликвидации последствий стихийных бедствий был реорганизован в Министерство гражданской обороны, чрезвычайных ситуаций и ликвидации последствий стихийных бедствий Российской Федерации (Министерство гражданской обороны, чрезвычайных ситуаций и ликвидации последствий стихийных бедствий Российской Федерации). была названа «Помощь при стихийных бедствиях»).

С 1 января 2002 года состав ФВВ России, насчитывающий 70 тысяч человек, пополнился 278 тысячами сотрудников Государственной противопожарной службы. В 2002-2004 годах Государственная служба пожарной безопасности входила в состав Пожарной службы России.

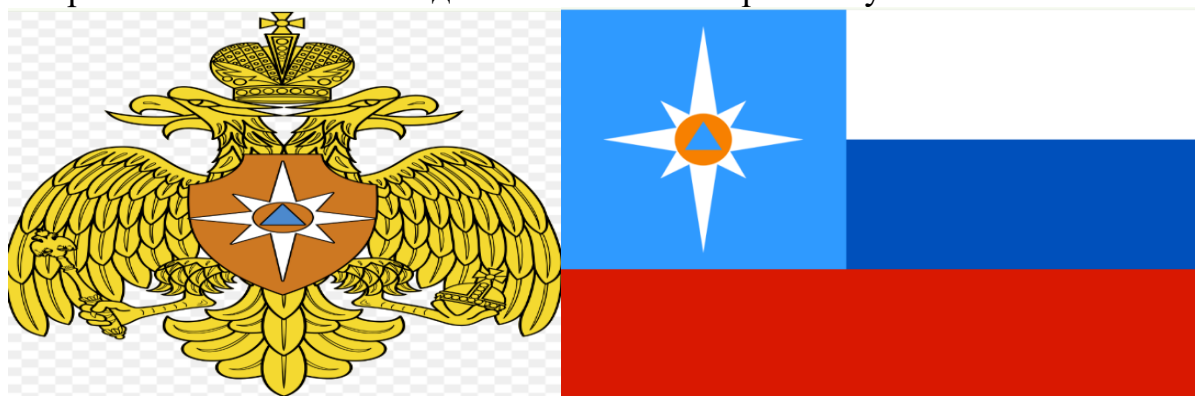


Рисунок 2. Большая эмблема и флаг ФВВ России.

В рамках административной реформы 2004 года силы и средства, составляющие основу структуры противопожарных служб субъектов Российской Федерации и государственных аварийно-спасательных служб субъектов Российской Федерации, были выведены из состава Структура ФВВ в 2005 году.

С 1 января 2005 года Государственная служба пожарной безопасности состоит из двух субъектов: Федеральной службы пожарной безопасности и Служб пожарной безопасности субъектов РФ. В настоящее время в состав Федеральной службы пожарной безопасности России входит только Федеральная служба пожарной безопасности Государственной службы пожарной безопасности.

Российская ФВВ — одна из государственных военизированных организаций, имеющих право на получение боевого пистолета и другого оружия. В ФСВ России предусмотрена как государственная гражданская служба, так и военная служба. ФСБ России проводит около 25% всех проверок в стране.

Заключение. В последующие годы, учитывая тенденцию использования сил и средств гражданской обороны преимущественно в мирное время, можно предположить, что количество структур гражданской

обороны, предназначенных для использования в военное время, будет уменьшаться (при этом за счет укрепления их материальной базы и оснащение их более современными техническими средствами). При подготовке таких сооружений учитывается их использование для ликвидации последствий стихийных бедствий, техногенных аварий и катастроф (в том числе аварий на объектах с использованием ядерных и химических компонентов).

Использованные источники:

1. Объединение «Женевские зоны» в Париже в 1932 году.
2. Постановление Совета Народных Комиссаров бывшего СССР от 4 октября 1932 года «О противовоздушной обороне СССР».
3. Постановление Совета Министров Профсоюза от 27 декабря 1990 года № 606, основанное на постановлении Президиума Верховного Совета РСФСР от 17 июля 1990 года.
4. Постановление Совета Министров бывшего Союза от 15 декабря 1990 г. № 1282 "Об общесоюзной государственной системе получения и выполнения чрезвычайных мер".

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ПРИМЕНЕНИЕ ЗАРУБЕЖНОГО ОПЫТА УПРАВЛЕНИЯ ПЕРСОНАЛОМ В ТНК В РЕСПУБЛИКЕ УЗБЕКИСТАН

Аннотация : Анализ современного состояния системы управления персоналом в Республике Узбекистан и в компании UzAuto motors. Был проведен анализ существующей системы управления персоналом на примере UzAuto Motors и предложены пути её совершенствования, опираясь на опыт компании Toyota. Рекомендации по внедрению практик Кайзен. представляют собой комплексный подход к оптимизации процессов, повышению качества работы и усилению конкурентоспособности на рынке.

Ключевые слова: система управления персоналом, внедрение практики, анализ, Кайзен, KPI, IPO, оптимизация процессов, принципы и методы Toyota, конкурентоспособность, эффективность.

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O‘ZBEKISTON RESPUBLIKASIDA TMKlarda KADRLARNI BOSHQARISH BO‘YICHA XORIJIY TAJRIBANI QO‘LLASH

Annotatsiya: O‘zbekiston Respublikasida va Uzauto motors kompaniyasida xodimlarni boshqarish tizimining zamonaviy holatini tahlil qilish. Xodimlarni boshqarish tizimi UzAuto Motors misolida tahlil qilindi va Toyota kompaniyasi tajribasiga asoslangan holda uni takomillashtirish yo‘llari taklif etildi. Kayzen amaliyotlarini joriy etish bo‘yicha tavsiyalar jarayonlarni optimallashtirish, ish sifatini oshirish va bozorda raqobatbardoshlikni kuchaytirishga kompleks yondashuvni ifodalaydi.

Kalit so'zlar: xodimlarni boshqarish tizimi, amaliyotlarni amalga oshirish, tahlil qilish, Kayzen, KPI, IPO, jarayonni optimallashtirish, Toyota tamoyillari va usullari, raqobatbardoshlik, samaradorlik.

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APPLICATION OF FOREIGN EXPERIENCE IN PERSONNEL MANAGEMENT IN TNCs IN THE REPUBLIC OF UZBEKISTAN

Annotation: *Analysis of the current state of the personnel management system in the Republic of Uzbekistan and in the UzAuto motors company. The analysis of the existing personnel management system was carried out using the example of UzAuto Motors and suggested ways to improve it, based on the experience of Toyota. Recommendations for the implementation of Kaizen practices represent a comprehensive approach to optimizing processes, improving the quality of work and strengthening competitiveness in the market.*

Keywords: *personnel management system, implementation of practice, analysis, Kaizen, KPI, IPO, process optimization, Toyota principles and methods, competitiveness, efficiency.*

В современном мире система управления персоналом (СУП)³¹ является одним из важнейших факторов, влияющих на конкурентоспособность и эффективность любой организации. В Узбекистане, как и во многих других странах, СУП претерпевает значительные изменения в связи с переходом к рыночной экономике, внедрением новых технологий и ужесточением конкуренции.

В последние годы в Узбекистане наблюдается ряд позитивных тенденций в сфере управления персоналом:

Повышение внимания к стратегическому управлению персоналом. Руководство организаций все чаще осознает, что персонал является ключевым ресурсом для достижения стратегических целей компании.

В соответствии с Указом Президента Республики Узбекистан от 03.10.2019 г. № УП-5843 "О мерах по кардинальному совершенствованию кадровой политики и системы государственной гражданской службы в Республике Узбекистан" проводятся широкомасштабные преобразования, направленные на повышение эффективности деятельности государственной службы в стране. В частности, принимаются меры по отказу от практики совмещения органами хозяйственного управления государственных

³¹ представляет собой совокупность взаимосвязанных элементов, обеспечивающих эффективное использование трудового потенциала организации для достижения ее целей.

регулятивных и хозяйственных функций, созданию современной системы оплаты труда и социального обеспечения работников государственных органов и организации [1].

Человеческий капитал становится одним из решающих нематериальных факторов конкурентоспособности как страны в целом, так и отдельно взятого предприятия. Система управления персоналом в Узбекистане находится на стадии развития. Она продолжает развиваться и совершенствоваться, исходя из текущих требований и тенденций. Однако, остаются определенные проблемы и вызовы, которые требуют дальнейшего анализа и решения.

UzAuto Motors - это автомобильный производитель, принадлежащий правительству Узбекистана. Компания базируется в Асаке. Она производит автомобили под марками Chevrolet и Ravon.

Рассмотрим данные по данной компании:

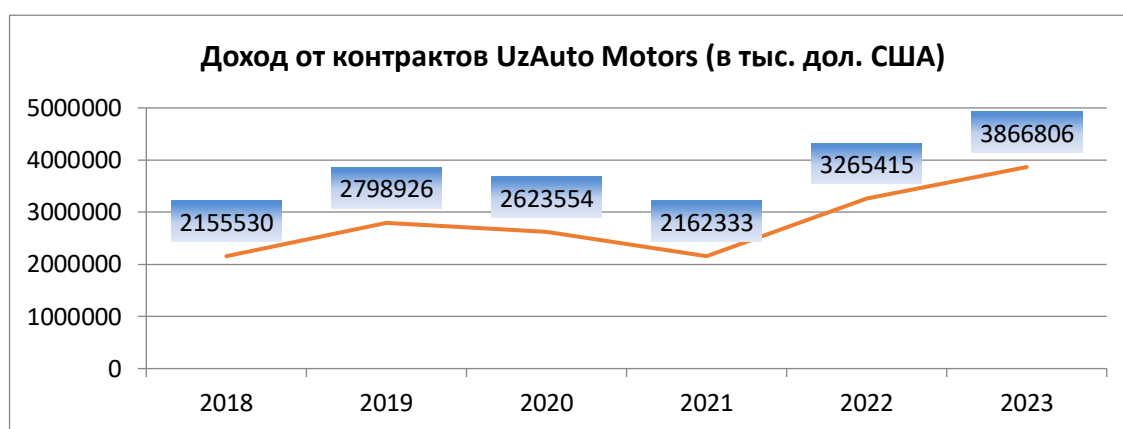


Рисунок 1. Доход от контрактов UzAuto Motors

Создано авторами данной статьи

По данному графику можно сделать вывод, что компания продолжает развиваться, увеличивать объем продаж. Некоторое снижение в доходах от контрактов с покупателями наблюдалось с 2019 до 2021 года, что объясняется COVID-19. За эти два года, компания потеряла около 22,7% данного вида дохода. Несмотря на это, в прошлом году данный показатель вырос на 78,8% по сравнению с показателями 2021 года.

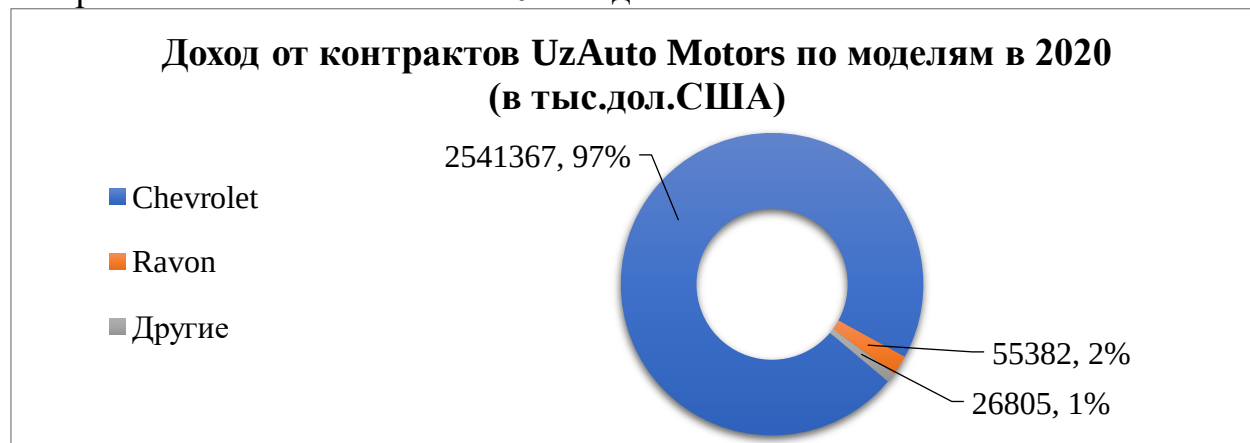


Рисунок 2. Доход от контрактов UzAuto Motors по моделям в 2020

Создано авторами данной статьи

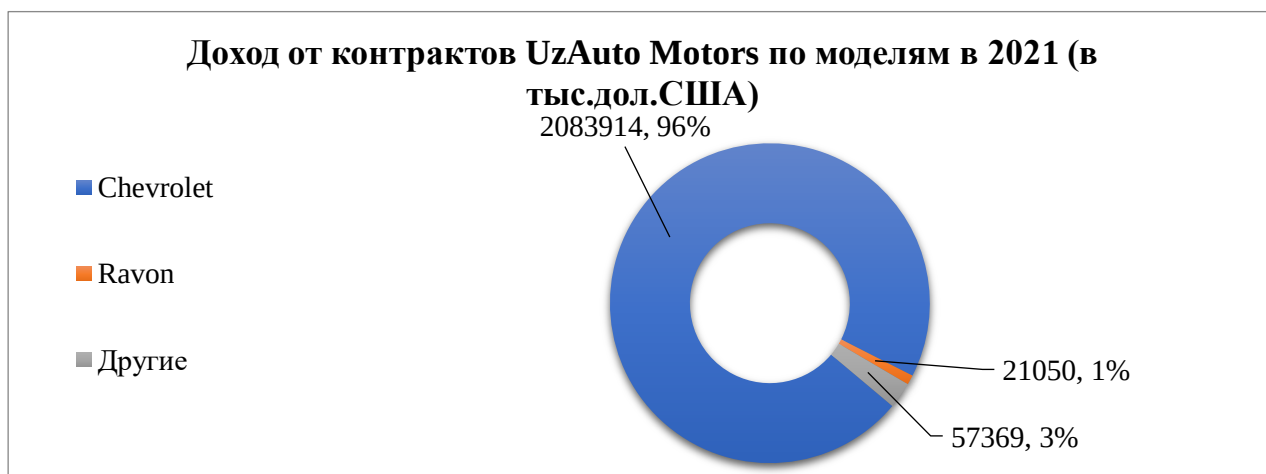


Рисунок 3. Доход от контрактов UzAuto Motors по моделям в 2021
Создано авторами данной статьи

Что касается марок машин, продаваемых UzAuto Motors, большая часть приходится на Chevrolet. В 2020 и 2021 годах доля Chevrolet, Ravon других марок была равна 97%, 2%, 1% и 96%, 1%, 3% соответственно. Этот показатель остается относительно одинаковым даже в последующие года.

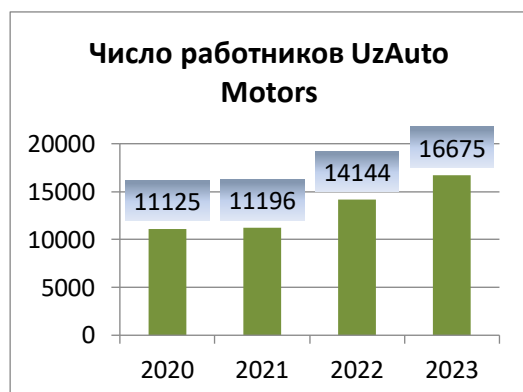


Рисунок 43. Число работников UzAuto Motors.

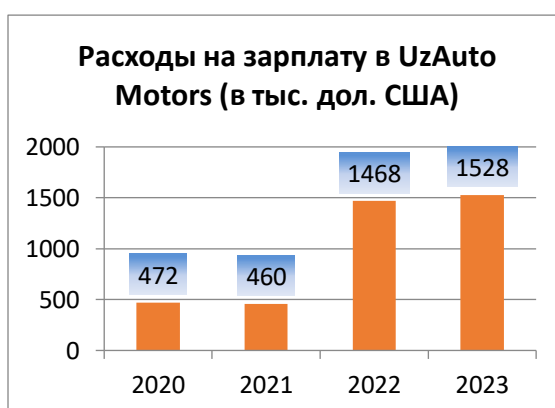


Рисунок 54. Расходы на зарплату в UzAuto Motors.

Что касается расходов на зарплаты сотрудникам, они увидели резкий скачок после пандемии коронавируса. За год (с 2021 по 2022гг.) данная статья расходов увидела рост на 1008 тыс. дол. США. А через год этот показатель увеличился еще на 4,08%. Это может говорить о том, что компания все больше и больше ценит сотрудников и вкладывает в их обучение и развитие.

Анализ систем управления персоналом в UzAuto Motors. Сильные стороны СУП UzAuto Motors:

Высокая квалификация персонала: UzAuto Motors уделяет большое внимание подготовке и развитию своих сотрудников. В компании действует

система обучения и развития, которая позволяет сотрудникам повышать свою квалификацию и осваивать новые навыки.

Мотивационная система: В UzAuto Motors используется система мотивации, которая стимулирует сотрудников к высокопроизводительному труду. В систему мотивации входят такие элементы, как премии, бонусы, социальный пакет и т.д.

Стабильность работы: UzAuto Motors является стабильной компанией, которая предлагает своим сотрудникам долгосрочную работу. Это является одним из факторов, привлекающих в компанию высококвалифицированных специалистов.

Слабые стороны СУП UzAuto Motors: Высокая текучесть кадров: Несмотря на то, что UzAuto Motors уделяет большое внимание мотивации персонала, текучесть кадров в компании остается на высоком уровне. Это связано с рядом факторов, таких как низкая заработная плата (несмотря на рост расходов на зарплату, количество сотрудников также значительно увеличилось. Кроме того, необходимо также учитывать инфляцию, которая составляет 11-13% последние 3 года [3], тяжелые условия труда, отсутствие карьерных перспектив и т.д.

Недостаточная прозрачность системы принятия решений: Существует мнение, что система принятия решений в UzAuto Motors недостаточно прозрачна. Это приводит к тому, что сотрудники не всегда понимают, почему принимаются те или иные решения, что может негативно влиять на их мотивацию.

Недостаточно использование современные технологии управления персоналом приводит к тому, что многие задачи по управлению персоналом решаются вручную, что снижает эффективность работы СУП.

Общие рекомендации по внедрению практики Кайзен³² в UzAuto Motors на основе общепризнанных принципов и методов, используемых Toyota:

1. Обучение и подготовка персонала: Реализация практики Кайзен начинается с обучения персонала основным принципам и методам улучшения процессов.

2. Создание культуры непрерывного улучшения: Поддержите развитие культуры, где каждый сотрудник чувствует себя вовлеченным в процесс улучшения.

3. Установление структурированных процессов улучшения: Создайте систему для регулярного сбора, анализа и реализации предложений по улучшению.

³² методика непрерывного совершенствования, фокусирующаяся на небольших, постепенных изменениях. Поощряет всех сотрудников вносить идеи по улучшению процессов и сокращению отходов.

4. Использование инструментов улучшения процессов: Внедрите инструменты, такие как PDCA³³, Kaizen Blitz³⁴ и Value Stream Mapping³⁵, чтобы систематически улучшать процессы производства, сокращать временные затраты и устранять излишние операции.

5. Руководство сверху вниз: Управленческая поддержка играет ключевую роль в успешной реализации Кайзен.

6. Измерение и оценка результатов: Внедрение системы улучшения должно сопровождаться установлением ключевых показателей производительности (KPI) и системы мониторинга результатов.

Ожидаемые результаты и социально-экономические эффекты от внедрения Кайзен в UzAuto Motors

Внедрение Кайзен в UzAuto Motors, опираясь на опыт Toyota, может привести к следующим результатам:

1. Улучшение процессов;
2. Снижение отходов;
3. Улучшение качества;
4. Повышение конкурентоспособности;
5. Повышение уровня удовлетворенности клиентов.

Важно подчеркнуть, что успех внедрения зарубежного опыта в области управления персоналом во многом зависит от глубокого понимания местных условий и культуры, а также от готовности к адаптации и изменениям. Только при таком подходе можно достичь долгосрочных и устойчивых результатов, которые будут способствовать динамичному развитию и глобализации бизнеса в Узбекистане.

Таким образом, стратегическое управление персоналом, основанное на проверенных международных практиках и адаптированное к специфике местного рынка, может стать ключевым фактором успеха для компаний, стремящихся к инновациям и постоянному совершенствованию в условиях современной экономики.

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³³ Plan-Do-Check-Act четырехэтапный подход к улучшению процессов и задач

³⁴ формат групповой работы, включающей полный цикл работы с проблемой: диагностика, разработка решений, внедрение, контроль

³⁵ многогранный инструмент, который используется не только для поиска решений, но и для понимания проблемных мест

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ПРОЕКТИРОВАНИЕ ПРОЦЕССА ДЕЯТЕЛЬНОСТИ СТОМАТОЛОГИЧЕСКОЙ КЛИНИКИ

Аннотация: в данной статье авторами проводится выявление достоинств и недостатков в деятельности стоматологической клиники.

Ключевые слова: проектирование, стоматологические клиники.

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DESIGNING THE PROCESS OF ACTIVITIES OF A DENTAL CLINIC

Abstract: in this article the authors identify the advantages and disadvantages in the activities of a dental clinic.

Keywords: design, dental clinics.

Стоматологические клиники – это тип медицинских учреждений, в которых проводятся мероприятия по терапевтической, ортодонтической, ортопедической, хирургической стоматологической помощи населению, а также по предупреждению стоматологических заболеваний. Стоматологическая клиника неотъемлемая часть жизни людей и так же как и многие сферы жизни оцифровывается. В современном мире многие аспекты жизни и работы начинают оцифровываться и связываться с информационными системами, стоматологические клиники не стали исключением.

Целью работы является совершенствование деятельности стоматологических клиник за счет разработки информационной системы.

Чтобы лучше показать изменения, связанные с внедрением информационных систем, разделим деятельность клиники на бизнес-процессы диаграммы IDEF0 «КАК ЕСТЬ» и «КАК БУДЕТ». Анализ текущего состояния работы клиники и планирование изменений, связанных с внедрением информационной системы, являются частью проектирования бизнес-процессов «КАК ЕСТЬ» и «КАК БУДЕТ». Диаграммы IDEF0

показывают взаимосвязи и последовательность действий между различными этапами работы клиники.

Основные бизнес-процессы, которые существуют в настоящее время, будут показаны на диаграмме «КАК ЕСТЬ». Это позволит определить слабые и проблемные стороны клиники. Например, можно обнаружить повторяющиеся задачи, неэффективное использование ресурсов или задержки в обработке данных. Далее представлена контекстная диаграмма «КАК ЕСТЬ» (Рис. 1.).

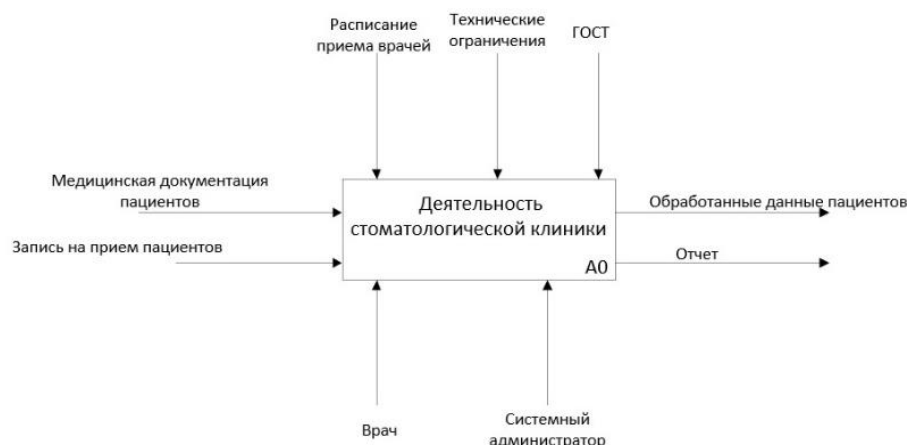


Рис. 1. Контекстная диаграмма «КАК ЕСТЬ» диаграмма деятельности информационной системы для работы клиники

Контекстная диаграмма представляет собой все процессы, людей, работников и конечный результат, который получается без внедрения информационной системы.

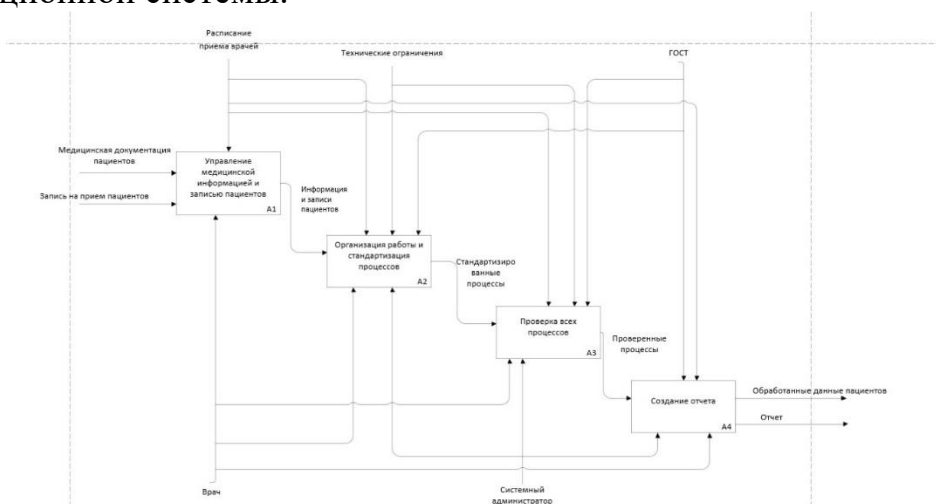


Рис. 2. Диаграмма декомпозиции «КАК ЕСТЬ» диаграмма деятельности информационной системы для работы клиники

Диаграмма декомпозиции показывает более подробное описание процесса работы клиники с помощью которого можно увидеть недочеты и создать решения путем внедрения информационной системы.

Далее, на диаграмме «КАК БУДЕТ» представлены изменения, которые будут внедрены с помощью новой информационной системы (Рис. 3.). Это может включать в себя автоматизацию определенных процессов, ускорение обработки данных, улучшение взаимодействия и т.д. Цель этой диаграммы - показать, какие улучшения будут внедрены и как изменится работа клиники после внедрения новой системы.

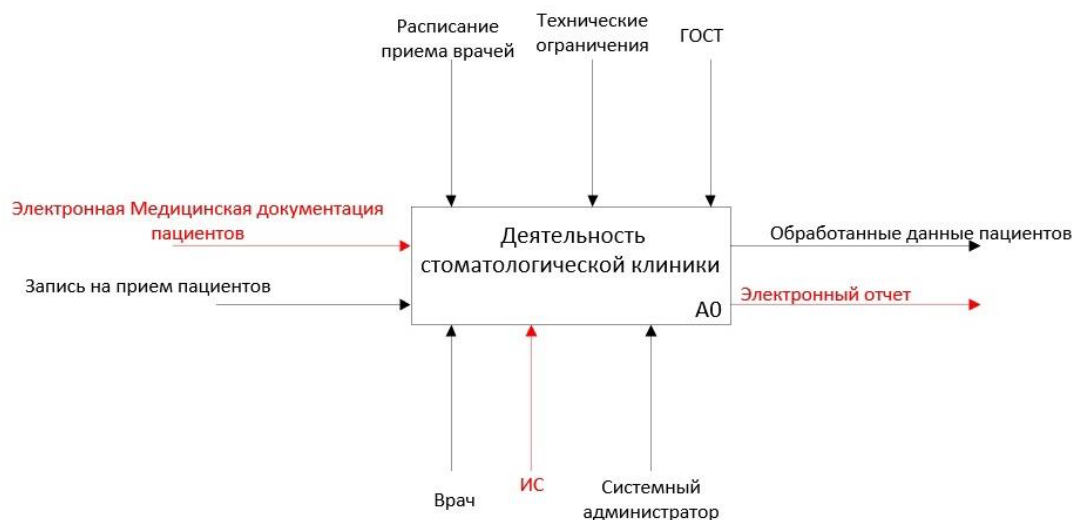


Рис. 3. Контекстная диаграмма «КАК БУДЕТ» диаграмма деятельности информационной системы для работы клиники

Контекстная диаграмма помогает понять, что будет при внедрение информационной системы. Улучшается работа клиники путем оптимизации и введения электронной медицинской документации. Медицинская документация помогает в автоматизации процессов далее представлена диаграмма декомпозиции (Рис. 4.).

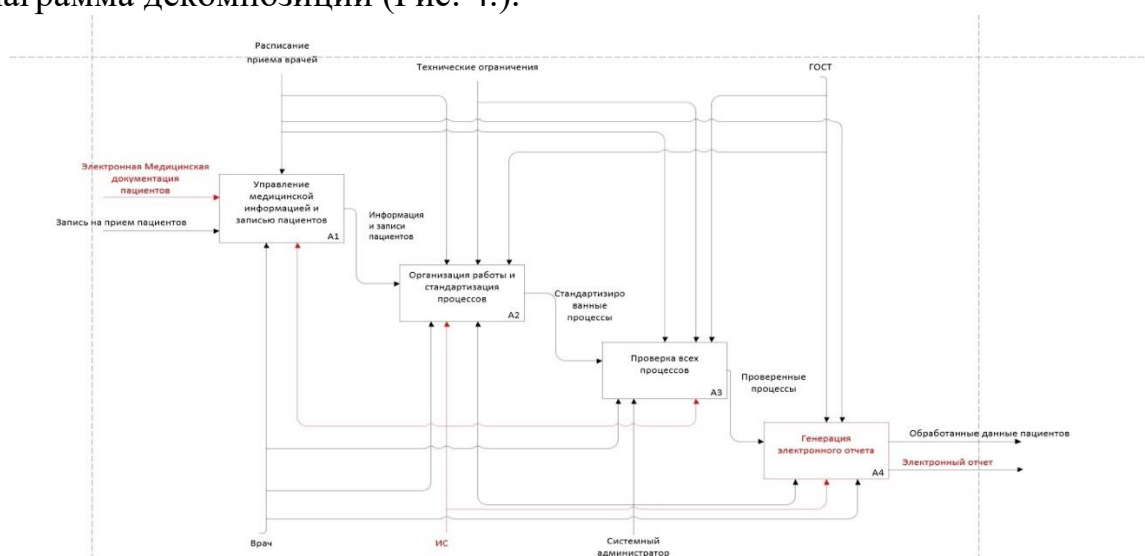


Рис. 4. Диаграмма декомпозиции «КАК БУДЕТ» диаграмма деятельности информационной системы для работы клиники

Диаграмма декомпозиции более подробно дает понять какие именно процессы затрагивает информационная система. Все действия информационной связаны с внедрение электронной медицинской документации что поможет ускорить работу с документацией и автоматизировать процесс выдача отчета путем отправки его на почту или иными способами.

Таким образом, проектирование бизнес-процессов «КАК ЕСТЬ» и «КАК БУДЕТ» поможет клинике оптимизировать свою работу, повысить эффективность работы и улучшить качество обслуживания пациентов.

Основная цель IDEF0 - разработать структурную модель бизнес-процессов, обозначить цели и задачи организации, выделить ключевые процессы и определить взаимодействие между ними. IDEF0 отличается тем, что позволяет строить иерархию функций на основе их взаимосвязей, что упрощает восприятие и анализ процессов.

После анализа и определения бизнес-процессов на диаграммах «КАК ЕСТЬ» и «КАК БУДЕТ», можно разработать план по внедрению информационной системы, которая будет оптимизировать работу клиники и улучшать качество обслуживания пациентов. Такой подход позволит увеличить эффективность клиники и повысить уровень удовлетворенности клиентов.

Создание информационных систем сейчас развивается с невероятной скоростью и внедрение информационных в стоматологические клиник является актуальным и важным шагом в развития медицинской индустрии. Представленная система поможет автоматизировать трудозатратные процессы, повысит удобство и эффективность работы стоматологических клиник и улучшит взаимодействия с клиентами.

Создание информационной системы требует тщательной работой над бизнес процессами клиники, разработки и внедрения в работу клиники. В современном мире сложности в реализации данной информационной системы минимально, поэтому реализация проекта не займет много времени и не затратит большое количество ресурсов.

Таким образом, создание и разработка информационной системы является необходимой для работы современных стоматологических клиник. Благодаря внедрению данной информационной системы улучшиться взаимодействия клиник и клиентов, ускорятся процессы записи что приведет к улучшению работы клиники.

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РАЗРАБОТКА ИНФОРМАЦИОННОЙ СИСТЕМЫ ПО ПРОДВИЖЕНИЮ ТОВАРОВ В СЕТИ ИНТЕРНЕТ

Аннотация: в данной статье авторами проводится описание созданного приложения для продвижения товаров в сети Интернет.

Ключевые слова: автоматизация, товары для продаж, компания.

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DEVELOPMENT OF AN INFORMATION SYSTEM FOR PROMOTING PRODUCTS ON THE INTERNET

Abstract: *in this article, the authors describe the created application for promoting products on the Internet.*

Keywords: *automation, products for sale, company.*

Актуальность работы определяется тем, что в современном цифровом мире онлайн-продажи и интернет-маркетинг играют ключевую роль для успешного развития бизнеса. С каждым днем все больше компаний осознают важность присутствия в онлайн-пространстве. Благодаря непрерывному развитию технологий и всеобщей доступности интернета, предприниматели переносят свои торговые операции и рекламные кампании в виртуальную среду. Это позволяет им эффективнее привлекать клиентов, увеличивать продажи и укреплять свою онлайн-репутацию. Важно отметить, что успешная онлайн-стратегия включает в себя не только просто наличие в интернете, но и умение использовать различные инструменты интернет-маркетинга, такие как контент-маркетинг, социальные медиа, SEO и другие. Те компании, которые активно внедряют современные онлайн-технологии, имеют явное конкурентное преимущество на рынке. Таким образом, осознание важности онлайн-продаж и интернет-маркетинга становится необходимостью для любого серьезного бизнеса в наше время.

Цель работы заключается в создании информационной системы для маркетингового агентства. Для автоматизации и повышения эффективности процесса продвижения товаров и услуг компании целесообразно внедрить информационную систему, которая позволит ускорить и автоматизировать маркетинговые процессы, повысить эффективность рекламных кампаний, упростит управление взаимоотношениями с клиентами (CRM) и получить аналитические данные для принятия обоснованных решений.

Интернет-маркетинг — это стратегия, основанная на применении ключевых компонентов традиционного маркетинга в онлайн среде. Основная задача продвижения в цифровом пространстве заключается в том, чтобы максимально эффективно воздействовать на потенциальную аудиторию веб-сайта или портала и привлечь как можно больше пользователей к предлагаемым услугам или товарам.

При проведении любых маркетинговых активностей важно добиться стабильного и прибыльного развития компании. Рекламой занимается штаб сотрудников, состоящий из профессиональных специалистов в сфере продаж. В сфере предоставления продающих услуг активно используются информационные системы для учета результативности маркетинговой стратегии.

Исходя от выбранного направления и инструментов для продвижения, важно закрепить клиента за сотрудником, специализирующимся в данном вопросе. Это позволит оперативно выполнить задачи в поставленные сроки, оптимизировать работу интернет-маркетологов и достичь успешных результатов по всем метрикам. Разработка информационной системы должна учитывать эти процессы для эффективного управления рекламным отделом.

Основной задачей будущей информационной системы является контроль оказываемых услуг. Он включает в себя прием запроса от клиента, составление стратегии продвижения, подбор узконаправленных специалистов, оформление отчетов, ключевую информацию об объекте продажи, документы согласования услуг, смета на создание и реализацию продвижения, – эта информация находится на бумажных носителях, что значительно замедляет процесс обработки документов и оказания маркетинговых услуг.

Для графического представления текущего состояния на предприятии была разработана диаграмма «КАК ЕСТЬ» (Рис. 1.). На контекстной диаграмме входной информацией являются:

- запрос клиента;
- личные данные клиента;

Выходной информацией является:

- отчет о выполненном заказе.

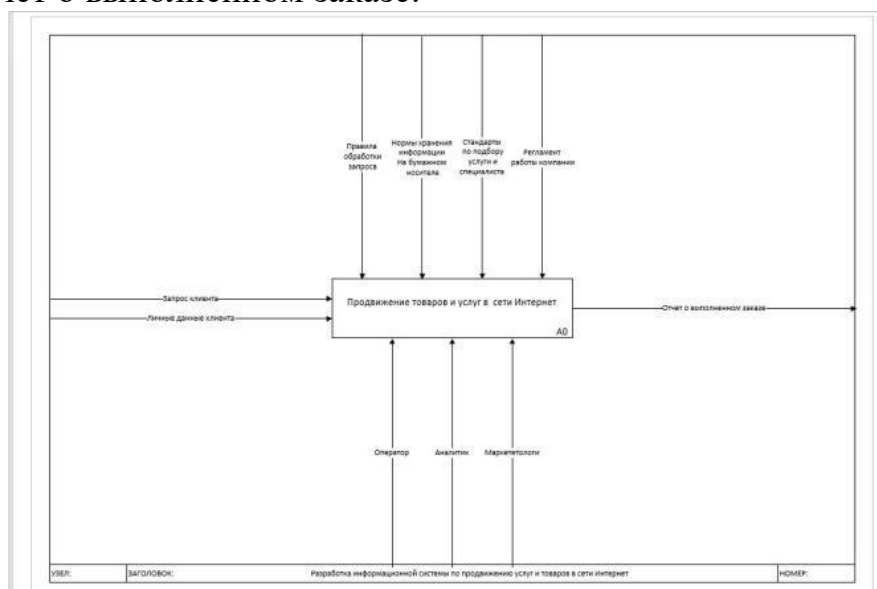


Рис. 1. Контекстная диаграмма «AS IS»

После этого была спроектирована диаграмма декомпозиции для того, чтобы детально рассмотреть процесс продвижения товаров и услуг в сети Интернет. Данная диаграмма служит для декомпозиции основного функционального блока на более мелкие этапы, которые демонстрируют различные компоненты и порядок выполнения операций в разрабатываемой системе для продвижения товаров и услуг в сети Интернет. Созданная диаграмма позволяет рассмотреть каждый этап подробно, выделить важные функции и определить взаимосвязи между ними (Рис. 2.).

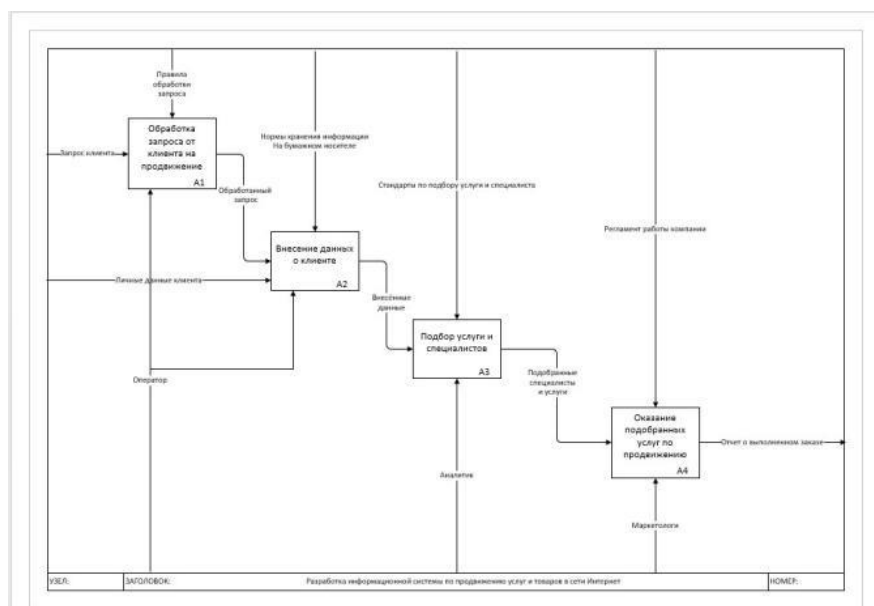


Рис. 2. Диаграмма декомпозиции «AS IS»

Модель «КАК БУДЕТ» создана для демонстрации способов выполнения конкретных задач или процессов в будущем. Данная диаграмма показывает какие преобразования были внесены в процессе модернизации процессов. Новые объекты и объекты, которые были изменены выделены на диаграмме красным цветом.

Входной информацией являются:

- запрос клиента;
- личные данные клиента.

Выходной информацией разрабатываемой системы:

- отчет о выполненном заказе;
- маркетинговый отчет (Рис. 3.).

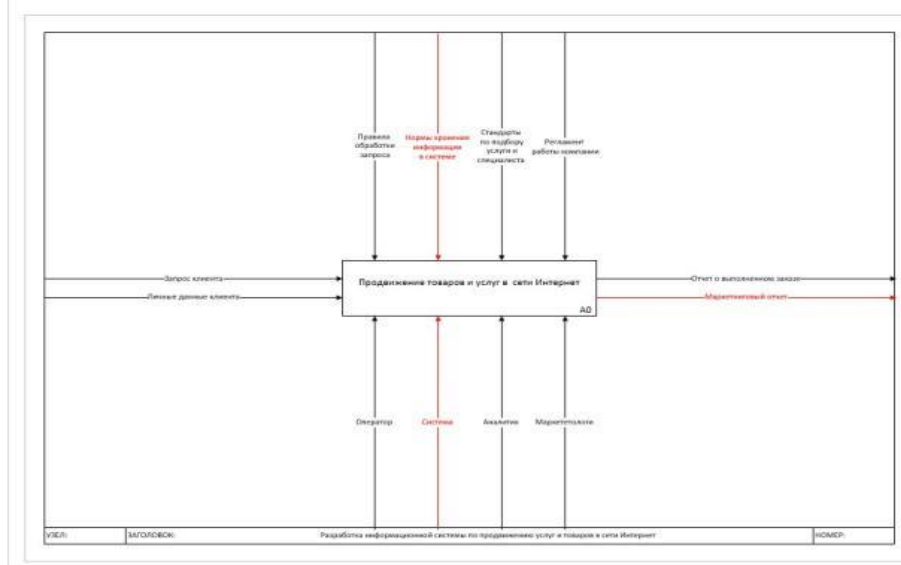


Рис. 3. Контекстная диаграмма «TO BE»

Первоначальной целью оптимизации является улучшение результатов работы маркетинговой компании, а также оказываемых ими услуг, за счет создания взаимосвязанного комплекта системообразующих документов, которые описывают наиболее значимые и часто реализуемые процессы.

В данной главе на основе спроектированной информационной системы для маркетинговой компании были выявлены основные цели оптимизации и определен функционал системы, а также созданы диаграммы.

После выполнения работы можно сделать выводы, что была достигнута цель, которая включает в себя разработку информационной системы по продвижению товаров и услуг в сети Интернет, которая позволит ускорить и автоматизировать маркетинговые процессы, повысить эффективность рекламных кампаний, упростит управление взаимоотношениями с клиентами и получить аналитические данные для принятия обоснованных решений.

Были созданы диаграммы по теме исследования, которые отображают, как должен происходить процесс внесения данных о клиенте в систему, а также подбор услуг и специалистов.

Разработанная информационная система позволяет автоматизировать и повысить эффективность процесса продвижения товаров и услуг компаний в Интернете.

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РАЗРАБОТКА ПРИЛОЖЕНИЯ ДЛЯ УЧЕТА ФИНАНСОВ СЕЛЬСКОХОЗЯЙСТВЕННОЙ ОРГАНИЗАЦИИ

Аннотация: в данной статье авторами проводится описание созданного приложения для сельскохозяйственной организации.

Ключевые слова: автоматизация, финансовые ресурсы, компания.

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DEVELOPMENT OF AN APPLICATION FOR ACCOUNTING FINANCIALS OF AN AGRICULTURAL ORGANIZATION

Abstract: in this article the authors describe the application created for an agricultural organization.

Keywords: automation, financial resources, company.

Учет финансов является важным аспектом финансового благополучия. Он позволяет людям отслеживать свои доходы и расходы, планировать бюджет, ставить финансовые цели и достигать их. В последние годы наблюдается рост популярности приложений для учета личных финансов. Эти приложения позволяют пользователям легко и удобно вести учет своих финансов, используя смартфоны или планшеты.

Цель данной работы заключается в совершенствовании процесса учета финансов и выделения бюджета на нужды организации за счет разработки информационной системы.

Главный шаг в процессе разработки системы — создание экрана авторизации, который дает пользователю возможность войти в систему и получить доступ к функционалу приложения. В окне авторизации добавлены поля для ввода логина и пароля пользователя, а также кнопка для перехода в главное меню, и ниже кнопка для регистрации в системе.

После прохождения авторизации пользователь попадает в главное меню системы, с которой он будет работать, и в нем будет проходить большая часть действий. Также на главной странице есть кнопки, при нажатии которых пользователь будет, переходит на другие страницы.

Одна из кнопок, «Доходы и расходы», является переходом на страницу, где представляется информация о каждой транзакции в организации в виде таблицы, с возможностью добавления и редактирования записей. Также представлена кнопка для добавления новой транзакции и кнопка для редактирования выбранной (Рис. 1.).

№	Тип операции	Дата операции	Сумма	Описание	Отправитель	Получатель	Категория	Дата добавления
1	Продажа	1/5/2023 12:00:00 AM	1500.00	Продажа товаров	Пользователь 1	Продавец 1	Продажа товаров	1/5/2023 12:00:00 AM
2	Покупка	1/10/2023 12:00:00 AM	500.00	Покупка оборудования	Пользователь 2	Продавец 2	Покупка оборудования	1/10/2023 12:00:00 AM
3	Продажа	2/15/2023 12:00:00 AM	1200.00	Продажа услуг	Пользователь 3	Продавец 3	Продажа услуг	2/15/2023 12:00:00 AM
4	Покупка	3/20/2023 12:00:00 AM	800.00	Покупка материалов	Пользователь 4	Продавец 4	Покупка материалов	3/20/2023 12:00:00 AM
5	Продажа	4/25/2023 12:00:00 AM	1700.00	Продажа услуг	Пользователь 5	Продавец 5	Продажа услуг	4/25/2023 12:00:00 AM
6	Покупка	5/3/2023 12:00:00 AM	600.00	Покупка товаров	Пользователь 6	Продавец 6	Покупка товаров	5/3/2023 12:00:00 AM
7	Продажа	6/10/2023 12:00:00 AM	1300.00	Продажа услуг	Пользователь 7	Продавец 7	Продажа услуг	6/10/2023 12:00:00 AM
8	Покупка	7/15/2023 12:00:00 AM	900.00	Покупка оборудования	Пользователь 8	Продавец 8	Покупка оборудования	7/15/2023 12:00:00 AM
9	Продажа	8/20/2023 12:00:00 AM	1800.00	Продажа товаров	Пользователь 9	Продавец 9	Продажа товаров	8/20/2023 12:00:00 AM
10	Покупка	9/25/2023 12:00:00 AM	700.00	Покупка услуг	Пользователь 10	Продавец 10	Покупка услуг	9/25/2023 12:00:00 AM
11	Продажа	10/10/2023 12:00:00 AM	1400.00	Продажа товаров	Пользователь 11	Продавец 11	Продажа товаров	10/10/2023 12:00:00 AM
12	Покупка	11/15/2023 12:00:00 AM	1000.00	Покупка материалов	Пользователь 12	Продавец 12	Покупка материалов	11/15/2023 12:00:00 AM
13	Продажа	12/20/2023 12:00:00 AM	1900.00	Продажа услуг	Пользователь 13	Продавец 13	Продажа услуг	12/20/2023 12:00:00 AM
14	Покупка	1/5/2024 12:00:00 AM	1100.00	Покупка оборудования	Пользователь 14	Продавец 14	Покупка оборудования	1/5/2024 12:00:00 AM
15	Продажа	2/10/2024 12:00:00 AM	1500.00	Продажа товаров	Пользователь 15	Продавец 15	Продажа товаров	2/10/2024 12:00:00 AM
16	Покупка	12/25/2024 12:00:00 AM	1100.00	Покупка товаров	Пользователь 16	Продавец 16	Покупка товаров	12/25/2024 12:00:00 AM

Рис. 1. «Доходы и расходы»

Также на данной странице предусмотрены кнопка «Добавить». Кнопка «Добавить» позволяет пользователю произвести добавление в базу данных.

Также на этой странице есть элементы фильтрации, поиска, а также сортировки. Первым будет поиск, в нем нужно сначала выбрать категорию, а

после заполнить строку поиска, и нужная информация сразу же от фильтруется, это облегчает поиск нужных данных (Рис. 2.).

Доходы и расходы

Сортировка: Нет ☒ По возрастанию ☐ По убыванию Поиск: Категор усл Фильтрация:

№	Тип операции	Дата операции	Сумма	Описание	Отправитель	Получатель	Категория	Дата добавления
3	Продажа	2/15/2023 12:00:00 AM	1200.00	Продажа услуг	Покупатель 3	Продавец 3	Продажа услуг	2/15/2023 12:00:00 AM
5	Продажа	4/25/2023 12:00:00 AM	1700.00	Продажа услуг	Покупатель 5	Продавец 5	Продажа услуг	4/25/2023 12:00:00 AM
7	Продажа	6/10/2023 12:00:00 AM	1300.00	Продажа услуг	Покупатель 7	Продавец 7	Продажа услуг	6/10/2023 12:00:00 AM
10	Покупка	9/5/2023 12:00:00 AM	700.00	Покупка услуг	Покупатель 10	Продавец 10	Покупка услуг	9/5/2023 12:00:00 AM
13	Продажа	12/20/2023 12:00:00 AM	1900.00	Продажа услуг	Покупатель 13	Продавец 13	Продажа услуг	12/20/2023 12:00:00 AM
47	Продажа	12/1/2024 12:00:00 AM	1700.00	Продажа услуг	Покупатель 47	Продавец 47	Продажа услуг	12/1/2024 12:00:00 AM
50	Покупка	12/20/2024 12:00:00 AM	1500.00	Покупка услуг	Покупатель 50	Продавец 50	Покупка услуг	12/20/2024 12:00:00 AM

Добавить Редактировать Удалить

Рис. 2. Поиск данных

Элемент сортировки позволяет пользователям упорядочить данный в зависимости от выбранного критерия.

Кнопка «Бюджет» при нажатии на которую открывается страница с информацией о категории бюджета, выделенной суммы в бюджете, также сколько денег уже потрачено и еще в процентах затраченного бюджета, а также имеет функцию изменять информацию о пополнении и увеличения бюджета на тех или иных категориях (Рис. 3.).

Бюджет

Сортировка: Нет ☒ По возрастанию ☐ По убыванию Поиск: Фильтрация:

№	Категория	Выделенная сумма	Дата выделения	Исрасходовано	Процент выполнения цели
1	Еда	500.00	5/13/2024 12:00:00 AM	250.00	50.00
2	Транспорт	200.00	5/13/2024 12:00:00 AM	100.00	50.00
3	Жилье	1000.00	5/12/2024 12:00:00 AM	800.00	80.00
4	Развлечения	300.00	5/12/2024 12:00:00 AM	150.00	50.00
5	Здоровье	150.00	5/11/2024 12:00:00 AM	100.00	66.67
6	Образование	600.00	5/10/2024 12:00:00 AM	300.00	50.00
7	Путешествия	1000.00	5/10/2024 12:00:00 AM	700.00	70.00
8	Одежда	400.00	5/9/2024 12:00:00 AM	200.00	50.00
9	Развитие	800.00	5/9/2024 12:00:00 AM	400.00	50.00
10	Техника	1200.00	5/8/2024 12:00:00 AM	600.00	50.00
11	Коммунальные услуги	700.00	5/8/2024 12:00:00 AM	400.00	57.14
12	Другое	500.00	5/7/2024 12:00:00 AM	200.00	40.00
13	Страхование	300.00	5/7/2024 12:00:00 AM	150.00	50.00
14	Инвестиции	2000.00	5/6/2024 12:00:00 AM	1000.00	50.00
15	Хобби	400.00	5/6/2024 12:00:00 AM	200.00	50.00
16	Благотворительность	100.00	5/5/2024 12:00:00 AM	50.00	50.00

Выделить Изменить Удалить

Рис. 3. Страница «Бюджет»

Кнопки «Выделить, Изменить» при нажатии на которые открывается страница с интерфейсом позволяющим изменить или добавить информацию.

Подводя итог, можно отметить, что разработанная информационная система для управления финансами предоставляет быстрый доступ к ресурсам, проводит учет и анализ всех данных, а также гарантирует надежную защиту пользовательской информации.

Разработанный интерфейс обладает обширным функционалом, который позволяет выполнять все необходимые действия. Он также отличается простотой и понятностью, что делает использование системы удобным для пользователей.

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СОВЕРШЕНСТВОВАНИЕ ПРОЦЕССА ДЕЯТЕЛЬНОСТИ СТУДИИ ДИЗАЙНА

Аннотация: в данной статье авторами проектируется удобное и функциональное программное обеспечение для автоматизации основных бизнес-процессов студии дизайна.

Ключевые слова: проектирование, студия дизайна, автоматизация.

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IMPROVING THE DESIGN STUDIO WORKFLOW

Abstract: In this article, the authors design convenient and functional software for automating the main business processes of a design studio.

Keywords: design, design studio, automation.

В современном мире использование услуг дизайнера становится все более важным. Клиенты используют сферу услуг дизайна во многих сферах таких как, таких как бизнес, наука, международные отношения и культура.

В настоящее время, с развитием технологий, разработка онлайн-платформ становится все более востребованной. Онлайн-платформы предоставляют клиентам возможность получать услуги дизайнера в удобное для них время и в обстановке. Такие платформы предлагают разнообразные услуги, включая готовые проекты, макеты, интерактивные приложения и многое другое.

В проектируемой системе обязательно необходимо обеспечить интерактивность и возможность обратной связи на платформе. Клиенты должны иметь возможность общаться с сотрудниками, задавать вопросы и вносить правки. Это поможет им достичь оптимального результата.

Целью данной работы является автоматизация процесса предоставления услуг студии дизайна. В целом студия дизайна помогает своим клиентам осуществлять свои цели и задачи, в различных сферах деятельности создавая продукты и услуги которые отвечают актуальным потребностям общества.

Главный из этапов разработки информационной системы для студии дизайна является понимание факторов работы студии дизайна и взаимодействие сотрудников с клиентами. Для этого были спроектированы диаграммы в нотации IDEF0. Вначале работы была спроектирована контекстная диаграмма «КАК ЕСТЬ» процесса деятельности компании (Рис. 1.).

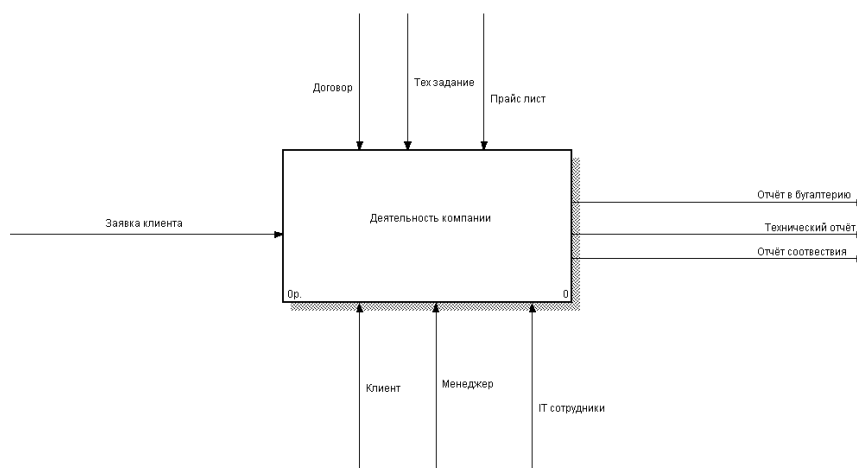


Рис. 1. Контактная диаграмма предметной области «КАК ЕСТЬ»

В контекстной диаграмме «КАК ЕСТЬ» были использованы следующие виды стрелок: входные стрелки: заявка клиента; стрелок-управления: договор, техническое задание, прайс-лист; стрелок-механизмов: клиент, менеджер, IT-

сотрудники; выходные стрелки: отчет в бухгалтерию, технический отчет, отчет соответствия.

После проектирования контекстной диаграммы была спроектирована диаграмма декомпозиции, состоящая из 3 функциональных блоков: получение заказа; уточнение условий заказа; выполнение заказа. Ниже представлена диаграмма декомпозиции (Рис. 2.).

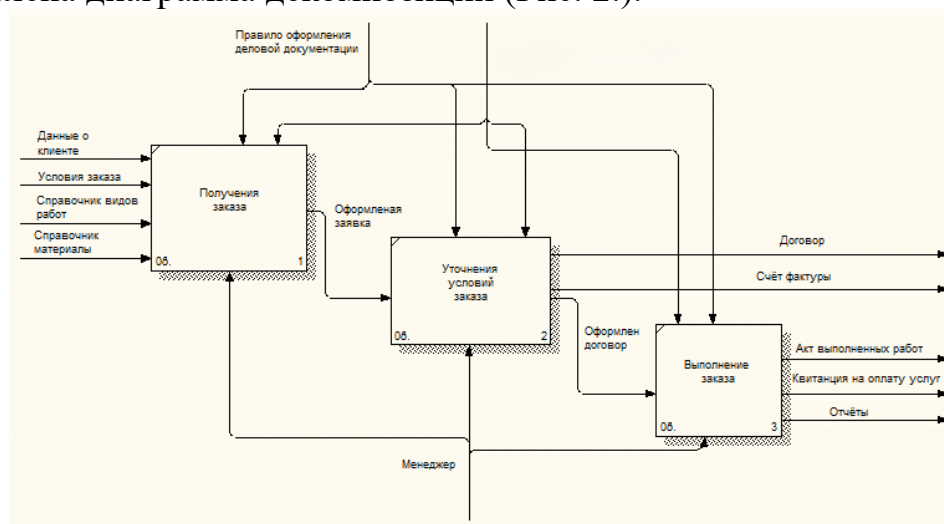


Рис. 2. Диаграмма декомпозиции «КАК ЕСТЬ»

После диаграмм «КАК ЕСТЬ» были спроектированы диаграммы «КАК БУДЕТ» предметной области. Диаграммы «КАК БУДЕТ» показывают взаимодействие студии дизайна с информационной системой и показывает участие клиента в выполнении заявки сотрудником. Благодаря информационной системе клиенту будут предоставлен технический отчет, а также прайс-лист и статус выполнения заявки (Рис. 3.).

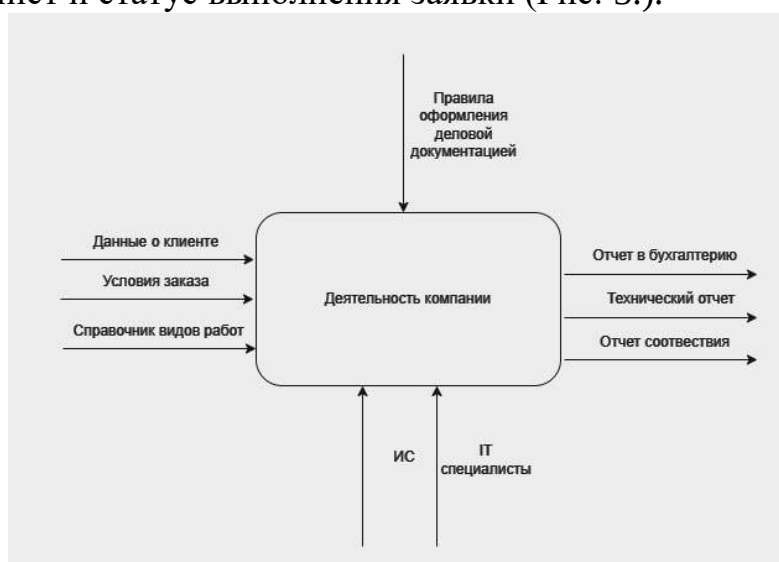


Рис. 3. Диаграмма «КАК БУДЕТ»

Декомпозиция диаграммы «как будет» с учетом только менеджера показывает, что взаимодействие самой платформы учитывает каждый этап.

Что помогает оптимизировать нагрузку с сотрудников и менеджера и назначить большинство задач и функций на информационную систему (Рис. 4.).

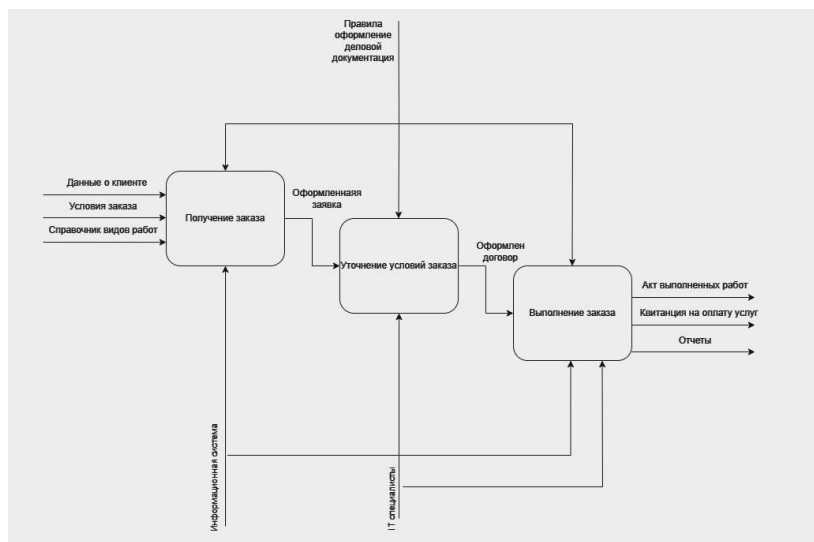


Рис. 4. Декомпозиция диаграммы

Еще была создана диаграмма взаимодействия, которая выполняет структурирование задач информационной системы. взаимодействия строится на языке UML который служит для создания схем, она содержит линии жизни, сообщения, инварианты состояния и ограничения.

Диаграмма фиксирует взаимодействие между объектами в контексте сотрудничества. Ниже представлена блок-схема, отображающая этапы выполнения бизнес-процессов от начала до конца в нотации BPMN, ориентирована на время и визуально показывают порядок взаимодействия, используя вертикальную ось диаграммы для представления времени, когда и какие сообщения отправляются (Рис. 5.).

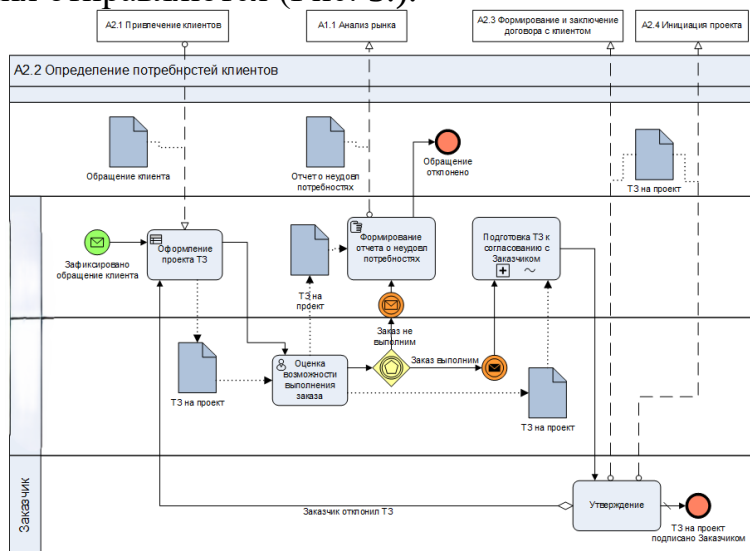


Рис. 5. Блок-схема, отображающая этапы выполнения бизнес-процессов

Соединяя все спроектированные диаграммы, появляется возможность просмотра задач с разных точек зрения. Данные диаграммы помогут другим программистам, разработчикам и проектным менеджерам понять суть задачи и способы реализации платформы.

Для информационной системы для студии дизайна одним из важных составляющих является база данных. Для построения самой базы данных она была смоделирована в виде диаграммы.

В данной диаграмме указаны атрибуты и их домены. Диаграмма включает в себя информацию о клиентах, проектах, категориях, заданиях и авторах (Рис. 6.).

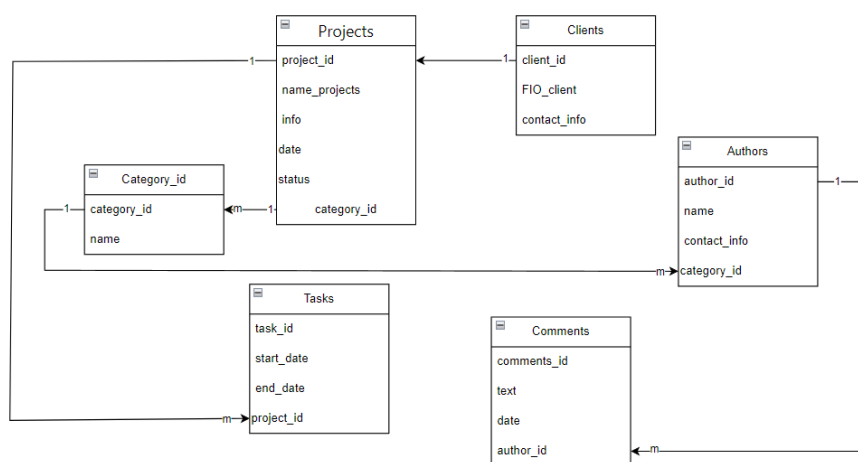


Рис. 6. Диаграмма базы данных

Таким образом, создание базы данных для информационной системы студии дизайна помогает организовать и структурировать информацию о проектах, клиентах и сотрудниках. Это обеспечивает более эффективное управление данными, улучшает взаимодействие внутри команды, повышает качество обслуживания клиентов и облегчает анализ производительности и результатов работы.

Подводя итог работы, можно выделить, что разрабатываемая платформа, оказывает помощь клиентам в приобретение услуг студии дизайна исходя из большого спроса, имеет значительную актуальность для студий дизайна. Поскольку большинство аналогов не могут в полной мере удовлетворить запросы клиентов с более удобным предоставлением услуг. В работе был проведен анализ всех недостатков и сделаны определенные выводы, которые легли в основу разработки платформы. Спроектированная платформа может быть усовершенствована в дальнейшем для реализации следующих функций: отслеживание выполнения задания, интерактивный бот помощник, создание скидок на кейсы.

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ПЕДАГОГИЧЕСКИЕ СПОСОБНОСТИ И ПРОФЕССИОНАЛЬНАЯ ДЕЯТЕЛЬНОСТЬ

Аннотация: в статье рассматриваются педагогические способности и их роль как значимый фактор успешной профессиональной деятельности. Автор статьи предлагает классификацию педагогических способностей в результате анализа специальной литературы и считает, что развитие педагогических способностей органически связано с педагогическими умениями и навыками.

Ключевые слова: педагогические способности, профессиональная деятельность, классификация, исследование, педагогическая психология.

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PEDAGOGICAL ABILITIES AND PROFESSIONAL ACTIVITIES

Abstract: the article examines pedagogical abilities and their role as a significant factor in successful professional activity. The author of the article proposes a classification of pedagogical abilities as a result of an analysis of specialized literature and believes that the development of pedagogical abilities is organically linked to pedagogical skills and abilities.

Key words: pedagogical abilities, professional activity, classification, research, pedagogical psychology.

Педагогические способности – это совокупность индивидуально-психологических особенностей личности педагога, отвечающих требованиям педагогической деятельности и определяющих успех в овладении этой деятельностью.

Развитие педагогических способностей органически связано с педагогическими умениями и навыками. В процессе их овладения и применения в различных ситуациях проявляются и формируются педагогические способности как личностные (целостные) образования, обеспечивающих успех деятельности воспитателя. Отличие педагогических способностей от педагогических умений заключается в том, что педагогические способности – это особенности личности, а педагогические

умения – это отдельные акты педагогической деятельности, осуществляемые человеком на высоком уровне.

Педагогические способности – это не только условие успешной педагогической деятельности, но и результат.

Исследования, проведенные в педагогической психологии, показали, что способности к педагогической деятельности представляют собой переплетение общих и специальных способностей. Общие способности проявляются в личностных свойствах человека: **темпераменте**, характере, направленности. Они помогают педагогу в развитии его творческого потенциала, личностном росте и компенсации тех свойств, которые мешают в педагогической деятельности: недоброжелательность, самовлюбленность, застенчивость, консерватизм, излишняя эмоциональность и агрессивность.

Каждая способность имеет свою структуру, в ней различают ведущие и вспомогательные свойства. *Ведущими свойствами* в педагогических способностях являются: педагогический такт; наблюдательность; любовь к детям; потребность в передаче знаний.

Педагогический такт – это соблюдение педагогом принципа меры в общении с детьми в самых разнообразных сферах деятельности, умение выбрать правильный подход к каждому ребенку.

Педагогическая наблюдательность – это способность воспитателя, проявляемая в умении подмечать существенные, характерные, даже малозаметные свойства детей.

Н.В. Кузьмина рассматривает педагогические способности как важнейший фактор развития и формирования способностей воспитанников, т.е. они имеют двойную обращенность: к воспитанникам и к самому педагогу.

Исследователи педагогических способностей на основе положений С.Л. Рубинштейна, Б.М. Теплова выделили целый набор педагогических способностей. Круг педагогических способностей очень велик. Он охватывает всю структуру педагогической деятельности. В исследованиях Н.В. Кузьминой раскрыты такие способности, как педагогическая наблюдательность, педагогическое воображение, педагогический такт, распределение внимания, организаторские способности.

Ф.Н. Гоноболин перечисляет и раскрывает следующие способности, **необходимые учителю:**

- способность понимать ученика; способность доступно излагать материал;
- способность развивать заинтересованность учащихся;
- организаторские способности; педагогический такт;
- предвидение результатов своей работы и др.

Н.Д. Левитов выделяет в качестве **основных педагогических способностей следующие:**

- способность к передаче детям знаний в краткой и интересной форме;
- способность понимать учеников, базирующаяся на наблюдательности;
- самостоятельный и творческий склад мышления;
- находчивость или быстрая и точная ориентировка;

- организаторские способности, необходимые как для обеспечения систем работы самого учителя, так и для создания хорошего ученического коллектива.

В наиболее обобщенном виде педагогические способности были представлены В.А. Крутецким, который и дал им соответствующие общие определения.

Дидактические способности – способности передавать учащимися учебный материал, делая его доступным для детей, преподносить им материал или проблему ясно и понятно, вызывать интерес к предмету, возбуждать у учащихся активную самостоятельную мысль.

Академические способности – способности к соответствующей области наук (к математике, физике, биологии, литературе и т.д.).

Перцептивные способности – способность проникать во внутренний мир ученика, воспитанника, психологическая наблюдательность, связанная с тонким пониманием личности учащегося и его временных психических состояний.

Речевые способности – способность ясно и четко выражать свои мысли, чувства с помощью речи, а также мимики и пантомимики.

Организаторские способности – это, во-первых, способность организовать ученический коллектив, сплотить его, воодушевить на решение важных задач и, во-вторых, способность правильно организовать свою собственную работу.

Авторитарные (суггестивные) способности – способность непосредственного эмоционально-волевого влияния на учащихся и умение на этой основе добиваться у них авторитета.

Коммуникативные способности – способность к общению с детьми, умение найти правильный подход к учащимся, установить с ними целесообразные, с педагогической точки зрения, взаимоотношения, наличие педагогического такта.

Педагогическое воображение (или прогностические способности) – это специальная способность, выражающаяся в предвидении последствий своих действий, в воспитательном проектировании личности учащегося, связанного с представлением о том, что из ученика получится в будущем, в умении прогнозировать развитие тех или иных качеств воспитанника.

Н.В. Кузьмина рассматривает совокупность способностей педагога в качестве важнейшего фактора развития и формирования способностей учащихся.

Проектировочные педагогические способности указывают на умение педагога создавать новые, эффективные способы обучения и воспитания. Они включают следующие виды способностей:

Гностические способности проявляются в быстром и твердом овладении методами воспитания и обучения детей, в изобретательности способов воспитания и обучения.

Проектировочные (прогностические) способности состоят в умении педагога представить конечный результат воспитательного и обучающего воздействия.

Конструктивные способности состоят в особой чувствительности к тому, как построить работу с обучающимся, какой материал более эффективно использовать для воспитательно-образовательной и просветительской работы. Они выражаются в умении дать студентам «ориентирующую и стимулирующую оценку» (Б.Г. Ананьев) с учетом их «ближайшей зоны развития». Конструктивные способности обнаруживаются в умении предвидеть затруднения в работе и в создании условий для предотвращения их.

Коммуникативные способности проявляются в специфической чувствительности педагога к способам установления с детьми и развития педагогически целесообразных взаимоотношений на основе завоевания у них авторитета и доверия.

Педагогические способности предполагают высокий уровень развития общих способностей (наблюдательности, мышления, воображения) и что другие способности включаются в сферу педагогической деятельности лишь при наличии педагогической направленности и педагогических способностей в условиях их дальнейшего развития (Н.В. Кузьмина).

Предпосылками формирования педагогических способностей в старших классах школы, педагогических учебных заведениях и профессиональной практической деятельности являются те психические свойства личности, которые сформировались на более ранних этапах онтогенеза. К ним следует отнести эмоциональную впечатлительность и эмоциональную устойчивость, ранние проявления эмпатии (сострадание), склонность работать с людьми, особенно с детьми, организаторские способности. Наличие этих предпосылок важно устанавливать с помощью специальных диагностических методик и путем наблюдения за проявлениями детей в коммуникативной деятельности (Кондратьева С.В.).

Круг профессиональных возможностей педагога формируется во время обучения в педагогических учебных заведениях, в процессе самовоспитания и, главное, в повседневной педагогической деятельности.

Безусловно, каждая личность сугубо индивидуальна и некоторые способности, предполагающие наличие специальных задатков, у отдельных педагогов могут и не развиваться в полной мере даже при их целенаправленных усилиях.

По исследованиям, у одного типа педагогов ядром педагогических способностей является высокий уровень развития теоретических знаний и, следствие этого, проявляются такие качества, как умение руководить деятельностью детей, конструктивные умения и навыки.

У второго типа ядром является высокий уровень организаторской работы, проявляются и такие качества, как прикладные умения и навыки (игра

на музыкальных инструментах, способность к художественной деятельности и др.), коммуникативные и конструктивные умения.

У третьего типа ядром являются коммуникативные умения, проявляются организаторские качества, конструктивные и прикладные умения.

У четвертого типа ядром выступают конструктивные умения и проявляется высокий уровень теоретических знаний, личностные качества (выдержка, уравновешенность, скромность).

Таким образом, для постоянного совершенствования педагогического мастерства необходимо осознание педагогом своих целей, жизненных планов, идеалов, т.е. полное понимание того, чего он ждет от своей педагогической деятельности, осознание собственных личностных возможностей (склонностей, черт характера), проявляющихся в педагогической деятельности.

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РОЛЬ ТЕХНОЛОГИЧЕСКИХ ИННОВАЦИЙ В ПОВЫШЕНИИ КОНКУРЕНТОСПОСОБНОСТИ ПРОМЫШЛЕННЫХ ПРЕДПРИЯТИЙ

Аннотация: В данной статье рассматривается влияние технологических инноваций на конкурентоспособность промышленных предприятий. Анализируются современные тенденции внедрения инновационных решений в производство, влияние цифровых технологий на эффективность работы предприятий, а также стратегии повышения конкурентоспособности за счет технологического развития.

Ключевые слова: Технологические инновации, цифровизация и автоматизация, энергетическая эффективность, персонализированное производство, устойчивое развитие, повышение производительности.

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THE ROLE OF TECHNOLOGICAL INNOVATIONS IN IMPROVING THE COMPETITIVENESS OF INDUSTRIAL ENTERPRISES

Abstract: This article considers the impact of technological innovation on the competitiveness of industrial enterprises. It analyzes current trends in the introduction of innovative solutions in production, the impact of digital technologies on the efficiency of enterprises, as well as strategies to improve competitiveness through technological development.

Keywords: Technology innovation, digitalization and automation, energy efficiency, personalized manufacturing, sustainability, productivity improvement.

Современная промышленность сталкивается с высокой конкуренцией, быстрой глобализацией рынков и стремительным развитием технологий. Для того чтобы сохранить свою конкурентоспособность, предприятия вынуждены адаптироваться к изменяющимся условиям, внедряя инновационные решения в производственные процессы. Технологические инновации становятся ключевым фактором в создании эффективных и гибких бизнес-моделей,

способных реагировать на внешние вызовы. Особое внимание уделяется цифровизации и автоматизации, которые позволяют не только повысить производительность, но и снизить операционные затраты. Внедрение технологий Интернета вещей (IoT), искусственного интеллекта и аддитивных технологий открывает новые горизонты для оптимизации процессов, предсказания неисправностей оборудования и персонализации производства. В свою очередь, активное использование аналитики данных и робототехники способствует улучшению качества продукции и обеспечению устойчивости предприятия в условиях неопределенности. Роль технологических инноваций в повышении конкурентоспособности предприятий становится все более значимой, создавая возможности для внедрения новых бизнес-стратегий и расширения рыночных позиций.

Цифровизация и автоматизация производственных процессов становятся основными драйверами инновационного развития промышленных предприятий. Эти технологии позволяют значительно повысить эффективность производства, улучшить качество продукции и снизить операционные затраты.

Автоматизированные системы управления (АСУТП): Автоматизация производственных процессов с помощью специализированных систем управления позволяет значительно повысить точность, скорость и надежность операций. АСУТП обеспечивают непрерывный мониторинг всех этапов производства, включая управление технологическими параметрами, соблюдение стандартов качества и контроль за ресурсами. Это способствует минимизации ошибок и снижению человеческого фактора, что, в свою очередь, сокращает затраты и повышает безопасность на производстве.

Роботизированные комплексы: Внедрение роботизированных комплексов стало важным этапом в автоматизации производственных линий. Роботы, оснащенные различными сенсорами и системой искусственного интеллекта, выполняют задачи по сборке, сварке, упаковке и контролю качества с высокой скоростью и точностью. Например, в автомобильной промышленности активно используются роботы для выполнения операций, требующих высокой точности и однообразия. Это не только снижает трудозатраты, но и повышает гибкость производства, позволяя быстро перенастроить оборудование для выпуска новых моделей.

Интернет вещей (IoT): Интернет вещей (IoT) представляет собой сеть взаимосвязанных физических устройств, которые способны собирать, обмениваться и анализировать данные. В промышленности IoT используется для мониторинга состояния оборудования в реальном времени, предотвращения поломок и оптимизации производственных процессов. Например, датчики, установленные на машинах и станках, отслеживают параметры работы (температура, вибрация, давление) и передают информацию в центральную систему управления, которая анализирует данные и принимает решения по оптимизации работы или предсказанию

неисправностей. Это позволяет заранее устранять проблемы, сокращая время простоя оборудования и снижая затраты на обслуживание.

Цифровые двойники: Одним из инновационных направлений цифровизации является создание **цифровых двойников** – виртуальных моделей реальных объектов или процессов. С помощью сенсоров и IoT-устройств собираются данные о функционировании физических объектов, которые затем используются для создания их точных цифровых копий. Эти модели помогают эффективно тестировать новые решения, прогнозировать поведение оборудования и оптимизировать процессы без риска для реального производства.

Интеллектуальные системы управления и оптимизации: В рамках цифровизации активно внедряются интеллектуальные системы, основанные на алгоритмах искусственного интеллекта и машинного обучения. Эти системы способны анализировать большие объемы данных, выявлять закономерности и предсказать результаты различных операций. Например, в логистике такие системы могут предсказывать оптимальные маршруты доставки и управлять запасами на складе, снижая затраты и время на обслуживание клиентов.

Аддитивные технологии, широко известные как **3D-печать**, представляют собой процессы, при которых объект создается путем послойного добавления материала, а не вырезания его из цельного куска. Это позволяет производить детали с высокой точностью и сложной геометрией, что делает аддитивные технологии важным инструментом в различных отраслях промышленности. Такие технологии значительно расширяют возможности для разработки и производства новых продуктов и компонентов.

Процесс 3D-печати: Аддитивные технологии включают несколько методов, наиболее распространенные из которых — это FDM (метод моделирования расплавленным пластиком), SLA (стереолитография), SLS (селективное лазерное спекание) и другие. Каждое из этих направлений использует разные материалы (пластик, металл, керамика, композиты) и подходы к созданию объектов. Например, в металлургии применяются методы лазерного плавления металлов для создания сложных металлических деталей, которые невозможно произвести традиционными способами.

Создание прототипов и малосерийное производство: Одним из основных применений аддитивных технологий является создание прототипов. В отличие от традиционных методов, которые требуют длительных подготовительных этапов (например, создание формы для литья), 3D-печать позволяет быстро и недорого создавать прототипы, которые можно использовать для тестирования и доработки конструкций. Это значительно сокращает сроки разработки и снижает расходы на создание новых продуктов. В малосерийном производстве аддитивные технологии также позволяют производить детали по индивидуальным заказам, что особенно важно в таких отраслях, как авиа и автомобилестроение, где требуется высокая степень точности.

Производство сложных деталей: Одним из значимых преимуществ аддитивных технологий является возможность создания сложных деталей с внутренними полостями и структурами, которые невозможно изготовить традиционными методами. Это особенно актуально для таких отраслей, как аэрокосмическая и автомобильная промышленность, где важно не только качество, но и снижение веса компонентов. Например, с помощью 3D-печати можно создать детали с внутренними охлаждающими каналами для турбин, что повышает эффективность и срок службы оборудования.

Материалы для аддитивных технологий: Современные аддитивные технологии используют широкий спектр материалов, включая пластики, металлы, керамику и даже биологические материалы. Металлические порошки, например, используются в промышленности для печати деталей из стали, титана, алюминия и других сплавов. Это позволяет производить детали с высокими механическими характеристиками, которые могут быть использованы в критичных для надежности и безопасности отраслях, таких как авиация, медицина и энергетика. В свою очередь, биоаддитивные технологии открывают новые горизонты в области медицины, позволяя создавать протезы, имплантаты и даже органические ткани.

Снижение отходов и экологичность: Аддитивные технологии обладают существенным преимуществом по сравнению с традиционными методами производства в плане экономии материалов. Поскольку материал добавляется послойно, почти не происходит отходов, что делает производство более экологичным. В традиционных методах (например, при фрезеровании) большое количество материала уходит в отходы в виде стружки, что приводит к дополнительным затратам и увеличению углеродного следа.

Перспективы и вызовы: Аддитивные технологии продолжают развиваться, с каждым годом увеличивая свою точность, скорость и разнообразие материалов. Однако их широкое внедрение в массовое производство сталкивается с рядом вызовов, включая высокие начальные инвестиции в оборудование и необходимую квалификацию персонала. Кроме того, требуется дальнейшее улучшение свойств материалов, чтобы они могли конкурировать с традиционными методами производства по прочности, долговечности и стоимости.

Внедрение энергосберегающих технологий и использование возобновляемых источников энергии: Вопрос энергосбережения и повышения энергетической эффективности становится все более актуальным для промышленных предприятий в условиях растущих затрат на энергоресурсы, строгих экологических нормативов и усиливающейся конкуренции. Энергетическая эффективность напрямую влияет на сокращение издержек, снижение выбросов углекислого газа и повышение устойчивости бизнеса. Внедрение инновационных технологий и переход на возобновляемые источники энергии становятся важными аспектами устойчивого развития промышленности.

Энергосберегающие технологии в производственных процессах: Применение энергосберегающих технологий позволяет значительно снизить потребление энергии на всех этапах производства. Это может включать в себя модернизацию оборудования, внедрение энергосберегающих осветительных систем (например, светодиодного освещения), использование высокоэффективных электродвигателей и насосных агрегатов, а также оптимизацию теплообменных процессов. Внедрение таких технологий позволяет не только сократить расходы на энергию, но и повысить общую производительность оборудования. В частности, системы управления энергопотреблением (например, энергоменеджмент-системы) позволяют эффективно отслеживать и регулировать потребление энергии в реальном времени. Эти системы, используя данные с датчиков, могут автоматически отключать или перенаправлять энергию, в зависимости от потребности, что снижает неэффективное потребление и повышает общую эффективность работы предприятия.

Теплоутилизаторы и системы рекуперации энергии: Одним из эффективных способов повышения энергетической эффективности является внедрение систем рекуперации энергии, которые позволяют возвращать часть потерь тепла и использовать его для обогрева или других производственных нужд. Это может быть особенно важно в таких отраслях, как металлургия, химическая и пищевая промышленность, где образуются большие объемы тепловых выбросов. Примером может служить использование теплоутилизаторов для улавливания тепла от дымовых газов в котельных, которое затем используется для подогрева воды или воздуха, а также применение теплообменных систем для охлаждения и поддержания оптимальной температуры технологических процессов.

Использование возобновляемых источников энергии: Переход на возобновляемые источники энергии (солнечные, ветровые, геотермальные и биомассовые установки) становится ключевым направлением в сфере устойчивого развития и снижения углеродного следа. Многие предприятия внедряют солнечные панели для генерации электроэнергии на своих территориях или устанавливают ветряные турбины для покрытия части своих энергетических потребностей. Например, солнечные панели могут быть использованы для покрытия нужд в электричестве на предприятиях, расположенных в солнечных районах, а биомассовые установки — для переработки отходов производства в энергию. Интеграция таких систем не только снижает зависимость от традиционных источников энергии, но и позволяет компаниям значительно сократить свои эксплуатационные расходы.

Энергетическое переоснащение и оптимизация производства: Модернизация старых производственных мощностей и переход на более эффективное оборудование также являются важным направлением повышения энергетической эффективности. Например, переход от традиционных котлов и печей к более энергоэффективным установкам,

использующим новые технологии сжигания, или замена устаревших насосов и вентиляторов на более производительные и энергоэффективные модели. Внедрение интеллектуальных систем управления производственными мощностями, которые позволяют отслеживать и анализировать расход энергии на каждом этапе производства, также способствует оптимизации использования энергии и снижению ее потребления без ущерба для качества продукции.

Умные сети и оптимизация распределения энергии: Использование "умных" сетей (smart grids) становится важным инструментом для повышения энергетической эффективности на уровне предприятия и региона. Эти системы обеспечивают более гибкое и эффективное управление распределением энергии, позволяя снизить потери и повысить надежность энергоснабжения. Умные сети используют продвинутое датчики, аналитические алгоритмы и коммуникационные технологии для мониторинга, регулирования и оптимизации потока энергии в реальном времени. Например, на крупных промышленных объектах такие системы могут автоматически регулировать потребление энергии в зависимости от загрузки оборудования, времени суток или погодных условий.

Экологичность и устойчивое развитие: Внедрение энергоэффективных технологий не только снижает затраты и повышает производительность, но и способствует снижению углеродного следа компании. Для многих современных предприятий важно не только быть экономически успешными, но и отвечать требованиям экологической ответственности. Внедрение устойчивых технологий, которые минимизируют воздействие на окружающую среду, становится ключевым фактором конкурентоспособности, особенно для компаний, работающих на международных рынках, где экологические стандарты становятся все более строгими. Энергетическая эффективность становится важным элементом стратегии многих промышленных предприятий, направленной на сокращение издержек и улучшение экологической устойчивости. Внедрение современных технологий позволяет не только снизить расход энергии, но и повысить производительность, сокращая углеродный след и улучшая имидж компании как экологически ответственного бизнеса.

В условиях динамично меняющегося рынка и жесткой конкурентной борьбы технологические инновации становятся основным инструментом повышения конкурентоспособности промышленных предприятий. Внедрение современных технологий в производство не только способствует улучшению качества продукции, но и позволяет существенно повысить эффективность производственных процессов, снизить издержки и минимизировать экологическое воздействие. Основные направления технологических инноваций, такие как цифровизация и автоматизация, аддитивные технологии, повышение энергетической эффективности и использование возобновляемых источников энергии, активно влияют на развитие различных отраслей. Эти технологии создают новые возможности для предприятий,

помогая им адаптироваться к современным вызовам, сокращать затраты на ресурсы и повышать производительность. Особое внимание следует уделить роли **энергетической эффективности**, которая становится не только экономической, но и экологической необходимостью для предприятий. Внедрение систем энергоуправления, технологий рекуперации энергии и использование возобновляемых источников позволяют не только снизить операционные расходы, но и соответствовать международным стандартам устойчивого развития. Таким образом, технологические инновации становятся важнейшим конкурентным преимуществом, обеспечивающим предприятиям возможность не только выжить, но и успешно развиваться в условиях высокой неопределенности и глобальных вызовов. Активное внедрение инновационных решений помогает не только снижать затраты и повышать продуктивность, но и улучшать экологическую устойчивость, что является важным аспектом для компаний, ориентированных на долгосрочное развитие.

Рассматриваемые технологии не являются чем-то удаленным для российского промышленного сектора. Уже сегодня российские предприятия начинают активно внедрять передовые решения, что открывает новые горизонты для повышения конкурентоспособности и достижения стратегических целей на международных рынках.

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МЕХАНИЗМ ЭКОНОМИЧЕСКИ БЕЗОПАСНОГО ВОЗДЕЙСТВИЯ ВНЕШНЕЙ ТОРГОВЛИ НА РАЗВИТИЕ НАЦИОНАЛЬНОЙ И РЕГИОНАЛЬНОЙ ЭКОНОМИКИ

***Аннотация:** В статье разработан механизм регулирования внешней торговли с целью обеспечения безопасного воздействия на экономическое развитие страны, включающий дифференцированную систему инструментов регулирования на федеральном и региональном уровнях.*

***Ключевые слова:** внешняя торговля, механизм регулирования, экономическое развитие, регион.*

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ECONOMICALLY SECURE MECHANISM OF INFLUENCE OF FOREIGN TRADE ON THE DEVELOPMENT OF NATIONAL AND REGIONAL ECONOMY

***Abstract:** In the article the mechanism of foreign trade regulation with the aim of ensuring safe impact on the economic development of the country, including the differentiated system of instruments for regulation at Federal and regional levels.*

***Keywords:** foreign trade, the mechanism of regulation, economic development, region.*

Экономически безопасное воздействие внешней торговли на экономическое развитие – совокупность условий, посредством которых обеспечивается повышение количественных и качественных показателей экономического развития, способствующих повышению качества жизни населения. Основная цель государства, на наш взгляд, в сфере внешней торговли состоит в выработке экономически безопасного механизма воздействия внешней торговли на развитие национальной и региональной экономики. Для достижения этой цели проведем систематизацию и

разделение функций, ответственности и инструментов реализации внешнеторговой политики между федеральными и региональными уровнями управления, которая выстраивает политику безопасного воздействия внешней торговли на экономическое развитие регионов.

Функциями федерального уровня регулирования являются: разработка и реализация общей стратегии развития внешней торговли; подготовка и принятие законов, регулирующих внешнюю торговлю; государственная поддержка участников внешней торговли; обслуживание внешнего долга РФ; организация внешних заимствований РФ; прогноз торгового баланса РФ; оценка состояния и проблем торгово-экономических отношений РФ с другими государствами; валютно-кредитные отношения с другими государствами; государственное стимулирование экспорта; таможенная политика и пр.

К инструментам реализации внешней торговли на федеральном уровне относятся: лицензирование; квотирование; таможенные пошлины, налоги, сборы; субсидии, преференции участникам внешней торговли; эмбарго на поставку товаров и услуг; определение валютного курса.

Инструментами внешнеторговой политики на региональном уровне являются: координация и контроль за внешней торговлей российских и иностранных лиц; формирование и реализация региональных программ внешней торговли; регулирование местных налогов участникам внешней торговли; выявление региональных преимуществ внешней торговли и стимулирование их развития; предоставление гарантий и льгот участникам внешней торговли и пр.

В работе проведена систематизация направлений и инструментов реализации внешнеторговой политики между федеральными и региональными уровнями управления, которая выстраивает механизм экономически безопасного воздействия внешней торговли на развитие национальной и региональной экономики.

Приоритетными направлениями регулирования безопасного воздействия внешней торговли на экономическое развитие на федеральном уровне являются:

1. Стимулирование экспорта товаров с высокой долей добавленной стоимости. Инструменты реализации данного направления следующие:

- создание специального фонда развития экспортного потенциала за счет дополнительных отчислений от экспорта энергоносителей;
- формирование действенной системы защиты интеллектуальной собственности российских товаропроизводителей на внешних рынках;
- создание единого специального экспертно-прогнозного органа, выполняющего все процедуры отбора и формирования перечня приоритетов (включая ведение единых баз данных по инновациям);
- реструктуризация научно-технического комплекса (включая базовые организации фундаментальной науки) и создание самодостаточных

корпораций, способных производить продукцию не только для нужд государства, но и на экспорт;

- введение в действие комплекса мер государственного протекционизма по отношению к разработчикам и производителям наукоемкой и высокотехнологичной продукции, включая налоговые и таможенные льготы, меры по повышению социального статуса кадров;

- оптимизация управления всем комплексом разработки и производства наукоемкой и высокотехнологичной продукции.

2. Участие государства в совершенствовании структуры экспорта, включающее такие инструменты регулирования как:

- конкурсное распределение заказов среди предприятий и организаций на производство высокотехнологичной продукции;

- внедрение эффективной системы сертификации экспортной продукции;

- мониторинг технологических инноваций в развитых странах.

- финансовые и налоговые льготы предприятиям, инвестирующим в новые технологии.

3. Бюджетная политика, которая предполагает следующие инструменты реализации:

- снижение налоговой нагрузки на несырьевые секторы экономики при сохранении высоких экспортных пошлин на вывоз сырья;

- финансовые и налоговые льготы предприятиям, инвестирующим в новые технологии;

- замена пособий по безработице социальными кредитами, что снизит ставку социального налога, уменьшит роль «инфляции издержек»;

- увеличение финансирования и стимулирования НИОКР и инноваций в экономике, в первую очередь – фундаментальной науки и инновационно активных предприятий.

На региональном уровне необходимо обеспечить значительное совершенствование внешней торговли, которое обеспечит безопасное воздействие на экономическое развитие.

Во-первых, формирование и развитие региональной инфраструктуры внешней торговли, и, прежде всего, информационного обеспечения, поскольку надежная информация позволяет участникам внешней торговли уменьшить затраты по ведению внешнеэкономических операций, оптимизировать финансовую деятельность, снизить риски.

Во-вторых, развитие внешней торговли во многом будет зависеть от ее адекватного финансирования, необходимого для формирования эффективного экспортного потенциала Российской Федерации.

Изучение состояния финансового обеспечения внешней торговли в регионах свидетельствует о том, что для решения данной проблемы необходимо в механизме ее управления предусмотреть создание соответствующей финансовой инфраструктуры, которая представляет собой систему институтов, обеспечивающих финансирование определенных

направлений внешней торговли, кредитование экспорта и импорта, страхование внешнеторговых сделок, привлечение финансовых ресурсов негосударственных финансовых институтов.

На наш взгляд, в регионах возможно создание инвестиционного банка или корпоративных финансовых пулов под конкретные внешнеэкономические проекты. Международная практика формирования таких банков или инвестиционных компаний в США, Японии и других странах свидетельствует об их высокой эффективности.

Функциями банка, обеспечивающего внешнеторговую деятельность в регионах являются:

- гарантирование и страхование экспортных кредитов, что позволит привлечь капитал для финансирования экспортных поставок;
- прямое и косвенное субсидирование экспортеров, кредитование расходов по производству экспортных товаров, возможно, на льготных условиях;
- страхование и финансирование импортных операций;
- кредитование капиталовложений и финансирование деятельности национальных компаний за границей;
- обеспечение гарантий по предоставляемым кредитам. Экспортно-импортный банк может осуществлять кредитное финансирование экспорта, так как пользуется финансовой поддержкой государства, тем самым облегчая финансирование экспорта, предоставляя кредиты на льготных условиях для экспорта технологии и оборудования.

Также необходимо создание в регионах с развитой инфраструктурой внешней торговли специализированных страховых компаний, профессионально и экономически эффективно обслуживающих ее участников.

В-третьих, нуждается в совершенствовании транспортная инфраструктура внешней торговли в регионах [1,2,3]. Для этого необходимо:

- строительство новых объектов транспортной инфраструктуры;
- создание крупных транспортно-логистических центров в каждом экономическом регионе, объединенные в единую эффективную транспортную сеть России, интегрированных в единую эффективную транспортную сеть России, интегрированную в мировую транспортную сеть и систему мировой экономической специализации;
- проведение региональной транспортной политики в тесной увязке с региональной концепцией развития внешней торговли.

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ИНЖЕНЕРНАЯ ГРАФИКА И АНАЛИЗ ДОСТУПНЫХ РЕШЕНИЙ В КОМПЬЮТЕРНОЙ ГРАФИКЕ РАСПОЗНАВАНИЯ ЛИЦ ЧЕЛОВЕКА В СИСТЕМНОГО АНАЛИЗАТОРА ГЛАЗА РОБОТА

Аннотация: В данной статье в настоящее время представлено множество практических программ для решения задач идентификации потоков видеоизображений, среди которых анализ структуры программного обеспечения идентификации изображений лиц в потоках цветных видеоизображений, полученных от системного анализатора глаза робота в представлено решение задач биометрической системы.

Ключевые слова: Цифровое изображение, технология Open MP, интенсивность, пиксель, векторизация, крайние точки, изображение лица человека.

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ENGINEERING GRAPHICS AND ANALYSIS OF AVAILABLE SOLUTIONS IN COMPUTER GRAPHICS FOR HUMAN FACE RECOGNITION IN A ROBOT EYE SYSTEM ANALYZER

Abstract: This article currently presents a variety of practical programs for solving problems of identifying video image streams, including an analysis of the structure of software for identifying facial images in streams of color video images received from a system analyzer of the robot's eye and presenting a solution to the problems of a biometric system.

Keywords: Digital image, OpenMP technology, intensity, pixel, vectorization, extreme points, human face image.

Технология распознавания лиц значительно продвинулась за последние годы, став неотъемлемой частью многих приложений, от безопасности и контроля доступа до персонализированных сервисов и социальных сетей. Эти достижения стали возможными благодаря сочетанию передовых методов компьютерного зрения, глубокого обучения и 3D-моделирования.

История распознавания лиц начинается с простых методов, основанных на геометрических особенностях лица. В 1960-х годах исследователи начали

разрабатывать системы, которые могли бы различать людей по лицам, используя такие параметры, как расстояние между глазами, длина носа и форма рта. Эти ранние подходы, хотя и были простыми, заложили основу для более поздних, более сложных систем.

За тысячелетия значительный прогресс произошел благодаря развитию глубоких нейронных сетей. Внедрение сверточных нейронных сетей (CNN) стало поворотным моментом в области компьютерного зрения. CNN автоматически извлекает особенности изображения и обрабатывает их иерархически, что значительно повышает точность и надежность обнаружения лиц. Одним из первых крупных достижений в этой области стала система DeepFace от Facebook, которая достигла точности человеческого уровня в задаче распознавания лиц.

С появлением глубокого обучения и сверточных нейронных сетей (CNN) в 2010-х годах распознавание лиц значительно продвинулось вперед. Алгоритмы на основе CNN показали высокую точность в задачах классификации и проверки лиц. Одним из первых прорывных решений стала система DeepFace, разработанная Facebook, которая достигла уровня точности, сравнимого с человеческим. DeepFace использует глубокие сверточные нейронные сети для извлечения черт лица и их последующей классификации.

С тех пор развитие методов глубокого обучения продолжилось с созданием более сложных архитектур, таких как ResNet и Inception. Эти модели стали основой для современных алгоритмов распознавания лиц, таких как FaceNet, которые используют функцию триплетных потерь для создания надежных векторных изображений лиц. Эти изображения можно использовать для различных задач, таких как распознавание и проверка лиц, а также кластеризация больших баз данных изображений.

Помимо алгоритмов глубокого обучения, значительный вклад в распознавание лиц внесло использование 3D-моделирования и компьютерной графики. 3D-модели лиц позволяют более точно обнаруживать и анализировать лица под разными углами и при изменении условий освещения. Такие методы, как 3D-морфируемые модели, позволяют создавать реалистичные 3D-изображения лиц, что улучшает обобщаемость алгоритмов.

Генерация синтетических данных с помощью 3D-рендеринга также стала важным инструментом для обучения и тестирования алгоритмов распознавания лиц. Синтетические данные помогают преодолеть проблему нехватки реальных данных и увеличивают разнообразие обучающих наборов, что, в свою очередь, повышает точность и надежность моделей. Такие технологии широко используются в коммерческих системах, таких как система Apple Face ID, где сочетание инфракрасной камеры и точечного проектора создает точные 3D-карты лиц пользователей.

Инженерная геометрия играет ключевую роль в анализе и моделировании лиц. Методы геометрической интерполяции и аппроксимации позволяют точно идентифицировать ключевые точки на лице, такие как глаза,

нос и рот, и использовать их для создания уникальных геометрических профилей. Эти профили затем используются для сравнения и идентификации людей в больших базах данных.

Технологии инженерной геометрии также важны при разработке систем адаптивного распознавания, способных адаптироваться к изменениям внешности человека, например, к старению, изменению прически или макияжа. Использование адаптивных моделей повышает точность распознавания и снижает вероятность ошибок.

Распознавание лиц не ограничивается анализом статичных изображений. Современные системы также используют видеопотоки и аудиоданные для повышения точности и надежности распознавания. Видеотехнологии позволяют анализировать динамические особенности, такие как мимика и мимика лица, что дает дополнительную информацию для идентификации. Например, системы могут использовать последовательности кадров для отслеживания изменений в выражении лица и обнаружения аномалий.

Аудиотехнологии также играют важную роль, особенно в приложениях мультибиометрической аутентификации, где голосовые данные используются в сочетании с данными о лице для повышения точности идентификации. Такие системы используются в сфере безопасности и контроля доступа, где требуется высокая надежность.

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АУДИТ КАССОВЫХ СРЕДСТВ И КАССОВЫХ ОПЕРАЦИЙ В УЗБЕКИСТАНЕ

Аннотация: В статье рассматриваются особенности аудита кассовых средств и кассовых операций в Узбекистане. Анализируются основные аспекты, связанные с организацией и проведением аудита, включая оценку внутреннего контроля, проверку документов и предотвращение финансовых нарушений. Обсуждаются пути улучшения текущих методик аудита и внедрение современных технологий для повышения прозрачности и эффективности банковской деятельности.

Ключевые слова: Аудит кассы, кассовые операции, финансовый контроль, внутренний аудит, прозрачность, предотвращение нарушений, Узбекистан, современные технологии.

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AUDIT OF CASH FUNDS AND CASH OPERATIONS IN UZBEKISTAN

Abstract: The article examines the features of the audit of cash assets and cash operations in Uzbekistan. The main aspects related to the organization and conduct of the audit, including the assessment of internal control, the verification of documents and the prevention of financial violations, are analyzed. The parties discussed ways to improve the current audit methods and introduce modern technologies to increase the transparency and efficiency of banking activities.

Keywords: Cash audit, cash operations, financial control, internal audit, transparency, violation prevention, Uzbekistan, modern technologies.

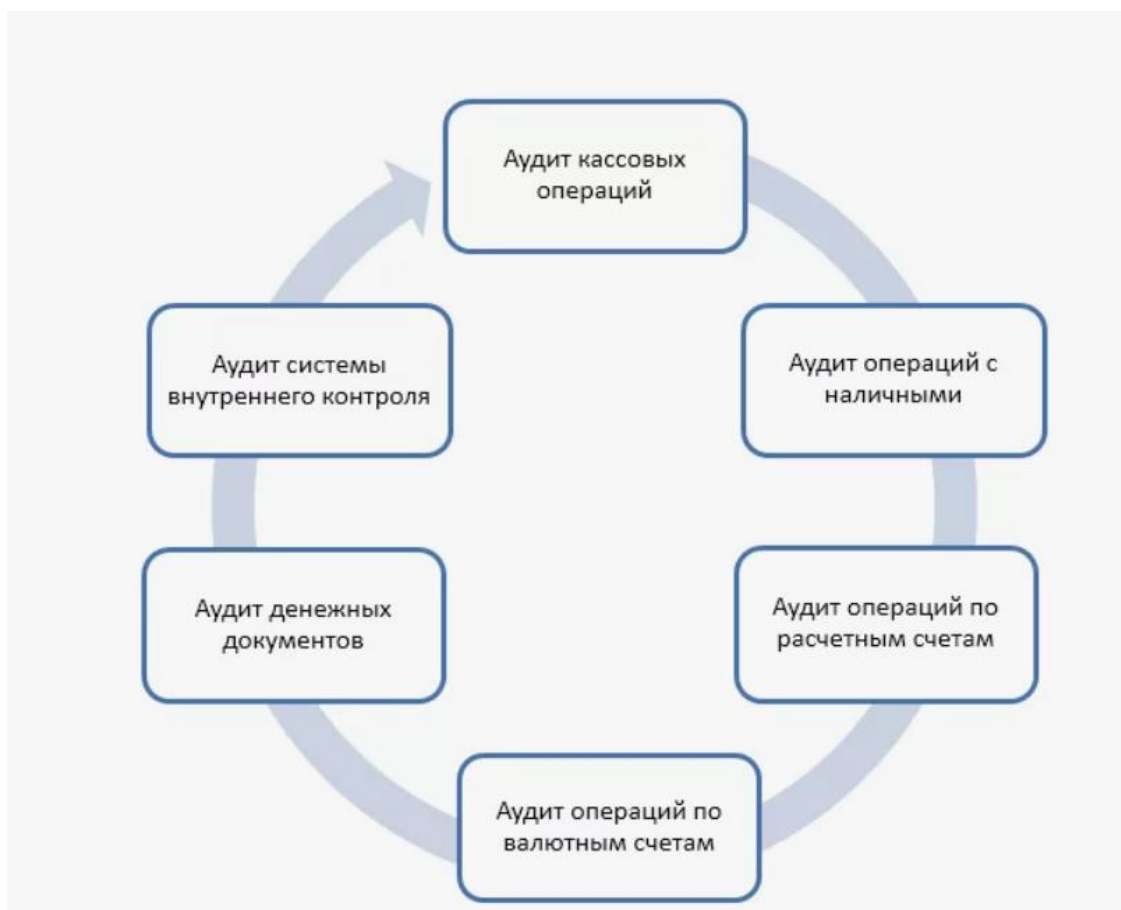
Кассовые операции играют важнейшую роль в обеспечении стабильной работы банковской системы. Они включают процесс приема, хранения и выдачи наличных средств, а также выполнение различных расчетных операций. В Узбекистане, как в стране с развивающейся экономикой, особое внимание уделяется соблюдению законности и прозрачности кассовых операций, поскольку это напрямую влияет на уровень доверия клиентов и устойчивость финансовых институтов.



Аудит кассовых операций направлен на обеспечение точности учета и соответствия установленным стандартам. Важной частью этой работы является проверка соблюдения нормативов, выявление и предотвращение ошибок и мошеннических действий. Современные методы аудита позволяют использовать передовые технологии для анализа данных и повышения эффективности проверок.

В данной статье рассматриваются ключевые аспекты организации и проведения аудита кассовых операций, включая проверку внутреннего контроля и использование современных технологий. Также приводятся рекомендации по повышению эффективности аудиторских процессов.

Аудит кассовых операций представляет собой системный процесс проверки законности и точности выполнения операций, связанных с движением наличных средств. Этот процесс охватывает несколько ключевых этапов, начиная с планирования аудита и заканчивая анализом полученных данных. В рамках первого этапа определяется цель аудита, оцениваются потенциальные риски и разрабатывается стратегия проверки.



Одним из важнейших аспектов аудита является проверка внутреннего контроля в банке или финансовом учреждении. Аудитор анализирует, насколько эффективно работает система контроля за кассовыми операциями, включая проверку полномочий сотрудников, которые осуществляют приём и выдачу наличных средств. Не менее важно убедиться в наличии и правильном оформлении всех необходимых документов, таких как кассовые книги, квитанции, ордера и отчёты.

Кроме того, аудитор проводит сверку фактических данных с бухгалтерскими записями. Это включает подсчёт наличных средств, проверку остатков на счетах и соответствие финансовых операций нормативным требованиям. Особое внимание уделяется выявлению возможных расхождений, которые могут свидетельствовать о финансовых нарушениях или ошибках в учёте.



Современные подходы к аудиту кассовых операций также предусматривают использование информационных технологий. Автоматизированные системы позволяют существенно ускорить процесс проверки, повышая при этом точность и достоверность данных. Например, программное обеспечение для аудита помогает анализировать большие массивы данных и выявлять подозрительные операции, которые могли бы остаться незамеченными при традиционном подходе.

Одним из основных вызовов, с которым сталкиваются аудиторы в процессе проверки кассовых операций, является предотвращение мошенничества и ошибок. Мошеннические действия могут включать подделку документов, недостачу средств или умышленное искажение финансовой отчетности. Чтобы минимизировать такие риски, аудиторы используют методы выборочной проверки, анализируют тренды в движении наличных средств и проводят интервью с ответственными сотрудниками.

Аудит кассовых операций в Узбекистане также связан с рядом уникальных особенностей. Банки обязаны соблюдать как международные стандарты финансовой отчетности, так и национальные нормативные акты. В

частности, в нормативных документах Узбекистана чётко прописаны лимиты наличных средств в кассе, требования к их хранению и сроки сдачи отчётности. Нарушение этих требований может привести к серьёзным штрафным санкциям, поэтому аудиторы обращают особое внимание на их соблюдение.

Ещё одним важным аспектом является оценка внутреннего аудита, который осуществляется в самом банке. Эффективная система внутреннего контроля позволяет оперативно выявлять и устранять недочёты, предотвращая возможные финансовые потери. Аудиторы проверяют, насколько качественно функционирует такая система, оценивают компетентность сотрудников и соответствие их работы установленным стандартам.

Внедрение современных технологий играет ключевую роль в повышении эффективности аудита. Использование систем анализа данных, автоматизированных проверок и специализированного программного обеспечения позволяет существенно сократить временные затраты и улучшить результаты аудиторских проверок. Например, автоматизация процесса сверки данных позволяет с высокой точностью выявлять несоответствия, что способствует быстрому реагированию на потенциальные риски.

Таким образом, аудит кассовых операций в Узбекистане — это не только инструмент обеспечения прозрачности и законности финансовых операций, но и важный элемент повышения доверия к банковской системе. Его эффективность напрямую зависит от профессионализма аудиторов, качества внутреннего контроля и уровня использования современных технологий.

Аудит кассовых средств и операций в Узбекистане играет ключевую роль в обеспечении прозрачности и законности финансовых процессов. В условиях стремительно развивающейся экономики и усиления интеграции в мировую финансовую систему аудит становится важным инструментом для повышения доверия клиентов к банковским учреждениям.

Основной целью аудита является проверка точности и надёжности учета наличных средств, а также соблюдение нормативных требований. В ходе проверок особое внимание уделяется внутреннему контролю, документальной базе и соответствию операций установленным стандартам. Выявление и устранение ошибок, а также предотвращение возможных случаев мошенничества позволяют снизить риски финансовых потерь и повысить устойчивость банковской системы.

Современные технологии, такие как автоматизация аудиторских процессов и использование специализированного программного обеспечения, открывают новые возможности для повышения эффективности и скорости проверок. Они позволяют анализировать большие объёмы данных, выявлять аномалии и оперативно реагировать на потенциальные угрозы.

Эффективное проведение аудита кассовых операций требует профессионализма аудиторов, чёткого соблюдения нормативов и постоянного совершенствования методов проверки. Внедрение инновационных подходов и развитие внутреннего контроля способствуют укреплению доверия клиентов и партнёров к финансовым институтам Узбекистана, а также повышению конкурентоспособности банковского сектора на международной арене.

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ЗАКОНОДАТЕЛЬСТВО О РЕГУЛИРОВАНИИ ПРАВА ГРАЖДАНИНА НА НЕПРИКОСНОВЕННОСТЬ ЧАСТНОЙ ЖИЗНИ, ЛИЧНУЮ И СЕМЕЙНУЮ ТАЙНУ В РОССИЙСКОЙ ФЕДЕРАЦИИ И ЗАРУБЕЖНЫХ СТРАНАХ

***Аннотация:** Статья посвящена анализу законодательства, регулирующего право граждан на неприкосновенность частной жизни, личную и семейную тайну в Российской Федерации и зарубежных странах. Рассматриваются ключевые нормативные акты, защищающие личные данные и частную жизнь граждан РФ. Также анализируются международные стандарты защиты частной жизни. В статье подчеркивается важность совершенствования законодательства в условиях цифровизации и технологических изменений.*

***Ключевые слова:** неприкосновенность частной жизни, личные данные, защита прав, Конституция РФ, международные стандарты, персональные данные.*

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LEGISLATION REGULATING CITIZENS' RIGHT TO PRIVACY, PERSONAL AND FAMILY CONFIDENTIALITY IN THE RUSSIAN FEDERATION AND FOREIGN COUNTRIES

***Abstract:** This article analyzes legislation-governing citizens' right to privacy, personal and family confidentiality in the Russian Federation and foreign countries. The study examines key regulatory frameworks protecting personal data and private life of Russian citizens. The paper also investigates international privacy protection standards. The article emphasizes the importance of improving legislation in the context of digitalization and technological changes.*

***Keywords:** right to privacy, personal information, protection of rights, Constitution of the Russian Federation, international standards, personal data.*

Законодательство, регулирующее право граждан на неприкосновенность частной жизни, а также защиту личной и семейной тайны, играет важную роль в обеспечении индивидуальных прав и свобод в различных странах, в том числе и в Российской Федерации. Законодательные акты направлены на защиту граждан от вмешательства в их личную жизнь со

стороны государства, частных лиц и организаций, обеспечивая сохранность личных данных и отношений.

В России это право защищено рядом нормативных актов, которые установлены на высшем юридическом уровне.

Так, право на неприкосновенность частной жизни и семейную тайну закреплено Конституцией РФ. Ст.23 гарантирует каждому гражданину право на защиту своей частной жизни, личной и семейной тайны, а также на защиту своей чести и достоинства. Данное право включает в себя запрет на вмешательство в личные дела, а также сбор, хранение, использование и распространение информации без согласия гражданина [3].

В ст. 24 есть положения, что обработка личной информации без согласия владельца запрещена, за исключением тех случаев, когда это предусмотрено законом. Данное положение становится особенно актуальным в контексте цифровых технологий, где защита персональных данных сталкивается с новыми вызовами.

Важным принципом Конституции РФ является утверждение неотчуждаемости прав и свобод человека, что гарантирует защиту неприкосновенности частной жизни как одного из базовых прав личности. Данные права обеспечиваются государством и защищены на высшем уровне.

Как отмечают эксперты, защита частной жизни и персональных данных в России требует доработки и уточнения, особенно в сравнении с международными стандартами.

Так С.А. Шадрин, отмечает, что «положения ст. 23 Конституции Российской Федерации не детализированы в законах о защите неприкосновенности личной жизни и об обеспечении защиты персональной информации. В законодательстве Российской Федерации средства обеспечения правовой защиты частной жизни и персональной информации до настоящего времени находятся в неудовлетворительном состоянии, если сравнивать с аналогичными зарубежными и международными стандартами в данной сфере» [5].

Гражданский кодекс Российской Федерации также регулирует вопросы защиты личной тайны и репутации, в частности, статья 152.1 устанавливает, что использование изображения гражданина без его согласия является нарушением его прав. Также здесь закреплены механизмы защиты от распространения личной информации без согласия гражданина [1].

Федеральный закон «О персональных данных» является важным элементом законодательства, регулирующим обработку, защиту и распространение персональных данных граждан. Данный закон требует от организаций, которые обрабатывают данные, обеспечивать их безопасность и конфиденциальность [4].

Международные стандарты защиты частной жизни также играют важную роль в регулировании прав граждан. Европейская конвенция о защите прав человека гарантирует защиту личной жизни в ст. 8, которая ограничивает вмешательство в личные дела только в строго необходимых случаях, таких

как защита национальной безопасности и общественного порядка. Европейский суд по правам человека (ЕСПЧ) обеспечивает соблюдение этих прав на уровне стран Европы, создавая прецеденты и ориентиры для законодательств стран-участниц [2].

Одним из важнейших документов, определяющих защиту персональных данных в Европе, является Общий регламент о защите данных (GDPR), который вступил в силу в 2018 г. Разработка данного регламента стала важнейшим шагом в защите частной жизни граждан ЕС в условиях цифровизации. GDPR вводит строгие требования к обработке персональных данных, включая обязательное получение согласия субъектов данных на их обработку. Закон требует, чтобы все организации, работающие с персональными данными, обеспечивали безопасность этих данных, а также предоставляли пользователям возможность легко контролировать свои данные.

В США защита частной жизни и личной информации регулируется рядом федеральных и местных законов, среди которых Закон о защите личной информации и электронных документов (ЕСРА), который регулирует доступ к электронной переписке, а также правила сбора и использования данных, передаваемых по каналам связи. ЕСРА ограничивает доступ правительственных органов к частной переписке и информации без должных оснований и ордера.

Зарубежные стандарты защиты права на неприкосновенность частной жизни, личную и семейную тайну варьируются в зависимости от региона, однако все они стремятся обеспечить баланс между правами граждан на защиту личной информации и необходимостью использования этих данных в интересах общественной безопасности, борьбы с преступностью или других законных целей. Систематизация законодательства России в области защиты частной жизни показывает, что правовая база в стране развита, но требует дальнейшего совершенствования с учетом новых технологических вызовов. Проблемой остаются недостаточная детализация некоторых аспектов законодательства, что может привести к правовым пробелам. Важно, чтобы законы адаптировались к новым условиям, связанным с цифровизацией и глобализацией данных, обеспечивая баланс между защитой личных прав и общественными интересами.

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СПОСОБЫ ОПТИМИЗАЦИИ ГЕОЭКОЛОГИЧЕСКИХ ПРОБЛЕМ ЛАНДШАФТОВ КАШКАДАРЬИНСКОЙ ДОЛИНЫ

***Аннотация:** В статье анализируются причины возникновения геоэкологических проблем, вызванных воздействием гидротехнических сооружений Кашкадарьинского оазиса на окружающую среду, а также определяются меры по их устранению и пути достижения экологической устойчивости. Особое внимание уделено эффективному использованию гидротехнических сооружений и их влиянию на окружающую среду.*

***Ключевые слова:** гидротехнические сооружения, канал, коллектор, водохранилище, деградация, ирригационная система, загрязнение, Каршинский магистральный канал (КМК).*

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WAYS TO OPTIMIZING GEOECOLOGICAL PROBLEMS OF THE KASHKADARYA VALLEY LANDSCAPES

***Abstract:** The article analyzes the causes of geoecological problems caused by the impact of hydraulic structures of the Kashkadarya oasis on the environment, and also determines measures to eliminate them and ways to achieve environmental sustainability. Particular attention is paid to the effective use of hydraulic structures and their impact on the environment.*

***Keywords:** hydraulic structures, canal, collector, reservoir, degradation, irrigation system, pollution, Karshi Main Canal (KMC).*

Введение. С момента обретения независимости Республики Узбекистан во всех сферах, особенно в сельском хозяйстве, достигнуты значительные успехи, которые заметно влияют на устойчивое развитие нашей экономики. В

частности, принятие Постановления Президента Республики Узбекистан от 19 апреля 2013 года «О мерах по дальнейшему улучшению мелиоративного состояния земель и рациональному использованию водных ресурсов в 2013–2017 годах» создало правовую основу для дальнейшего развития сельского хозяйства. Особое внимание уделено вопросам эффективного и рационального использования земель и воды, а также охране окружающей среды, что является основным фактором обеспечения устойчивого развития. Наряду с другими регионами нашей республики, Кашкадарьинская долина также считается одним из важнейших центров по производству сельскохозяйственной продукции. Все отрасли сельского хозяйства в долине активно развиваются, включая орошаемое и богарное земледелие, а также пастбищное животноводство, которые играют ведущую роль и характеризуются значительным вкладом в экономику нашей республики.

Основная часть. Жаркий климат долины способствует развитию орошаемого земледелия, что позволяет получать высокий урожай сельскохозяйственных культур. Орошаемое земледелие обеспечивает не только значительно более высокий урожай по сравнению с богарными землями, но и позволяет производить продукцию высокого качества. Одной из важнейших задач является рациональное использование земельных ресурсов в долине, регулярный анализ мелиоративного состояния почв и проведение необходимых гидромелиоративных мероприятий. Эффективное, рациональное и экономное использование орошаемых земельных ресурсов в долине, наряду с серьёзным подходом к вопросам охраны окружающей среды, является одной из основных задач.

В регионах с орошаемым земледелием формируются агроирригационные ландшафты, что в свою очередь приводит к негативному воздействию существующих гидротехнических сооружений на окружающую среду. Это вызывает возникновение различных геоэкологических проблем в данном районе. Анализ геоэкологических последствий мелиоративных мероприятий, связанных с орошением, а также поиск путей оптимизации негативного влияния на окружающую среду являются актуальными задачами.

Основным источником водных ресурсов региона являются реки Кашкадарья и её притоки, обеспечивающие 15% потребности в воде. Водные ресурсы поверхности бассейна составляют 42,4 м³/сек. Для решения проблемы водоснабжения было построено 13 водохранилищ с общим годовым объёмом воды 2541,8 млн м³, что позволяет орошать территорию площадью 173,357 км².

Дополнительные водные ресурсы для региона поступают из рек Амударья и Зарафшан. Они доставляются в области Карши, Нишан, Касби, Косон и Муборак посредством Таллимарджанского водохранилища и Каршинского магистрального канала (КМК)³⁶. Таллимарджанское водохранилище, являющееся крупнейшим по ёмкости, имеет общий объём

³⁶ КМК - Каршинского магистрального канала

воды 1525,0 млн м³ (этот показатель может варьироваться в разные годы). Через КМК вода орошает территорию площадью 77,35 км². Водохранилище обеспечивает 80% воды, необходимой для орошения в сельском хозяйстве области. Рабочая часть КМК начинается от Таллимарджанского водохранилища и через межхозяйственные сети протяжённостью 2224,5 км обеспечивает водой 33 812 га земли в Каршинском районе. Ирригационная система Нишана протяжённостью 2135,7 км орошает 2791,4 га, а система Косона включает 9 каналов общей протяжённостью 3334,6 км и обеспечивает водой 61 100 га. В Касбинском районе ирригационная сеть длиной 2216,8 км орошает 41 934 га, а в Мубораке – 3565 га.

КМК был построен в период с 1966 по 2000 годы. Общая длина межхозяйственной оросительной системы составляет 9911,67 км, из которых 780 км покрыты бетоном, 4090 км состоят из лотков, а оставшиеся 4313 км представляют собой земляные арыки. Через рабочую часть КМК, начиная от Таллимарджанского водохранилища, орошается 212 550 га земли. Пропускная способность основного канала составляет 350 м³/сек. Строительство Таллимарджанского водохранилища привело к улучшению водоснабжения сельскохозяйственных отраслей в Кашкадарьинской области, созданию возможностей для развития сельской социальной инфраструктуры, а также к организации новых плантаций хлопка, зерновых, бахчевых, овощных культур, садов и виноградников.

Однако в системе орошения долины существуют значительные проблемы, такие как несоответствие хозяйственных и внутрихозяйственных каналов гидротехническим требованиям, нехватка квалифицированных гидротехнических кадров, а также нарушение норм эффективного использования воды. Это, в свою очередь, вызывает ряд экологических и технических проблем, негативно влияющих на окружающую среду:

- Выделение части земельных ресурсов под мелиоративные и гидротехнические сооружения;
- Изменение уровня поверхностных и грунтовых вод, их химического состава, увеличение минерализации, засоления и заболачивания;
- Негативное влияние на флору и фауну из-за изменений экологических условий, вызванных орошением;
- Изменение микрорельефа орошаемых земель и нарушение экологического баланса;
- Изменение тепловых свойств почвы, увеличение её теплоёмкости и температурных колебаний;
- Частичное разрушение и истощение плодородного слоя почвы, ухудшение её структуры, а также изменения водно-воздушного режима в результате строительства ирригационно-дренажных сетей, выравнивания мелиорируемых участков и подъёма грунтовых вод;
- Влияние избыточного использования воды и минеральных удобрений на качество сельскохозяйственной продукции;

- Загрязнение водоёмов из-за использования воды с высоким содержанием солей, а также применения химических средств защиты растений и некачественных вод;

- Развитие ирригационной эрозии и заиливание каналов;

- Изменение микроклимата и микросреды, а также ухудшение качества потребляемой воды, что приводит к исчезновению или вымиранию полезных представителей фауны и флоры, либо распространению видов, характерных для таких условий;

- Негативные изменения в растительном покрове и обеднение биосистемы региона.

Таким образом, формирование и развитие агроирригационных ландшафтов, а также воздействие человека на природные комплексы приводят к ухудшению геоэкологической ситуации на орошаемых землях.

Изучение этих проблем с научной точки зрения и проведение гидромелиоративных мероприятий являются одними из главных задач современности. Уровень использования воды в сельском хозяйстве зависит от коэффициента полезного действия (КПД)³⁷ ирригационной системы. Учитывая это, необходимо выявлять и устранять ошибки в использовании воды, наладить эффективное использование воды в каналах, соблюдать нормы полива, высаживать культуры с низким водопотреблением и строго придерживаться агротехнических методов полива. Также важно проводить работы по реконструкции оросительных систем.

Выводы. В заключение следует отметить, что необходимо предпринять меры для повышения КПД до уровня 0,86 и выше, что включает реализацию гидромелиоративных мероприятий. Обеспечение устойчивости экосистемы в системе главного канала долины –КМК, защита почвы и растительного покрова являются важными задачами.

Чтобы предотвратить фильтрацию и потери воды через землю, необходимо строить лотковые или бетонные каналы на участках земляных арыков. На полях со сложными рельефными условиями следует осуществлять мелиоративные мероприятия, предотвращать почвенную и водную эрозию, а также наладить рациональное использование воды.

Решение вышеуказанных вопросов не только обеспечит эффективное использование воды из водохранилищ, но и улучшит механический, химический и органический состав почвы на освоенных землях, повысит урожайность сельскохозяйственных культур, обеспечит сохранение биоразнообразия и стабильность биосистемы в регионе.

Исследование, анализ и улучшение ирригационного ландшафта региона, реализация агротехнических мероприятий позволят оптимизировать геоэкологические проблемы и обеспечить экологическую устойчивость.

³⁷ КПД -Коэффициента полезного действия

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ДИНАМИЧЕСКИЕ И СТАТИЧЕСКИЕ ЛЁГОЧНЫЕ ОБЪЁМЫ ПРИ РАЗЛИЧНЫХ АЛЛЕРГИЧЕСКИХ ФОРМАХ БРОНХИАЛЬНОЙ АСТМЫ

***Аннотация.** Оценка легочных объемов важна для диагностики бронхиальной астмы. В исследовании участвуют 44 пациента с инфекционно-аллергической (19) и атопической формами (25) БА, прошедшие спирометрию. У больных с инфекционно-аллергической формой отмечены более высокие значения легочных объемов по сравнению с атопической формой. Изменения легочных объемов варьируют в зависимости от клинической формы БА, что подчеркивает необходимость дальнейших исследований для оптимизации лечения.*

***Ключевые слова:** Бронхиальная астма, легочные объемы, инфекционно-аллергическая форма, атопическая форма*

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DYNAMIC AND STATIC PULMONARY VOLUMES IN VARIOUS ALLERGIC FORMS OF BRONCHIAL ASTHMA

***Abstract.** Assessment of lung volumes is important for the diagnosis of bronchial asthma (BA). The aim of the study was to study lung volumes in patients with moderate BA depending on the form of the disease. The study involved 44 patients with infectious-allergic (19) and atopic (25) BA who underwent spirometry. In patients with the infectious-allergic form, higher values of lung volumes were noted compared to the atopic form. Changes in lung volumes vary depending on the*

clinical form of BA, which emphasizes the need for further research to optimize treatment.

Keywords: *Bronchial asthma, lung volumes, infectious-allergic form, atopic form*

Введение. Оценка статических и динамических легочных объемов является важной частью диагностики и мониторинга бронхиальной астмы (БА) [1,3]. Эти показатели предоставляют ценную информацию о патофизиологических изменениях в дыхательной системе [2], связанных с этим заболеванием. Современные исследования подчеркивают, что изменения легочных объемов при БА не ограничиваются только обструктивными нарушениями, но также могут быть связаны с воспалением [4,5], ремоделированием дыхательных путей и гиперреактивностью бронхов [6]. Изучение статических и динамических показателей в контексте различных фенотипов БА является важным для понимания патогенеза и оптимизации лечения [7,8].

Целью настоящего исследования является изучению статических и динамических легочных объемов у пациентов со среднетяжелой БА, в зависимости от ее формы.

Материалы и методы: Исследование проводилось в аллергологическом отделении городской клинической больницы. Было обследовано 44 пациента с бронхиальной астмой инфекционно-аллергической и неинфекционно-аллергической формами средней тяжести течения в стадии ремиссии, с длительностью заболевания от 1 года до 15 лет, в возрасте от 16 - 55 лет. Все пациенты проходили спирометрическое исследование. Пациенты, имеющие рентгенологические или спирографические признаки эмфиземы, исключались из исследования.

Все больные были разделены на две группы. Первая группа состояла из больных с инфекционно-аллергической формой бронхиальной астмы (19 человек). Во вторую группу входили больные с атопической формой бронхиальной астмы (25 человек). Диагноз формы БА устанавливался на основании тщательного сбора анамнеза проведения кожных прик-тестов и/или провокационных ингаляционных проб с аллергенами (при необходимости), а также исключения других причин респираторных симптомов.

Методы исследования: Определение статических легочных объемов: остаточный объем легких (ООЛ), функциональная остаточная емкость (ФОЕ), общая емкость легких (ОЕЛ) определялись с помощью спирографа СМП-21/01-"Р-ДИС». Исследование статических объемов легких проводили с учетом температуры тела, атмосферного давления, и насыщения воздуха водяным паром. Форсированный объем выдоха за первую секунду (ОФВ1), форсированная жизненная емкость легких (ФЖЕЛ), а также отношение ОФВ1/ФЖЕЛ определялись методом спирометрии с помощью спирометра (указать модель). Измерения проводились в соответствии со стандартизированными протоколами спирометрии. Все пациенты проходили

обследование через 1,5-2 часа после легкого завтрака. Исследования выполнялись в сидячем положении в проветриваемом помещении.

Результаты и их обсуждение. У обследованных нами здоровых людей средние значения статических и динамических легочных объемов составили: 1340785,06 мл., ФОЕ составляла 2740775,18 мл., ОЕЛ-6118753,43 мл и ОО/ОЕЛ равнялось 18-25%, в величина форсированной жизненной ёмкости за первую секунду (ФЖЕЛ) равнялась 2564760,58 мл.

Сравнительные исследования изменений остаточного объема и отношения остаточного объема к общей емкости легких в % у здоровых людей и больных, страдающих различными формами бронхиальной астмы средней тяжести течения, показывают, что эти показатели значительно выше у больных бронхиальной астмой, чем у здоровых лиц, причем при инфекционно-аллергической форме еще выше, нежели при атопической форме. Средняя величина остаточного объема легких у больных инфекционно-аллергической формой астмы средней тяжести течения составляла 2868767,7 мл, в ОО/ОЕЛ - 43+3,7% при средних значениях ФОЕ равном 3981771,0 мл и ОЕЛ равной 6878761,5 мл. Средняя величина ФЖЕЛ для этой формы бронхиальной астмы равнялась 1806765,5 мл. Соответственно при атопической форме бронхиальной астмы ОО равнялся 207765,3 мл, ОО/ОЕЛ-29+6,8% при ФОЕ равной 3643762,7 мл и ОЕЛ-6782768,5 мл и ФЖЕЛ-2362767,0.

Таким образом, у больных с различными аллергическим формами бронхиальной астмы в стадии ремиссии при одной и той же тяжести течения заболевания наблюдается разница в статических лёгочных объемах (ОО и соотношения ОО/ОЕЛ в %).

При инфекционно-аллергической форме бронхиальной астмы имеет место более выраженное увеличение ОО и особенно соотношения О /ОЕЛ, % по сравнению с таковыми у больных с атопической формой бронхиальной астмы.

Использование метода определения ОО и вычисления ОО/ОЕЛ в % дает возможность использовать эти показатели для дифференциальной диагностики инфекционно-аллергической и неинфекционно-аллергической форм бронхиальной астмы.

Заключение. Изменения статических и динамических легочных объемов являются важными показателями патофизиологических процессов при БА и могут различаться в зависимости от ее клинической формы. Полученные данные подтверждают необходимость комплексного подхода к оценке функционального состояния легких у пациентов с БА, включая не только стандартные спирометрические показатели, но и дополнительные методы исследования.

Необходимы дальнейшие исследования для определения взаимосвязи между различными фенотипами БА и изменениями легочных объемов, что поможет оптимизировать персонализированный подход к лечению и мониторингу пациентов с этим заболеванием.

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ТРАНСПОРТНОЕ МОДЕЛИРОВАНИЕ: ПРОБЛЕМЫ ОПТИМИЗАЦИИ И РЕШЕНИЯ

***Аннотация:** Данная статья содержит информацию по обеспечению качества и повышению контроля эксплуатации транспорта, изучение и анализ состояния этой сферы, законодательная основа по повышению безопасности дорожного движения.*

***Ключевые слова:** Безопасность дорожного движения, интеллектуальные транспортные системы, законодательная основа контроля транспортной сферы, комплексный подход.*

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TRANSPORT MODELING: OPTIMIZATION PROBLEMS AND SOLUTIONS

***Annotation:** This article contains information on ensuring the quality and improving the control of transport operation, studying and analyzing the state of this area, and the legislative framework for improving road safety.*

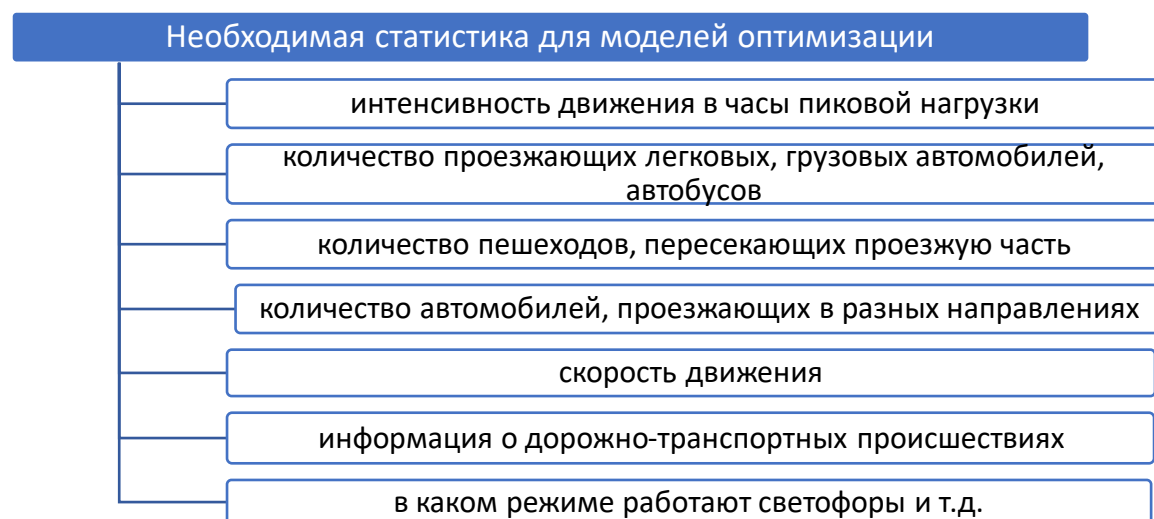
***Key words:** Road safety, intelligent transport systems, the legislative basis for the control of the transport sector, an integrated approach.*

Для оптимизации движения при управлении транспортным потоком используется ряд средств. Моделирование с аналитическим подходом-одно из них. Грамотная организация движения с учетом видов транспорта на дорогах - результат принятия рациональных решений, всестороннего анализа сложившейся ситуации и потребностей. Заторы на транспортных потоках, регулярные пробки в часы пик загруженности, низкая пропускная способность дорог - это проблемы, которые инженеры должны решить.

Количество перевозок увеличивается из года в год-это общество, в котором живут люди, осуществляется предпринимательская деятельность, реализуются крупные логистические проекты. Для перевозки необходимо снизить транспортные расходы и уменьшить потери времени пассажиров, в том числе для обеспечения безопасности.

Статистические данные являются основой для разработки оптимизированных моделей. Каждая модель решает основную проблему в

определенном аспекте. Важное место в этом отношении занимает сбор статистических данных по всем критериям функционирования того или иного участка дороги.



Чтобы добиться оптимизации транспортных потоков на дорогах, необходимо понимать реальные проблемы ситуации. Оптимизация транспортных потоков ставит перед собой задачу создания сбалансированной системы, учитывающей интересы и потребности всех участников дорожного движения. Важное место в этом плане занимает пропускная способность дорог, обеспечивающая безопасность в зонах повышенной аварийности.

В распоряжении проектировщиков имеется множество специальных систем моделирования транспортных потоков. В зависимости от требуемого уровня детализации моделируемого процесса используются макромоделли или микромоделли. В первом случае транспортный поток составляет единое целое, в которое входят все имеющиеся транспортные средства. На макросистему влияет плотность транспорта, его интенсивность и пропускная способность. В основном такие модели применяются для крупных проектов: автомагистралей, межрегиональных дорожных сетей.

Микросистемы имеют разную природу. Они предназначены для отдельных транспортных средств с учетом их взаимодействия друг с другом. Здесь важны критерии скорости и возможности ее изменения.

Оптимальные показатели по проблемным критериям в существующих условиях могут быть достигнуты путем оптимизации работы дорог, транспортных средств, пешеходов и других участников движения. Поэтому важен этап сбора объективных исходных данных и их анализа.

Транспортное моделирование помогает уменьшить неудобства эксплуатации. В список задач оптимизации входят:

- собирать анализ пропускной способности, задержек и потерь времени;
- а мониторинг и анализ пиковых нагрузок;
- изучение и анализ интенсивности движения;
- подготовка прогнозов оптимизации;

- изучение факторов безопасности;
- средние значения скорости;
- анализ моделей движения.

Основная часть работы заключается в сборе подробной информации о текущей ситуации на дороге. Это займет много времени. Здесь могут понадобиться не только технические параметры и общие данные о состоянии дорожного покрытия, ширине полос, но и стационарные наблюдения. В перечень работ входят: измерение интенсивности движения, изучение приоритетных скоростных ограничений и вида транспорта. Важно понимать, насколько загружена дорожная сеть. Инженеры анализируют использование территории, а также степень, в которой транспортные службы могут выполнять поставленные задачи.

На основе собранных данных осуществляется имитационное моделирование транспортных потоков. Это позволяет увидеть прогнозируемую ситуацию, выявить слабые места предлагаемой модели и исправить недостатки до ее реализации. Это важный шаг, потому что проверка схем проводится с использованием текущих данных о движении транспорта и пешеходном потоке. Данные для калибровки берутся из наблюдательных извещателей (рис.1).



Рисунок 1. Детектор мониторинга транспортных потоков.

В процессе моделирования также необходимо учитывать сезонность эксплуатации. В холодное и жаркое время года условия движения могут резко отличаться.

Основной задачей оптимизации движения является перераспределение транспортных потоков. Для этого используются светофорные объекты и дорожные знаки. Для разгрузки часто используется метод перенаправления движения по другой улице. Это позволяет увеличить пропускную способность, а также избежать пробок, когда жители выходят на работу или с работы в самые загруженные часы. Если возникает необходимость добавить пешеходные и велосипедные дорожки, они должны быть включены при создании оптимизированной модели.

Насколько эффективными можно охарактеризовать принимаемые решения, показывает имитационное моделирование. В сложных случаях может быть поставлен вопрос о расширении дороги и увеличении количества рядов. Но проектирование и строительство новой дороги - еще одно направление работы в более широком масштабе. Применение транспортного моделирования одинаково важно как для крупных, так и для средних городов. Дороги должны обеспечивать нормальное движение независимо от длины пути.

Большое значение имеет процесс планирования транспортных потоков. Задачи управления движением на дорогах требуют изучения математических основ, факторов и особенностей применения разработки проекта. Планирование движения может улучшить возможности дорожного движения для городского транспорта. В настоящее время программное обеспечение широко используется при организации и проектировании транспорта, а также при построении модели автомобильных потоков. Планирование перевозок выполняет три основные задачи:

- обеспечение пропускной способности автомобильных дорог и транспортных развязок;
- создание мер безопасности для участников дорожного движения;
- анализ расхода с учетом возрастающей нагрузки.

Практически разработанные модели планирования делятся на 4 типа. Основной принцип классификации - уровень детального планирования.

1. Для первого уровня характерна работа с глобальными моделями. Суть их заключается в имитации движения в виде потоков, объединенных единым принципом движения.

2. На втором уровне работают с самыми массовыми моделями. В них уделяется внимание каждому отдельному виду транспорта и особенностям его поведения в потоке.

3. Мезоскопические модели - это третий уровень. Это корреляции между первыми двумя классами вычислений, которые имеют дело с макроскопическими переменными.

4. Последний класс - микроскопические модели. Они отличаются высочайшим уровнем детализации. Кинематические, вероятностные модели линейных преобразований и др. являются наиболее распространенными средствами (рис.2).

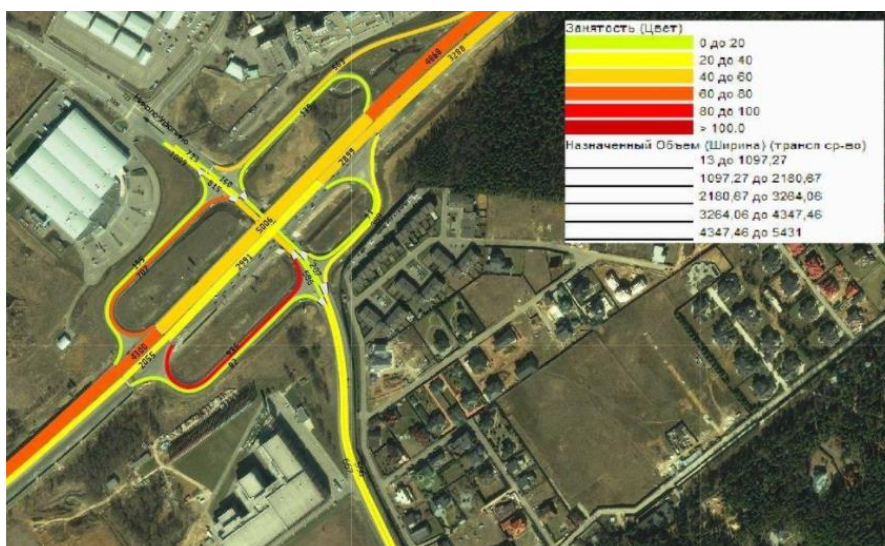


Рисунок 2. Микроскопический тип модели при планировании.

В чем суть управления трафиком, как проводится оптимизация. Классификация методов, их отличия и особенности.

Велика роль внедрения прогрессивных методов управления транспортными потоками. В короткие сроки можно добиться эффективности по требуемым показателям, максимально используя дорожные сети города. И главное препятствие-это, конечно же, пробки. Пробки могут быть случайными и систематическими. Как показывает практика, ее основными характеристиками являются периодичность и стабильность. В основном это происходит в пересекающихся направлениях. Целью осуществления контроля является минимизация задержек автомобиля с учетом временных рамок, в которых присутствует движение.

Классификация методов делит их на два типа: инфраструктурные и организационные. Все, что связано со строительством, относится к первому типу. К последним относятся те, которые предоставляют методы, лежащие в основе организационных решений. В этом отношении выделяют:

- главные улицы;
- улицы с разным движением;
- использование информационных систем;
- выделение полос для отдельных видов транспорта и т.д.

Если сравнивать две категории методов, они различаются по финансовым вложениям. Организационные решения требуют меньших финансовых затрат. Это определяет их актуальность для использования в городах и мегаполисах. Метод выполняется поэтапно. Вначале формируются матрицы соответствия, которые затем выполняют расчет более оптимальных типов направлений и перераспределяют потоки.

Подводя итог, можно сказать, что автоматизированные системы управления автотранспортом представляют собой комплексные решения, сочетающие в себе технические, организационные и программные меры. Автоматизированные системы управления дорожным движением позволяют собирать данные и обрабатывать основную информацию о движении, трафике

на дорогах. Все эти данные станут основой для оптимизации транспортных потоков.

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ОПТИЧЕСКИЕ СВОЙСТВА И ПАРАМЕТРЫ ПЛЕНКИ CaF_2/Si , ИМПЛАНТИРОВАННЫХ НИЗКОЭНЕРГЕТИЧЕСКИМИ ИОНАМИ БАРИЯ

Аннотация: В данной работе исследуются пленки CaF_2 и их потенциал для создания приборов в области твердотельной электроники, включая интегральные схемы (БИС) и ультрабыстрые интегральные схемы (УБИС). Работа представляет некоторые важные характеристики этих пленок. Рост монокристаллических пленок CaF_2 на подложке Si (100) начинается с механизма Странского-Крастанова и затем переходит к механизму Франка-Ван-дер-Мерве. Исследования показывают, что поверхность пленок CaF_2 (100) становится кристаллической (1x1) после высокотемпературного прогрева.

Ключевые слова: Пленки CaF_2 , Твердотельная электроника, ультрабыстрые интегральные схемы, Механизм роста пленок.

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OPTICAL PROPERTIES AND PARAMETERS OF CaF_2/Si FILMS IMPLANTED WITH LOW-ENERGY BARIUM IONS

Annotation: This work investigates CaF_2 films and their potential for the development of devices in the field of solid-state electronics, including integrated circuits (ICs) and ultra-fast integrated circuits (UFICs). The study highlights some important characteristics of these films. The growth of monocrystalline CaF_2 films on a Si (100) substrate starts with the Stranski-Krastanov mechanism and then transitions to the Frank-van der Merwe mechanism. Research shows that the surface of CaF_2 (100) films becomes crystalline (1×1) after high-temperature annealing.

Keywords: CaF_2 films, solid-state electronics, ultra-fast integrated circuits, film growth mechanisms.

Пленки CaF_2 имеют большую перспективу в создание уникальных приборов твердотельной электроники, в частности БИС и УБИС. Поэтому в данной работе приводятся некоторые важные характеристики пленок CaF_2 [1-

3]. Отметим, что рост МЛЭ пленки $\text{CaF}_2/\text{Si}(100)$ в начальном этапе происходит по механизму Странского – Крастанова, затем реализуется рост по механизму Франка–Ван-дер– Мерве. Поверхность (1×1) CaF_2 (100) формируется после высокотемпературного ($T=1120$ К) прогрева пленок с d 150-200 Å (рис. 1.).

Основными инородными примесями в приповерхностной области CaF_2 являлись атомы кислорода и углерода. Кроме того, в оже- и масс-спектрах обнаружено малое количество (1-2 ат.%) атомов S и N. Наиболее оптимальная температура обезгаживания пленки CaF_2 – 1000-1050 К. При этом концентрация кислорода уменьшалась до 2 - 3 ат.% и эти образцы принимались за "чистые". Дальнейшее увеличение температуры прогрева приводило к частичному разложению CaF_2 , вследствие чего наблюдалась десорбция фтора с поверхностных слоев и обогащение этих слоев атомами кальция.

На рис.2 представлены зависимости максимального значения коэффициента ИВЭ m и квантового выхода фотоэлектронов Y от толщины пленки CaF_2 , нанесенной на поверхность $\text{Si}(111)$. Как видно из этого рисунка, значение Y с ростом d увеличивается, что связано с большей эмиссионной эффективностью CaF_2 по сравнению с Si. Глубина зоны выхода вторичных электронов для CaF_2 при бомбардировке как первичными электронами, так и фотонами с $h\nu=10$ эВ составляет 350 - 400 Å. Учитывая это, основные исследования в данной работе проведены на пленках толщиной $d = 500$ Å.

Основными оптическими константами являются: показатель преломления n , коэффициент отражения r и диэлектрическая проницаемость. Все эти константы непосредственно связаны с микроскопическими параметрами кристалла и зависят от температуры и в некоторых случаях от толщины диэлектрической пленки.

Рис.1. Картина ДБЭ МЛЭ плёнки $\text{CaF}_2/\text{Si}(100)$. Температура роста $T_s=1000$ К. Толщина плёнки $h=2200$ Å.



В таблице 1. представлены значения n для Si с поверхностной пленкой CaF_2 разной толщины, определенные оптическим методом и методом СУОЭ. Как следует из таблицы, в случае тонких пленок CaF_2 на n сильное влияние оказывает подложка - кремний. Роль подложки особенно заметна в видимой и инфракрасной областях света, т.е. в области, где энергия электромагнитного излучения ($h\nu < 2$ эВ), много меньше ширины запрещённой зоны пленки CaF_2 ($E_g \sim 9-10$ эВ). В указанной энергетической области излучения

диэлектрическая пленка оказывается почти прозрачной, следовательно свет, проникая вглубь образца, в основном взаимодействует с атомами кремния. Некоторое уменьшение n в случае толстых пленок, по видимому, обусловлено наличием примесных атомов в объеме пленки CaF_2 . В области ультрафиолетового излучения, особенно при $h\nu > 10,2$ эВ (< 1200 Å) происходит сильное поглощение света пленкой [4,5].

Значение n определенное методом СУОЭ уже при малых толщинах пленки ($d \sim 100$ Å) резко отличается от n для Si и становится характерным для диэлектриков. Некоторое отличие n пленки с толщиной $d \sim 100$ Å от n для толстой пленки, по-видимому, обусловлено не только вкладом матрицы в возбуждение межзонных переходов и плазменных колебаний, но и несовершенством стехиометрического состава и кристаллической структуры пленки вследствие влияния подложки. В случае толстых пленок значения n , полученные методом СУОЭ и оптическим методом в области ультрафиолетового излучения близки.

Таблица 1.

Значения показателя преломления света n для пленок CaF_2

Метод	Толщина пленок d , Å							
	0 (Si)	100	200	400	600	800	1200	2000
Оптический:								
$n=1050$ (УФ)	3,5	3,0	2,2	1,8	1,6	1,6	1,55	1,55
$n=6700$ (кр)	3,4	3,2	3,2	-	3,2	3,0	3,0	3,0
$n=1064$ (ИК)	3,1	3,1	3,0	-	-	-	3,0	2,9
СУОЭ	3,35	1,7	1,48	1,52	-	1,43	-	1,45

Оптические свойства пленок CaF_2/Si (100) резко изменяются после ионной имплантации, особенно при больших дозах облучения. В таблице 2 приведены значения оптических параметров пленки CaF_2 , легированной ионами Ba^+ с $E_0=0,5$ кэВ при дозе облучения $D \leq 6 \cdot 10^{16}$ см $^{-2}$ до после прогрева при $T=1000$ К.

Видно, что пост имплантационный прогрев приводит к уменьшению n , r , однако их значения даже при $T=1100$ К остаются несколько большими, чем для чистой пленки CaF_2 .

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ОСОБЕННОСТИ ПРЕПОДАВАНИЯ МОДУЛЯ «ВВЕДЕНИЕ В БИОЛОГИЮ» ПРИ ИЗУЧЕНИИ РАЗДЕЛА «БИОЛОГИЯ, 5 КЛАСС»

***Аннотация:** в статье мы рассматриваем проблему преподавание модуля "Введение в биологию" в 5 классе требует комбинирования различных методик обучения с акцентом на интерактивность, интеграцию знаний и развитие любознательности.*

***Ключевые слова:** модуль, методика, деятельностный характер, метапредметный аспект.*

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FEATURES OF TEACHING THE MODULE "INTRODUCTION TO BIOLOGY" WHEN STUDYING THE SECTION "BIOLOGY, GRADE 5"

***Abstract:** in the article we consider the problem of teaching the module "Introduction to Biology" in the 5th grade requires a combination of various teaching methods with an emphasis on interactivity, integration of knowledge and development of curiosity.*

***Keywords:** module, methodology, activity-based nature, meta-subject aspect.*

Предлагаемый вашему вниманию тематический предметный модуль «Введение в биологию», рассчитанный на 4 часа, содержит поурочные разработки для 5 класса и ориентирован на использование УМК по биологии «Линия жизни» под редакцией В.В. Пасечника (М.: Просвещение). Главная

цель создания данного модуля - познакомить учащихся с новым учебным предметом и пробудить у них интерес к изучению биологии. Материал и структура модуля соответствуют требованиям ФГОС-2021, отличительной особенностью которого является его деятельностный характер, ставящий главной целью развитие личности учащегося.

Стандарт указывает реальные виды деятельности, которыми учащийся должен овладеть к концу обучения, а требования к результатам обучения сформулированы в нем в виде личностных, предметных и метапредметных результатов. Конспекты уроков ориентированы на развитие общеучебных умений ребенка, таких как способности анализировать, выделять существенное, фиксировать новый опыт, работать с научно-популярным текстом, творчески подходить к проблемной ситуации и пр., а также специальных умений – устанавливать связи между природными объектами, фиксировать результаты наблюдений и экспериментов, осознавать течение природных процессов и т. д. При проверке знаний учащихся рекомендуется дополнительно использовать «Контрольно-измерительные материалы» по биологии для 5 класса (сост. Н.А. Богданов. М.: ВАКО).

Сценарии уроков можно полностью или частично использовать при преподавании биологии в 5 классе, встраивая их в собственный план урока. Тематическое планирование учебного материала в 5 классе рассчитано на 34 часа, первый блок - «Введение в биологию» - 4 часа:

№ урока	№ параграфа учебника	Тема урока
Введение в биологию (4 ч)		
1	—	Знакомство с учебным предметом «биология»,
2	1	Живая и неживая природа – единое целое
3	2	Биология – система наук о живой природе
4	3	Роль биологии в жизни современного человека

Преподавание модуля "Введение в биологию" в 5 классе предназначено для того, чтобы заложить основы биологического образования, развить интерес к естественным наукам и подготовить учащихся к дальнейшему изучению данной области. Особенности учебного процесса в этом возрасте требуют от педагога осознания важности адаптации материала к уровню восприятия и интересам школьников, что способствует более эффективному усвоению знаний и формированию устойчивого интереса к предмету.

Одной из ключевых особенностей преподавания является использование интерактивных и творческих методов обучения. Это может включать проведение экспериментальных занятий, моделирование биологических процессов в классных условиях, а также организацию экскурсий и интерактивных выставок. Такие подходы стимулируют активное участие учеников в учебном процессе, формируют навыки исследований и критическое мышление.

Важным элементом в преподавании биологии в 5 классе является демонстрация многообразия живых организмов и их значимости в экосистемах. Педагог должен стремиться к формированию у учащихся понимания взаимосвязей между организмами, а также роли человека в поддержании естественного равновесия. Это позволяет воспитывать ответственное отношение к окружающему миру с раннего возраста.

Учитывая особенности возраста, стоит обратить внимание на интегрирование элементов игровых действий в образовательный процесс. Игровые методы способствуют более легкому восприятию сложных биологических понятий и вовлекают детей в более глубокое изучение материала. Эти методы могут включать соревнования, ролевые игры и использование мультимедийных приложений, которые оживляют учебный процесс.

Специалисту, преподающему биологию в 5 классе, рекомендуется активно привлекать родителей в образовательный процесс, мотивируя их участие в совместных проектных работах и внешкольных мероприятиях. Это способствует укреплению связи между теоретическими знаниями и практическим применением, а также поддерживает интерес к биологии за пределами школьных стен.

Таким образом, преподавание модуля "Введение в биологию" в 5 классе требует комбинирования различных методик обучения с акцентом на интерактивность, интеграцию знаний и развитие любознательности. Это обеспечивает создание прочного фундамента для последующего изучения биологии в более старших классах, развивая у учащихся не только знания и понимание предмета, но и общие умения исследовательской деятельности.

Кроме того, в процессе преподавания модуля "Введение в биологию" важно уделять внимание индивидуальным особенностям каждого учащегося. Вместо единственного подхода к каждому ученику, преподаватель может использовать дифференцированные задания, которые учитывают различный уровень подготовки и интересов школьников. Это позволяет поддерживать интерес к предмету на всех этапах обучения и способствует более глубокому усвоению материала каждым ребенком.

Еще одним значимым аспектом является стимулирование самостоятельности учащихся в процессе изучения. Поддержка инициативы школьников в выборе тем для исследовательских проектов или самостоятельного изучения конкретных аспектов биологии может значительно обогатить их образовательный опыт. Такие практики развивают умение работать с информацией, аналитику и способность к адаптации знаний, что является важной частью современного образования.

Нельзя забывать о постоянной профессиональной развитии самого преподавателя. Быть в курсе последних достижений в области биологии и методики преподавания естественных наук поможет педагогу не только актуализировать подачу материала, но и поддерживать личную мотивацию и вдохновение в работе с детьми. Обмен опытом с коллегами, участие в

профильных семинарах и конференциях — это необходимый элемент для поддержания высокого уровня преподавания.

Таким образом, успешное преподавание биологии в 5 классе на базе модуля "Введение в биологию" заключается в способности учителя использовать разнообразные методы и подходы, создавать учебную среду, которая вдохновляет и поддерживает каждого ученика. Это требует от педагога гибкости, творческого подхода и незаурядного педагогического мастерства, что в конечном итоге поможет воспитать в учащихся любовь к биологии и побудить их к дальнейшему изучению естественных наук.

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АЛЬТЕРНАТИВНАЯ ЭНЕРГЕТИКА В УЗБЕКИСТАНЕ

Аннотация: Основными компонентами альтернативных - возобновляемых источников энергии в Узбекистане являются солнечная, гидравлическая, ветровая и геотермальная энергия, а также энергия биомассы.

Ключевые слова: энергия, ветроустановка, солнечный панель, геотермальная энергия, мощность, блок управления, аккумуляторная батарея, фотоэлектрическая пластинка.

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ALTERNATIVE ENERGY IN UZBEKISTAN

Abstract: The main components of alternative renewable energy sources in Uzbekistan are solar, hydraulic, wind and geothermal energy, as well as biomass energy.

Key words: energy, wind turbine, solar panel, geothermal energy, power, control unit, battery, photovoltaic plate.

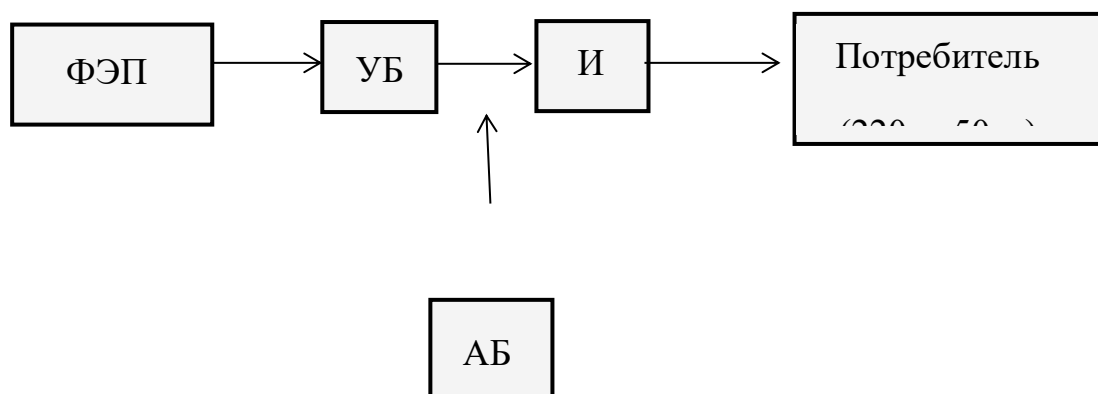
Сегодня, в рамках своего стремления к зеленому развитию, Узбекистан стремится достичь углеродной нейтральности, развивая «зеленую энергию» и утроив долю возобновляемых источников энергии в течение следующих 10 лет. Были поставлены амбициозные стратегические цели: удвоить производство электроэнергии в стране до 28 ГВт к 2030 году и обеспечить, чтобы не менее 25% электроэнергии поступало из возобновляемых источников. На этот показатель приходится 5 ГВт солнечной энергии, 3 ГВт ветра и 2 ГВт гидроэнергии. Узбекистан является одной из стран с большим потенциалом использования возобновляемых источников энергии. По оценкам экспертов, альтернативная энергетика в нашей стране в несколько раз превышает невозобновляемые ресурсы органического топлива. Около 97 процентов этой возможности исходит от солнечной энергии. То есть в нашей стране считается 300 солнечных дней в году. В этом плане мы можем превзойти Испанию, разработавшую солнечную энергетику. Кроме того, у нас есть ветреные районы, а также горные реки, которые можно использовать для выработки электроэнергии. Узбекистан является одним из регионов, богатых

ветровыми ресурсами. Мощность ветра, дующего у поверхности земли – на высоте 10 метров, составляет 25% электроэнергии, вырабатываемой в нашей стране за год. Если получать электроэнергию из ветра высотой до 100 метров, можно будет получать энергию в большем объеме, чем в настоящее время.

1. Энергия ветра. Уже очень давно, видя, какие разрушения могут приносить бури и ураганы, человек задумывался над тем, нельзя ли использовать энергию ветра. Ветряные мельницы с крыльями-парусами из ткани первыми начали сооружать древние персы свыше 1,5 тыс. лет назад. В дальнейшем ветряные мельницы совершенствовались. В Европе они не только мололи муку, но и откачивали воду, сбивали масло, как, например в Голландии. Первый электрогенератор был сконструирован в Дании в 1890 г. Через 20 лет в стране работали уже сотни подобных установок [1-4]. Энергия ветра очень велика. Ее запасы по оценкам Всемирной метеорологической организации, составляют 170 трлн. кВт*ч в год. Эту энергию можно получать, не загрязняя окружающую среду.

2. Солнечная энергия. Солнце, как известно, является первичным и основным источником энергии для нашей планеты. Оно греет всю Землю, приводит в движение реки и сообщает силу ветру. Под его лучами вырастает 1 квадриллион тонн растений, питающих, в свою очередь, 10 триллионов тонн животных и бактерий. Благодаря тому же Солнцу на Земле накоплены запасы углеводородов, то есть нефти, угля, торфа и пр., которые мы сейчас активно сжигаем. Для того чтобы сегодня человечество смогло удовлетворить свои потребности в энергоресурсах, требуется в год около 10 миллиардов тонн условного топлива. Солнечная энергетика основывается на том, что поток солнечного излучения, проходящего через участок площадью 1 м.кв., расположенный перпендикулярно потоку излучения на расстоянии одной астрономической единицы от Солнца (на входе в атмосферу Земли), равен 1367 Вт/м.кв. (солнечная постоянная) [2-3-5]. Через поглощение, при прохождении атмосферы Земли, максимальный поток солнечного излучения на уровне моря (на Экваторе) - 1020 Вт/м.кв. Однако следует учесть, что среднесуточное значение потока солнечного излучения через единичный горизонтальный участок как минимум в три раза меньше (из-за смены дня и ночи и изменения угла солнца над горизонтом). Зимой в умеренных широтах это значение еще в два раза меньше. Известны следующие способы получения энергии за счет солнечного излучения: 1. Получение электроэнергии с помощью фотоэлементов. 2. Преобразование солнечной энергии в электрическую с помощью тепловых машин: а) паровые машины (поршневые или турбинные), использующих водяной пар, углекислый газ, пропан-бутан, фреоны; б) двигатель Стирлинга и т.д. 3. Гелиотермальная энергетика - преобразование солнечной энергии в тепловую за счет нагрева поверхности, поглощающей солнечные лучи. 4. Солнечные аэростатные электростанции (генерация водяного пара внутри баллона аэростата за счет нагрева солнечным излучением поверхности аэростата, покрытой селективно-поглощающим покрытием). Недостатки солнечной энергетика. Для

строительства солнечных электростанций требуются большие площади земли через теоретические ограничения для фотоэлементов первого и второго поколения. К примеру, для электростанции мощностью 1 ГВт может понадобиться участок площадью несколько десятков квадратных километров. Основные части солнечных фотоэлектрических приборов состоят из следующих основных частей (рис. 1):



1-рис. Основные части фотоэлектрических установок.

ФЭП-фотоэлектрическая пластинка, УБ-управляющей блок, АБ-аккумуляторная батарея, И-инвертор.

Блок управления контролирует подключение напряжения к нагрузке и аккумуляторной батарее. ФЭП-фотоэлектрическая пластина преобразует световую энергию в электрическую. Инвертор усиливает постоянное напряжение, генерируемое в ФЭП, и преобразует его в переменное напряжение (220 В, 50 гц). АБ-аккумуляторная батарея служит для обеспечения бесперебойного питания потребителя в условиях отсутствия света, накапливая в себе напряжение, генерируемое в ФЭП. Срок службы ФЭП составляет в среднем 25-30 лет. За это время один раз заменяют инвертор и три раза заменяют аккумулятора. Коэффициент полезного действия современного ФЭП составляет 15-25%, и на 1 м² поверхности ФЭП можно получить 150 Вт электрической энергии. Поверхность ФЭП для выработки 2 кВт мощности, необходимой для отдельной семьи определяются следующей формулой:

$$S=2000/150=14 \text{ м}^2$$

Совокупная стоимость ФЭП с комплектующими, вырабатывающими 2 кВт электроэнергии, в фирме "Mir Solar" рассчитывается следующим образом:

$$K=2 \times 9,0 = 18,0 \text{ млн.сум.}$$

Годовая электрическая энергия ФЭП определяется $W=K_{\text{п}}*P_{\text{м}}*T_{\text{к}}$

как генерируемая электричество. В этом случае коэффициент K_p является коэффициентом потерь, которая учитывает изменение температуры и угла падения солнечного света в течение дня;
 $K_d = 0,5 \div 0,7$.

P_M -максимальная мощность ФЭП, T_c - солнечные дни (годовая). В Узбекистане

В течение год солнечные часы составляют 850-1000 часов [3], и максимальная мощность определяется:

$$W = 0,7 \times 2 \text{ кВт} \times 1000 \text{ ч} = 14000 \text{ кВт.ч.}$$

Стоимость 1 кВт ч. электрической энергии в настоящее время в Узбекистане 295 сўм, тогда годовая стоимость электрической энергии:

$$\Xi = 14000 \times 295 = 4\,130\,000 \text{ сум.}$$

Определяем срок самоокупаемости устройство ФЭП:

$$T = K/\Xi = 18,0/4,130 = 4,35 \text{ год.}$$

Срок самоокупаемости за 5 лет уменьшился 2,5 раза. В последнее годы стоимость 1 кВт.ч. электрической энергии автономных ФЭП было 7 евро. За 5 лет оно уменьшился до 4,5 евро. Таким образом стоимость альтернативной электрической энергий непрерывно уменьшается, а стоимость обычной электрической энергии непрерывно увеличивается. За 5 лет стоимость обычной электрической энергии увеличился 3-5 раз [3-5].

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ЭЛЕКТР ЭНЕРГИЯ АНИҚЛАШ ВА ИСРОФИНИ КАМАЙТИРИШ УСУЛЛАРИ

Аннотация: Электр энергиясини узатиш ва тақсимлашда электр тармоқлари алоҳида ўринни эгаллайди. Ишлаб чиқарилаётган электр энергиясини деярли ҳаммаси электр тармоқлари бўйлаб келади. Электр тармоғини асосий вазифаси истеъмолчиларни электр билан таъминлаш, яъни электр энергияси ишлаб чиқадиган жойдан уни ишлатиладиган жойга узатишдан иборат.

Электр энергиясини узатиш ва тақсимлашнинг такомиллашган кўриниши электр энергияси тизимидир.

Электр энергия тизими бу узатиши линиялари воситасида ўзаро боғланган ва электр энергияси истеъмолчиларини биргаликда ток билан таъминлайдиган электр электр станциялари бирлашмасидир, тадқиқи натижалари келтирилган [1].

Калим сўзлар: электр энергия, тоқлар, қувват исрофи ошмаслик, бошқариш, кучланиш *tushunchalar biriktirilgan*.

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METHODS OF DETERMINING AND REDUCING WASTE OF ELECTRICAL ENERGY

Abstract: Electricity networks play a special role in the transmission and distribution of electricity. Almost all electricity is generated from the electricity grid. The main function of the power system is to supply electricity to consumers, that is, to transfer electricity from the place where it is generated to the place of its use. An improved understanding of the transmission and distribution of energy is the power system. The power system is a collection of power plants that are interconnected by these transmission lines and together provide electricity to consumers, the research results are presented [1].

Key words: electricity, current, power dissipation, control, voltage.

Электр энергия исрофини ҳисоблаш учун 0,4 кВ кучланишгача бўлган тармоқни тасдиқланган принципитал электр схемасидан фойдаланилади [2]. Нормал шу режимдаги ҳар бир таъминлаш маркази кўрсатилган тақсимлаш

пунктлари, реакторлар тури, марка, кесим юзаси ва узунлик кўрсатилган кабел ва ҳаво линиялари тармоқ ва абонент трансформатор нимстанциялари. Трансформатор нимстанциясида ячейка номери, куч трансформаторларининг маълумотлари коммутация аппаратларини кўрсатилган бўлиши лозим. Таъминлаш марказида ва тақсимлаш пунктларида секцияни номерини тақсимлаш ва таъминлаш линиясини номини, ушбу секцияларда тарқалувчилари кўрсатилиш керак [3].

Бундан ташқари тармоқ схемасида электр тармокни нормал иш режимидаги унга мос равишда ток ажратгичлари билан таъминлаган. Электр энергияни исрофини ҳисоблашда автоматлашган назорат ва ҳисоблаш системасидан олинган аниқ қийматлардан фойдаланилди, агарда системани йўқлигида эса ҳисоблаш давридаги назорат ўлчашларининг натижалари ҳисобланади .

10(6) 0,4 кВ кучланишли куч трансформаторлардаги электр энергия исрофларини аниқлаш.

Куч трансформаторларидаги электр энергия исрофларини ҳисоблаш учун бошланғич маълумотлар [4]:

Трансформатор тури, қуввати, номинал ток, салт ишлаш ва қисқа туташув исрофлари (паспорт маълумотлар асосида) ҳисоблаш давридаги трансформаторларни ўчирилиш маълумотномаси;

Назорат ўлчаш давридаги кунлик юклама графигидан олинган трансформаторни ўртача максимал ишчи токи

$$I_{\text{ўр}} = \frac{I_a + I_b + I_c}{3}; \text{ А} \quad (1)$$

Куч трансформаторларидаги актив энергия сони $W_{\text{ТВ}}$ ҳисоблаш давридаги абонент трансформаторларга келувчи актив энергия сони $W_{\text{ТР}}$ (кВт.С)

Куч трансформаторлардаги йиллик электр энергия исрофини аниқланади.

$$W_{\text{mpi}} = \Delta P_{\text{с.и.и}} t + \Delta P_{\text{к.и.и}} \tau K_3^2; \text{ кВт.с} \quad (2)$$

бу ерда t - ҳисоблаш давридаги трансформатор иш соат сони;

τ - максимал исрофлар вақти [5].

$P_{\text{с.и.и}} t, P_{\text{к.и.и}}$ – салт ишлаш ва қисқа туташувни қувват исрофи. кВт

K_3 –йиллик максимал даврдаги трансформаторни юкланиш коэффициенти.

$$K_{\gamma} = \frac{I_{\gamma p.макс}}{I_{ni}} \quad (3)$$

бу ерда I_{ni} i - та трансформаторни номинал ток,

$I_{\gamma p.макс}$ - назорат ўлчаш давридаги кунлик графикдан олинган ўртача максимал ток

Келтирилган τ қийматини қуйидагилар ёрдамида топамиз.

$$\tau = \left(0,124 + \frac{T}{10^4} \right)^2 \cdot 8760, c \quad (4)$$

бу ерда T - максимал юкланишни фойдаланиш соат сони.

Максимал юкланишдаги фойдаланган соатлар сонини қуйидаги формула ёрдамида топилади.

$$\tau = \frac{W_{mp}}{\sqrt{3} \cdot U_{тр.н.} \sum_{i=1}^n I_{\gamma p.макс}}, c \quad (5)$$

бу ерда $U_{тр.н.}$ трансформаторни паст томонидаги номинал линия кучланиши. τ ва T қийматларига асосан $\tau = f(T)$ боғлиқлик графигини қуриш мумкин.

Ҳамма трансформаторлардан йиллик электр энергия исрофини қуйидаги формула ёрдамида топилади [6].

$$\Delta W_{mp} = \sum_{i=1}^n \Delta W_{mp.i} \text{ кВт} \quad (6)$$

бу ерда n - электр тармоқдаги трансформатор сони

Куч трансформаторларидаги электр энергия исрофини нисбий қиймати

$$\Delta W_{mp} \% = \frac{\Delta W_{mp} \cdot 100\%}{W_{mp}} \quad (7)$$

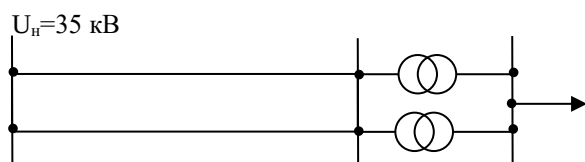
бу ерда $W_{тр}$ – куч трансформаторига келиб тушувчи электр энергия сони

$$W_{mp} = W_n - W_c - W_{mp.a} \text{ кВт.с}$$

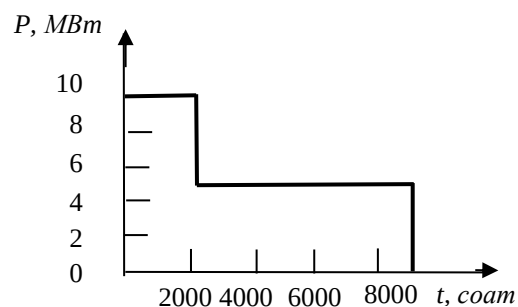
Электр тармоқларида электр энергия исрофларини ҳисоблаш

1-расмда келтирилган 35 кВ кучланишли электр узатмада йиллик энергия исрофини берилган юклама графиги (4.10-расм) ва максимал исрофлар вақти τ бўйича ҳисоблаш талаб этилади.

Электр узатиш линиясининг узунлиги 15 км, солиштирма параметрлари $r_0=0,28 \text{ Ом/км}$, $x_0=0,43 \text{ Ом/км}$. Ҳар бир трансформаторнинг номинал қуввати 6300 кВ·А ($\Delta P_c=9,2 \text{ кВт}$, $\Delta P_k=46,5 \text{ кВт}$). $\cos\varphi=0,9$.



1-расм



2-расм

Юклама максимал бўлган ҳолатдаги қувватлар исрофини ҳисоблаймиз:

$$\Delta P_T = 0,5 \cdot \Delta P_k \cdot \left(\frac{P_{\max}}{S_n \cos\varphi} \right)^2 + 2 \cdot \Delta P_c = 0,5 \cdot 46,5 \cdot \left(\frac{10}{6,3 \cdot 0,9} \right)^2 + 2 \cdot 9,2 = 72,17 + 18,4 = 90,57 \text{ кВт};$$

$$\Delta P_L = \frac{S_{\max}^2}{U_n^2} \cdot r_L = \frac{\left(\frac{10}{0,9} \right)^2}{35^2} \cdot \frac{0,28 \cdot 15}{2} \cdot 10^3 = 211 \text{ кВт};$$

$$\Delta P_{\Sigma} = \Delta P_T + \Delta P_L = 90,57 + 211 = 301,57 \text{ кВт};$$

$$\Delta P_{\Sigma}^* = \frac{\Delta P_{\Sigma}}{P_n} = \frac{301,57 \cdot 100}{10000} = 3\%.$$

Бу ерда ΔP_{Σ} , ΔP_{Σ}^* - электр тармоқдаги ҳақиқий ва фоиз бирлигидаги умумий актив қувват исрофи.

1) Йиллик энергия исрофини юклама графиги бўйича аниқлаймиз:

$$\begin{aligned} \Delta W &= (72,17 + 211) \cdot 2000 + 0,5^2 (72,17 + 211) \cdot 6760 + 18,4 \cdot 8760 = \\ &= 1200 \cdot 10^3 \text{ кВт} \cdot \text{соат}. \end{aligned}$$

Йил давомида истеъмолчига узатиловчи энергия:

$$W = 10 \cdot 2000 + 5 \cdot 6760 = 53,8 \cdot 10^3 \text{ МВт} \cdot \text{соат}.$$

Йиллик энергия исрофининг узатиловчи энергияга нисбатини аниқлаймиз:

$$\Delta W_{\Sigma}^* = \frac{1200 \cdot 10^3 \cdot 100}{53800 \cdot 10^3} = 2,23\%.$$

Шундай қилиб, ушбу ҳолатда энергия исрофи узатилувчи энергияга нисбатан 2,23% ни ташкил этади [7].

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МУҚОБИЛ ЭНЕРГИЯ ЯШИЛ ЭНЕРГЕТИКАГА ЎТИШНИНГ АСОСИЙ ТАЛАБИДИР

Аннотация: Мақолада қуёш ва шамол қурилмаларидан асосий энергия манбалари сифатида фойдаланиш билан боғлиқ масалалар кўриб чиқилади, бу еса турли хил иқлим шароитида йил давомида электр юklarини кафолатланган қоплашни таъминлайдиган тўлиқ автоном электр станцияларини яратишга имкон беради.

Калим сўзлар: қайта тикланадиган энергия манбалари, автоном тармоқлар, қуёш қурилмалари, шамол қурилмалари, энергия хусусиятлари.

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ALTERNATIVE ENERGY IS A KEY REQUIREMENT FOR THE TRANSITION TO GREEN ENERGY

ANNOTATION: The article discusses issues related to the use of solar and wind installations as primary sources of energy, which make it possible to create completely autonomous power plants that provide guaranteed year-round coverage of electrical loads in various climatic conditions.

Key words: renewable energy sources, autonomous networks, solar installations, wind installations, energy characteristics.

Ҳозирги кунда дунё бўйича киши бошига тўғри келадиган энергия истеъмоли ўртача 2-4 кВт* соатга тенг. Аммо фаровон ҳаёт кечириш учун бу миқдор етарли эмас ва у 8-10 кВт* соатга тенг бўлиши лозим[1-2]. Нефть, газ кўмир, торф каби ёқилғи манбаларининг йилдан - йилга миқдори камайиб, таннархи ошиб бораётган ҳозирги шароитда аҳолининг энергияга бўлган эҳтиёжини тўла қондириш, энергия истеъмолини талаб даражасига етказиш дунё ҳамжамияти олдида турган асосий муаммо бўлиб турибди. Ушбу муаммони ҳал этишнинг ягона йўли муқобил-қайта тикланувчи энергия манбаларидан фойдаланишдир. Бу муаммолар Ўзбекистон Республикаси Президенти Ш.Мирзиёевнинг 2023 йил 16-февралдаги “ҚТЭ манбаларини ва энергия тежовчи технологияларни жорий этишни жадаллаштириш чора тадбирлари тўғрисида”ги қарорида ўз аксини топган. Ушбу ПҚда белгиланган

вазифаларни ижросига бағишлаб йиғилишларда ва турли кўргазмаларда қайта тикланувчи энергияларнинг самарадорлиги юқори бўлиши билан бир қаторда экологик жиҳатдан соф энергия эканлиги кўрсатиб ўтилган ва бу соҳани ривожлантириш чора-тадбирлари ҳақидаги вазифалар белгилаб олинган. Жумладан, Жиззах вилояти Ғаллаорол туманидаги “Кўкбулоқ” ҚФЙ ҳудудида қуввати 220 Мвт бўлган қуёш ФЭС қурилиши бошланди. Бу 150 млн долларлик объект бўлиб, 600 гектар ер майдонига жойлашади. Лойиха инвестори БАА гининг “Masdar” компанияси бўлиб ФЭС 2024 йилда ишга туширилади ва 100 та иш ўрни яратилади. Ўзбекистон бўйича умумий қуввати 4300 Мвт бўлган ҚТЭ манбалари йирик ҚФЭС лари ижтимоий соҳа объектлари, тадбиркорлик субъектларининг бино ва иншоотларига ўрнатилади. Мамлакатимизда қайта тикланувчи муқобил энергия манбаларининг потенциали 173,4 млн т.н.э. бўлиб[3-4], энергиянинг йиллик энергия истеъмоли қийматидан уч баробар кўпдир. Бу энергиянинг 98,8% ни Қуёш энергияси ташкил этади. Чунки Мамлакатимиз серқуёш ўлка бўлиб, йилнинг 270-300 кунда Қуёш нур сочиб туради ва ҳар бир метр квадрат ерга 1100 вт га тенг энергия узатилади. Қуёш фотоэлектр станцияларидан Жиззах политехника институтида (100 квт) ва ижтимоий объектларда, мактабларда фойдаланилмоқда. Шу кунларда кўплаб ижтимоий объектларнинг электр энергияси таъминотида ҚФЭС лари ўрнатилмоқда

Ҳаво оқимларидан фойдаланиб шамол тегирмони яшаш VIII асрнинг бошларида шимолий Европада амалга оширилган. 1885 йилдаёқ Дания мамлакатада дастлабки шамол электр станциялари қурилган. 1918 йилда Данияда 120 тадан ортиқ шамол электр станцияларидан фойдаланилган. Уларнинг ҳар бирининг қуввати 10-20 киловатдан бўлган. 1880-1930 йилларда АҚШда 6 миллиондан ортиқ шамол электр станциялари ишлатилган [2]. Юқорига кўтарилган сайин шамолнинг тезлиги ортиб боради. Ер устида шамол тезлиги 3 м/с га тенг бўлса, 10 метр баландликда шамолнинг тезлиги икки баробар ортиқ бўлади. 40-80 метр баландликка ўрнатилган шамол генераторлари ёрдамида 25-50 киловатдан ортиқ электр энергиясини ҳосил қилиш мумкин. 2020 йилларда Европа иттифоқидаги давлатларда истеъмол қилинадиган энергиянинг 80% ни шамол ва Қуёш энергияси ҳисобига қоплаш режалаштирилган [5-6]. Бунинг учун 20 йил ичида сайёрамизда 3,8 миллион дона шамол электр генератори, 90 мингта йирик ва 1,7 миллиард кичик Қуёш электр станциялари қурилиши лозим. Шамол энергиясидан фойдаланиш орқали олинadиган электр энергияси миқдори бўйича Германия (45 Гвт) етакчилик қилмоқда. Сув энергиясидан кичик ГЭСлар орқали электр энергиясини ҳосил қилиш бўйича етакчи ўринда Хитой туради. Кейинги ўн йилликда Хитойда 40000 та, Хиндистонда эса 400 та кичик ГЭСлар қуриш режалаштирилган. Австрия, Финландия, Швеция мамлакатларида ҳам кичик ГЭСларга эътибор кучайтирилган. Эндиликда муқобил энергия манбаи бўлган оқар сувлар энергиясидан микро ГЭСлар ёрдамида фойдаланишга бўлган эътибор ҳам кучайиб бормоқда. Электр узатиш тармоқларидан узокда жойлашган тоғли ҳудудлардаги булоқ ва канал сувларининг механик

энергиясидан фойдаланиб электр энергияси ишлаб чиқариш микро ГЭСлар орқали амалга оширилади. Бундай электр энергияси манбаи учун тўғон қуриш шарт эмас, яъни оқар сувнинг механик-потенциаль энергияси етарлидир (расм-1). Бундай микро ГЭСлар учун гидротурбиналарнинг бир неча хил варианты А.Устюжин томонидан таклиф этилган. Ана шундай микро ГЭСлар Жиззах туманидаги Увобсой қишлоғидан оқиб ўтувчи сойга, Жиззах политехника институти ҳудудидан оқиб ўтувчи каналларга ўрнатилган. Кичик қувватли бундай микро ГЭСлар қишлоқ шароитда яшаётган бир ёки бир неча хўжаликларни электр энергиясига бўлган эҳтиёжини қондира олади. Бу ишларнинг самарадорлиги электроэнергетик мутахассис кадрларнинг илмий салоҳиятига узвий боғлиқдир. Демак-ки, олий ўқув юртларида электроэнергетик мутахассислар тайёрловчи кафедраларнинг моддий техник базасини бойитиш, шамол ва Қуёш энергиясини, биогаз энергиясини ҳосил қилиш усуллари тадқиқ этиш учун синов майдончалари, махсус қурилмалар билан жихозланган илмий лабораторияларни ташкил этиш мақсадга мувофиқ бўлади (расм 1,2). Ўзбекистон Республикаси Олий ва ўрта махсус таълим вазирлигининг “Олий ва ўрта махсус таълим муассасаларининг моддий-техник таъминотини бойитиш чора-тадбирлари ҳақида”ги қарори ижросини таъминлаш мақсадида Жиззах политехника институти “Физика” ва “Электроэнергетика” кафедраларига 42 номдаги қиймати 350 минг евро бўлган лаборатория жихозлари Германия давлатидан олиб келиб ўртатилди. Муқобил энергия манбалари – шамол электр генератори, Қуёш фотоэлектр манбаларини тадқиқ этиш Жиззах политехника институти ҳудудидаги янгидан ташкил этилган технопаркда амалга ошириб келинмоқда. Ҳозирда ушбу технопарк ва ўқув лабораторияларни такомиллаштириш, моддий техник базасини янада бойитиш ва жихозлаш бўйича амалий ишлар қизғин олиб борилмоқда [6]. Кундалик ҳаёт билан узвий боғлиқ булган, муқобил энергия манбалари ҳақида юқорида келтирилган маълумотлардан фойдаланиш орқали таълимнинг мазмуни ва самарадорлиги ошишига ишонамиз.



Расм-1.



Расм-2

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ТАЪЛИМ МУАССАСИДА МУҚОБИЛ ЭНЕРГИЯ ФАНИНИ ЎҚИТИШДА ТУТГАН ЎРНИ

***Аннотация:** Мақолада қуёш ва шамол қурилмаларидан асосий энергия манбалари сифатида фойдаланиш билан боғлиқ масалалар кўриб чиқилади, бу еса турли хил иқлим шароитида йил давомида электр юкларини кафолатланган қоплашни таъминлайдиган тўлиқ автоном электр станцияларини яратишга имкон беради.*

***Калим сўзлар:** қайта тикланадиган энергия манбалари, автоном тармоқлар, қуёш қурилмалари, шамол қурилмалари, энергия хусусиятлари.*

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THE ROLE OF ALTERNATIVE ENERGY SCIENCE IN EDUCATIONAL INSTITUTIONS

***ANNOTATION:** The article discusses issues related to the use of solar and wind installations as primary sources of energy, which make it possible to create completely autonomous power plants that provide guaranteed year-round coverage of electrical loads in various climatic conditions.*

***Key words:** renewable energy sources, autonomous networks, solar installations, wind installations, energy characteristics.*

Мамлакатларнинг дунё ҳамжамиятида тутган ўрни, аҳолининг яшаш фаровонлигининг ўсиши киши бошига туғри келадиган энергия истеъмоли миқдори билан белгиланади. Ҳозирги кунда дунё бўйича киши бошига туғри келадиган энергия истеъмоли ўртача 2-4 кВт* соатга тенг. Аммо фаровон ҳаёт кечириш учун бу миқдор етарли эмас ва у 10 кВт* соатга тенг бўлиши лозим. Нефть, газ кумир, торф каби ёқилғи манбаларининг йилдан - йилга миқдори камайиб, таннархи ошиб бораётган ҳозирги шароитда аҳолининг энергияга булган эҳтиёжини тула қондириш, энергия истеъмолини талаб даражасида етказиш дунё ҳамжамияти олдида турган асосий муаммо бўлиб турибди. Ушбу муаммони ҳал этишнинг ягона йўли муқобил-қайта тикланувчи энергия манбаларидан фойдаланишдир. Бу муаммолар Ўзбекистон Республикаси Президенти И.Каримовнинг 2013 йил 1-мартдаги “Муқобил энергия манбаларини ривожлантириш чора тадбирлари тўғрисида”ги 4512 сонли

фармонида ўз аксини топган. Ушбу фармонда белгиланган вазифаларни ижросига бағишлаб ўтказилган конференциялар, учрашувлар, семинарлар ва турли кўргазмаларда қайта тикланувчи энергияларнинг самарадорлиги юқори бўлиши билан бир қаторда экологик жиҳатдан соф энергия эканлиги кўрсатиб ўтилган ва бу сохани ривожлантириш чора-тадбирлари ҳақидаги вазифалар белгилаб олинган.

Маълумки, ҳозирда қайта тикланувчи муқобил энергия манбаларининг асосан 5 та тури санаб ўтилади, булар Қуёш энергетикаси, шамол энергияси, сув энергияси, Ер тубидаги иссиқлик энергияси, биомасса энергияларидир. Дунё буйича Қуёш батареялари орқали олинган энергия миқдори йилига 200 МВт ни ташкил этади. Бутун жаҳондаги каби Мамлакатимизда ҳам энергияга бўлган талабнинг ортиб бориши муқобил энергия манбаларига, хусусан Қуёш энергиясига бўлган эҳтиёжнинг ортишига олиб келди.

Мамлакатимизда қайта тикланувчи муқобил энергия манбаларининг потенциали 173,4 млн т.н.э. бўлиб, энергиянинг йиллик энергия истеъмоли қийматидан уч баробар кўпдир. Бу энергиянинг 98,8% ни Қуёш энергияси ташкил этади. Чунки Мамлакатимиз серқуёш ўлка бўлиб, йилнинг 250-270 кунда Қуёш нур сочиб туради ва ҳар бир метр квадрат ерга 1100 Вт га тенг энергия узатилади. Қуёш энергиясидан фойдаланиш ёруғликни фотоэлементлар - Қуёш батареялари (2-расм) ёрдамида электр энергиясига айлантириш орқали амалга оширилади. Бу борада Япония, Германия, АҚШ мамлакатлари етакчилик қилмоқда [1]. Қуёш коллекторлари - Қуёш печларидан фойдаланиб иссиқлик энергиясини ҳосил қилиш - Қуёш печларининг юзаси (21 млн метр квадрат) билан ўлчанади. Бу борада Япония, Исроил, Греция мамлакатлари етакчи ўринларда турадилар. Қуёш энергиясидан электр энергиясини ҳосил қиладиган кремний монокристаллини соф ҳолда тайёрлаш жуда қимматга тушганлиги сабабли Қуёш батареяларининг фойдали иш коэффициенти жуда паст бўлган. Эндиликда Арсенид галлий, кремний поликристали, кадмий теллур каби юпқа плёнкали Қуёш элементлари яратилди-ки, улар асосида тайёрланган Қуёш элементларининг фойдали иш коэффициенти анча ошди. Бугунги кунда Қуёш фотоэлектр станциялари ва сувни Қуёш энергияси орқали иситиш коллекторлари Сурхандарё, Жиззах, Бухоро, Навоий, Тошкент, Андижон вилоятларида ва Қорақалпоғистон Республикасида муваффақиятли қўлланилиб келинмоқда. Қуёш фотоэлектр станцияларидан Жиззах политехника институтида (6,75 кВт), “Зомин” мониторинг марказида, Фориш туманидаги Нарвонсой кишлоғидаги фермер хўжалигида, Навоий вилояти Томди туманидаги иккита ўрта мактабларда фойдаланилмоқда. Нурота тумани марказий шифохонадаги тиббиёт жихозлари шамол генераторидан олинадиган энергия ҳисобига ишламоқда.

Қуёш нурлари энергияси таъсирида қизиган иссиқ ҳаво нисбатан енгил бўлади ва у юқорига кўтарилади. Унинг ўрнини эгаллашга интилган совуқ ҳаво оқимининг ҳаракати туфайли шамол ҳосил бўлади. Бундай ҳаво

оқимларидан фойдаланиб шамол тегирмони яшаш VIII асрнинг бошларида шимолий Европада амалга оширилган. 1885 йилдаёқ Дания мамлакатада дастлабки шамол электр станциялари қурилган. 1918 йилда Данияда 120 тадан ортиқ шамол электр станцияларидан фойдаланилган. Уларнинг ҳар бирининг қуввати 10-20 киловатдан бўлган. 1880-1930 йилларда АҚШда 6 миллиондан ортиқ шамол электр станциялари ишлатилган [2]. Юқорига кўтарилган сайин шамолнинг тезлиги ортиб боради. Ер устида шамол тезлиги 3 м/с га тенг бўлса, 10 метр баландликда шамолнинг тезлиги икки баробар ортиқ бўлади. 40-80 метр баландликка ўрнатилган шамол генераторлари ёрдамида 25-50 киловатдан ортиқ электр энергиясини ҳосил қилиш мумкин. 2020 йилларда Европа иттифоқидаги давлатларда истеъмол қилинадиган энергиянинг 80% ни шамол ва Қуёш энергияси ҳисобига қоплаш режалаштирилган. Бунинг учун 20 йил ичида сайёрамизда 3,8 миллион дона шамол электр генератори, 90 мингта йирик ва 1,7 миллиард кичик Қуёш электр станциялари қурилиши лозим. Шамол энергиясидан фойдаланиш орқали олинadиган электр энергияси миқдори бўйича Германия (45 ГВт) етакчилик қилмоқда. Сув энергиясидан кичик ГЭСлар орқали электр энергиясини ҳосил қилиш бўйича етакчи ўринда Хитой туради. Кейинги ўн йилликда Хитойда 40000 та, Хиндистонда эса 400 та кичик ГЭСлар қуриш режалаштирилган. Австрия, Финландия, Швеция мамлакатларида ҳам кичик ГЭСларга эътибор кучайтирилган. Эндиликда муқобил энергия манбаи бўлган оқар сувлар энергиясидан микро ГЭСлар ёрдамида фойдаланишга бўлган эътибор ҳам кучайиб бормоқда. Электр узатиш тармоқларидан узокда жойлашган тоғли ҳудудлардаги булоқ ва канал сувларининг механик энергиясидан фойдаланиб электр энергияси ишлаб чиқариш микро ГЭСлар орқали амалга оширилади. Бундай электр энергияси манбаи учун тўғон қуриш шарт эмас, яъни оқар сувнинг механик-потенциаль энергияси етарлидир. Бундай микро ГЭСлар учун гидротурбиналарнинг бир неча хил варианты А.Устюжин томонидан таклиф этилган. Ана шундай микро ГЭСлар Жиззах туманидаги Увобсой қишлоғидан оқиб ўтувчи сойга, Жиззах политехника институти ҳудудидан оқиб ўтувчи каналларга ўрнатилган (1-расм). Кичик қувватли бундай микро ГЭСлар қишлоқ шароитда яшаётган бир ёки бир неча хўжаликларни электр энергиясига бўлган эҳтиёжини қондира олади. Муқобил энергия манбалари яъни шамол ва Қуёш энергиясидан фойдаланиш иктисодий ўсишга, экологик софликка хизмат қилади. Электр узатиш тармоқларидан узок бўлган ҳудудларда муқобил энергия манбаларига бўлган эҳтиёж жуда катта бўлгани учун микро ГЭСлар, шамол ва Қуёш энергияларидан фойдаланиш, мазкур энергетика соҳасини рағбатлантириш зарур.

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ИЗУЧЕНИЕ ОБРАЗА «ОТЦА» В ПСИХОЛОГИИ

Аннотация: *Образ отца играет важную роль в развитии личности, влияя на формирование идентичности, эмоциональной устойчивости и социальных навыков. В статье рассматриваются основные подходы к изучению образа отца в психологии, а также факторы, определяющие его восприятие. Освещены результаты исследований, демонстрирующих влияние отцовской фигуры на развитие ребенка и его последующую жизнь.*

Ключевые слова: *Зигмунд Фрейд, теория привязанности, Джон Боулби, Лев Выготский, Абрахам Маслоу, Ури Бронфенбреннер, Жан Пиаже, Альберт Бандура, образ отца, психология, психоанализ, социальное научение, когнитивное развитие, гуманистическая психология, социокультурный подход, экологический подход, эмоциональная поддержка, роль отца в воспитании, отцовство и идентичность, семейные отношения, психоэмоциональное развитие, роль отца в формировании личности, привязанность и безопасность*

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STUDYING THE IMAGE OF "FATHER" IN PSYCHOLOGY

Abstract: *The father's image plays an important role in the development of personality, influencing the formation of identity, emotional stability and social skills. The article considers the main approaches to the study of the father's image in psychology, as well as the factors that determine his perception. The results of studies demonstrating the influence of the father's figure on the development of the child and his subsequent life are highlighted.*

Keywords: *Sigmund Freud, attachment theory, John Bowlby, Lev Vygotsky, Abraham Maslow, Urie Bronfenbrenner, Jean Piaget, Albert Bandura, father's image, psychology, psychoanalysis, social learning, cognitive development, humanistic psychology, sociocultural approach, ecological approach, emotional support, the role of the father in education, fatherhood and identity, family relationships, psychoemotional development, the role of the father in the formation of personality, attachment and security*

Введение

Образ отца является важнейшим элементом психологической структуры личности и оказывает значительное влияние на развитие ребенка. В ходе формирования идентичности и социальных навыков дети часто ориентируются на фигуру отца, воспринимая его не только как биологического родителя, но и как символ социальной роли, авторитета, защиты и поддержки. В то же время восприятие отца, его участие в воспитании и взаимоотношениях с детьми разнообразно и изменчиво, что обуславливает сложность изучения этого феномена в психологии.

С момента возникновения психоанализа и до сегодняшнего дня образ отца остаётся объектом многочисленных исследований в области психологии развития, клинической психологии, психотерапии и социальной психологии. Зигмунд Фрейд в своей теории акцентировал внимание на важности отца для формирования психической структуры личности, особенно через концепцию эдипова комплекса, где отец выступает как фигура, с которой необходимо конкурировать для утвердившегося самоощущения. Современные исследования, однако, подчеркивают не только роль отца как авторитетной личности, но и его способность быть эмпатичным, вовлечённым и поддерживающим, что также оказывает значительное влияние на развитие детей.

Интерес к образу отца возрос в последние десятилетия, когда изменились социальные нормы и роль отца в семье. В современных семьях отцы чаще всего участвуют в воспитании детей наравне с матерями, что привело к более широкому и многогранному пониманию роли отцов в психоэмоциональном развитии детей. Современные подходы к изучению образа отца учитывают не только традиционные роли, но и изменения в социальной динамике, связанные с гендерными и культурными трансформациями.

Цель данного исследования заключается в анализе теоретических подходов и эмпирических данных, посвящённых образу отца в психологии. Задачи исследования включают рассмотрение влияния отцовской фигуры на развитие личности, влияние культурных различий на восприятие образа отца, а также анализ современных направлений в изучении роли отца в воспитании детей.

Таким образом, изучение образа отца в психологии представляет собой важную область, которая позволяет глубже понять механизмы личностного и социального развития детей, а также формирование здоровых семейных отношений.

Основные теоретические подходы: Изучение образа отца в психологии предполагает использование различных теоретических подходов, каждый из которых акцентирует внимание на различных аспектах влияния отца на развитие ребенка. На протяжении десятилетий исследователи

выделяют несколько ключевых теорий, которые помогают понять роль отца в формировании личности и психоэмоциональном развитии ребенка.

1. Психоаналитический подход: Согласно Зигмунду Фрейду, отец играет ключевую роль в формировании суперэго и преодолении эдипова комплекса. Современные психоаналитики расширили эту концепцию, подчеркивая значимость эмоциональной связи между отцом и ребенком.

2. Когнитивно-поведенческий подход: Данный подход рассматривает образ отца как набор когнитивных схем, которые ребенок формирует на основе наблюдения за поведением отца. Эти схемы влияют на последующее поведение и восприятие социальных ролей.

3. Гуманистический подход: В рамках этого подхода отец воспринимается как источник поддержки, вдохновения и самоактуализации ребенка. Карл Роджерс подчеркивал важность безусловной любви и принятия со стороны родителей.

Эмпирические исследования: Эмпирические исследования образа отца в психологии направлены на анализ реальных данных и выявление взаимосвязей между отношениями с отцом и различными аспектами психоэмоционального развития ребенка. Эти исследования позволяют понять, как восприятие и участие отца в жизни ребенка влияют на его личностное развитие, поведение и социальную адаптацию.

1. Влияние отцовской вовлеченности на развитие ребенка: Исследования показывают, что отцы, активно участвующие в жизни детей, способствуют их когнитивному и эмоциональному развитию. Такие дети чаще проявляют уверенность в себе и социальные навыки.

2. Роль отца в подростковом возрасте: Взаимоотношения с отцом оказывают значительное влияние на формирование самооценки подростков, их способность строить отношения и справляться со стрессом.

3. Культурные аспекты образа отца: Культурные особенности влияют на ожидания и восприятие отцовской роли. В традиционных обществах отец чаще ассоциируется с авторитетом и защитой, тогда как в современных обществах акцент смещается на эмоциональную поддержку и партнерские отношения.

Изучение образа отца важно для понимания механизмов семейного воспитания и психологического развития. Оно также способствует разработке программ психологической помощи семьям и профилактике проблем в семейных отношениях.

Заключение

Изучение образа отца в психологии представляет собой важную и многогранную область, которая имеет значительное значение для понимания психического и эмоционального развития личности. Образ отца влияет на формирование идентичности, социализацию и психоэмоциональное благополучие ребенка. Психоанализ, психология развития и современные теории акцентируют внимание на ключевой роли отца как фигуры авторитета,

поддержки и защиты, что способствует успешной адаптации ребенка в социальной среде.

Влияние отца на психическое здоровье ребенка не ограничивается его физическим присутствием, но и зависит от качества эмоциональной связи, взаимодействия и вовлеченности в воспитание. Активное участие отца в жизни ребенка способствует формированию чувства безопасности и уверенности, что, в свою очередь, положительно сказывается на его самооценке и социальных навыках. Напротив, отсутствие или дистанцированность отца может быть связано с повышенным риском психоэмоциональных проблем, таких как низкая самооценка, проблемы с привязанностью и социальная изоляция.

Таким образом, изучение роли отца в психологии имеет важные практические и теоретические последствия. Это знание способствует более глубокому пониманию детско-родительских отношений, позволяет разработать эффективные подходы в области психотерапии и консультирования, а также помогает выработать стратегии поддержки детей и семей, столкнувшихся с проблемами в отношениях с отцом.

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МЕХАНИЗМЫ ФОРМИРОВАНИЯ МОРАЛЬНЫХ КАЧЕСТВ УЧАЩИХСЯ НАЧАЛЬНЫХ КЛАССОВ

***Аннотация:** Формирование нравственных качеств учащихся начальной школы играет важную роль в их социальном и личностном развитии. Этот процесс направлен не только на усвоение нравственных норм, но и на развитие уважения и единства в коллективе. Для формирования нравственных качеств учащихся начальной школы в образовательном процессе применяются различные механизмы. В данной статье рассматриваются эффективные механизмы формирования нравственных качеств учащихся начальной школы и их влияние.*

***Ключевые слова:** нравственные качества, нравственная воспитанность, образование и воспитание, этика, пример, ролевые игры, интеграция.*

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MECHANISMS OF FORMATION OF MORAL QUALITIES OF PRIMARY SCHOOL STUDENTS

***Annotation:** The formation of moral qualities in elementary school students plays a significant role in their social and personal development. This process serves not only to instill moral norms but also to promote respect and unity within the community. Various mechanisms are used in the educational process to shape the moral qualities of elementary school students. This article discusses the effective mechanisms for developing the moral qualities of elementary school students and their impact.*

***Keywords:** moral qualities, moral character, education and upbringing, ethics, role models, role-playing games, integration.*

Введение. На сегодняшний день, когда речь идет о механизмах формирования нравственных качеств учащихся начальной школы, исследования и педагогическая практика, проводимые на мировом уровне, имеют важное и актуальное значение. Эта тема, в частности, требует

внимания к необходимым педагогическим методам для формирования нравственных и социальных навыков детей, роли учителя и интеграции образовательной системы. Формирование нравственных качеств учащихся начальной школы — это важная задача для образовательной системы. Исследования и педагогическая практика, проводимые по всему миру, показывают, что обучение детей нравственным ценностям способствует не только их социальному развитию, но и помогает им стать ответственными и справедливыми гражданами в будущем. Статистические данные, связанные с формированием нравственных качеств среди детей и учащихся, имеют большое значение в процессе обучения. Например, исследования, проведенные ЮНЕСКО [1.33-стр.] показали, что образовательные программы, направленные на развитие нравственных качеств среди детей и учащихся, дают положительные результаты. Использование методов нравственного воспитания помогает учащимся развивать такие основные качества, как взаимное уважение, справедливость и ответственность. Эти качества четко выражаются в процессе общения и работы в коллективе. В своем отчете (2009) ЮНИСЕФ [2.8-стр.] подчеркивает, как нравственное воспитание, особенно на этапе начального образования, помогает детям стать ответственными и социально ориентированными гражданами.

В Новом Узбекистане особое внимание уделяется образовательной системе с начальной школы, создаются условия для подготовки опытных, высококвалифицированных учителей и предоставляются им необходимые возможности. Примером этого могут служить слова Президента Ш. М. Мирзиёева: "На сегодняшний день система школьного образования должна основываться на новых педагогических подходах и современных методах. Для этого необходимо создавать широкие возможности для учителей и привлекать их к постоянному повышению квалификации" [3.2-стр.].

Формирование нравственных качеств у учащихся начальной школы учит их жить в гармонии с коллективом, соблюдать социальные нормы и осознавать свою личную ответственность. Это помогает им стать успешными личностями в будущем. Нравственные качества выражаются в правильном и приемлемом поведении человека в социальной жизни и включают такие качества, как доброта, искренность, справедливость, взаимное уважение, преданность и совесть. Эти качества развиваются в зависимости от возраста ребенка.

Анализ литературы. Исследования ученых, изучающих механизмы формирования нравственных качеств учащихся начальной школы, подчеркивают необходимость охвата не только когнитивных, но и нравственных аспектов образовательного процесса. Такие ученые, как Пиаже, Выготский, Эриксон разработали различные методологии, связанные с нравственными и социальными аспектами образования детей, и создали ценную теоретическую основу в этой области. Их исследования помогают найти эффективные пути формирования нравственных качеств в начальной школе.

Ж. Пиаже (1896–1980) [4.221-стр.]— швейцарский специалист, который сделал множество вкладов в психологию детей, его работы играют важную роль в понимании нравственного развития детей. По мнению Пиаже, дети усваивают нравственные ценности через общение и опыт. Он подчеркивал важную роль учителя в развитии нравственных качеств детей. Эрик Эриксон был одним из ученых, сыгравших важную роль в психологии и теории социального развития. В своей теории развития Эриксон утверждает, что формирование нравственных качеств у детей является частью их личностного развития. Согласно теории «жизненных этапов» Эриксона, на этапе начальной школы дети формируют такие качества, как «доверие и независимость». Эти качества играют важную роль в том, чтобы дети в будущем соблюдали нравственные нормы, взаимодействовали с другими людьми и развивали уверенность в себе.

Результаты исследования и обсуждение. В рамках исследования, проведенного с участием учащихся 3–4 классов начальной школы 35-й школы города Андиджан и 8-й школы города Андиджан, были проведены методики для анализа формирования нравственных качеств у детей. В рамках теории нравственного развития Пиаже была организована беседа с родителями учащихся. Пиаже, учителя и родители считают, что они играют важную роль в обучении детей нравственным качествам. Через общение и понимание они могут развивать у детей способность принимать нравственные решения. Модель нравственного развития Колберга состоит из 6 этапов, где дети проходят различные стадии принятия нравственных решений. Этот метод помогает развить у детей способность принимать нравственные решения и является важным инструментом для формирования нравственных качеств. Метод, основанный на психическом и социальном развитии, Лев Выготский в своей социальной теории подчеркивает значимость психического и социального развития детей. По его мнению, дети усваивают нравственные ценности через общение и совместную деятельность. Он акцентирует внимание на том, что для формирования нравственных качеств нужно обучать детей работать в группах, принимать решения вместе и решать проблемы.

Методики формирования нравственных качеств включают следующие элементы: Пример учителя. Учитель — это самый влиятельный человек для детей. Поведение и ценности учителя наблюдаются и усваиваются детьми. Поступки учителя, его справедливость, верность, терпение и готовность помогать учат детей правильному поведению.

Нравственное воспитание через книги и сказки. Книги и сказки играют важную роль в формировании нравственных качеств у детей. Через сказки и истории дети учат нравственные дилеммы и ситуации, например, «добро и зло» или «дружба и справедливость». Поведение героев сказок помогает детям отличать хорошее от плохого.

Групповая работа и сотрудничество. Важную роль в формировании нравственных качеств играет групповая деятельность. Работа в группах,

помощь друг другу и достижение общих целей способствует развитию уважения и ответственности среди детей.

Жизненные примеры. Рассказ о реальных ситуациях, например, решение маленьких конфликтов или проявление доброты, помогает детям применять нравственные правила в реальной жизни.

Заключение и рекомендации. Для формирования нравственных качеств учащихся начальной школы можно предложить следующие рекомендации:

1. Учитель должен быть примером для своих учеников.
2. Обучение нравственным ценностям через различные методы, такие как сказки, герои и обсуждения.
3. Развитие эмпатии, уважения и сотрудничества среди детей.
4. Повышение ответственности у детей и поддержка их позитивного поведения через похвалу и награды.

Эти методы помогут сформировать у детей правильные нравственные ценности, которые помогут им в будущем стать ответственными и справедливыми гражданами.

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ТЕПЛОВОЙ БАЛАНС В НЕЛИНЕЙНЫХ ТЕРМОДИНАМИЧЕСКИХ СИСТЕМАХ

Аннотация: В работе рассчитано изменение температуры тепловой системы содержащей материалы с фазовым переходом (PCM, phase change materials) при различных режимах подачи тепла. Проведен анализ изменения с учетом теплоемкости основного и дополнительного теплоносителя и скрытой теплоты фазового перехода. Сделана оценка температурной зависимости для гелиосистем с учетом суточного изменения угла наклона солнца. Приведены выводы использования результатов.

Ключевые слова: PCM материалы, энтальпия, скрытая теплота плавления, температура фазового перехода.

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THERMAL BALANCE IN NONLINEAR THERMODYNAMIC SYSTEMS

Abstract: The paper calculates the temperature change of a thermal system containing phase change materials (PCM) under different heat supply conditions. The analysis of the change is carried out taking into account the heat capacity of the main and additional heat carrier and the latent heat of the phase transition. The temperature dependence is estimated for solar systems taking into account the daily change in the angle of inclination of the sun. Conclusions on the use of the results are presented.

Keywords: PCM materials, Enthalpy, latent heat of fusion, phase transition temperature.

1. Введение

Вещества, поглощающие и выделяющие тепловую энергию соответственно в процессе плавления и затвердевания в настоящее время все шире применяются на практике [1-4]. Примерами могут служить применения материалов с изменяемой фазой (**PCM- phase change materials**) в качестве тепловых батарей в различного рода гелиосистемах.

По техническим и экологическим соображениям данные материалы должны обладать следующими свойствами:

1. Скрытая теплота плавления должна составлять не менее 300 КДж /кг,

2. Регулируемая температура фазового перехода между от -10°C до $+120^{\circ}\text{C}$ (узкий пик цикла «Плавление-затвердевание» с шириной в не более 5 гр.)

3. Стабильность в течении более тысячи термических циклов.

4. Долговечный и нетоксичный.

При расчетах термодинамического равновесия в системах содержащих РСМ следует учитывать точку фазового перехода, ширину перехода, объем скрытой теплоты и естественно сложный вид теплопередачи и тепловых потерь. Таким образом, данная система становится нелинейной. Нелинейные термодинамические системы с фазовым переходом недостаточно исследованы на предмет расчета теплового баланса с разной скоростью подачи тепла. Между тем, такая термодинамическая задача возникает в гелиосистемах (солнечные водонагреватели с тепловыми батареями).

2. Расчеты изменения температуры с нелинейными системами.

Скорость подачи тепла в систему может быть разной. В любом случае при неизменности параметров теплопередачи переданное количество тепла входит в уравнение теплового баланса:

$$Q = mc\Delta T \quad (1)$$

где Q — переданное количество тепла, m — масса теплоносителя, c — удельная теплоемкость теплоносителя, а ΔT — изменение температуры. Полное количество теплоты переданное за время t будет равно:

$$Q = \int_0^t q(t) dt \quad (2)$$

где $q(t)$ — скорость подачи теплоты. В общем случае динамическое уравнение будет выглядеть так:

$$\int_0^t q(t) dt = mc\Delta T(t) \quad (3)$$

2.1 Постоянная скорость подачи тепла

При постоянной скорости подачи тепла A , $q(t) = \text{const}$ температурная зависимость $\Delta T(t)$ представляет собой линейную функцию $\Delta T(t) = \frac{A}{mc} t$. При внедрении в основной теплоноситель некоторую массу вещества m_{PCM} с изменяемой фазой внутри температурного интервала с точкой перехода $T_{\text{пер}}$ с шириной $\Delta T_{\text{пер}}$ возникает поглощение(выделение) тепла равной скрытой теплоте плавления –энтальпии. На температурной кривой это выглядит как плоское плато на ординате $T_{\text{пер}}$ с шириной равной $A\Delta t = Hm_{\text{PCM}}$. Данный процесс обратим.

2.2 Подача тепла линейно возрастающей функцией

При равномерно возрастающей скорости подачи тепла равной $q(t) = Bt$ температурная зависимость $\Delta T(t)$ представляет собой параболическое возрастание разницы температуры от времени $\Delta T(t) = \frac{B}{mc} t^2$. Как было показано выше при внедрении в основной теплоноситель некоторую массу вещества m_{PCM} здесь также возникает плато неизменности температуры при фазовом переходе.

2.3 Синусоидальный профиль скорости подачи тепла

В большинстве случаев профили скорости подачи тепла на различных гелиосистемах (плоские водонагреватели, нагреватели с вакуумными трубками и т.д.) различны. Но во всех этих системах зависимость выработки тепла от угла падения солнца неизбежное. Приток солнечной радиации на горизонтальную поверхность земли, а значит и скорость подачи тепла зависит не только от продолжительности дня, но также и от высоты солнца. Высота солнца меняется в зависимости от широты места, времени года и суток. Это примерно будет выглядеть так [5]:

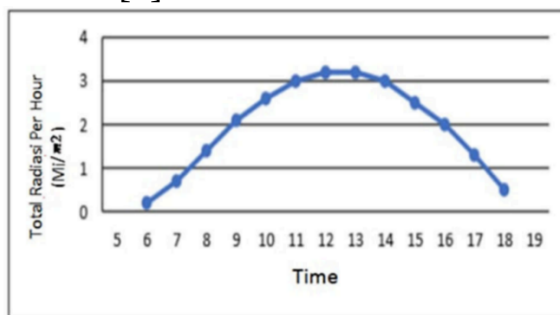


Рис.1 График суточной солнечной радиации (из работы[5])

Так как суточное изменение солнечной радиации сильно подвержено влиянию угла падения к нормали горизонтальной поверхности $\alpha(t)$ через косинус угла падения, скорость подачи тепла в первую половину дня будет равна $q(t) = C \cos \alpha(t)$, где C — постоянная связанная с геометрией и с конструкцией теплопередачи гелиосистемы. Если предположить, что время восхода в 6^{00} и время наивысшего подъема солнца в 13^{00} , то функция угла падения будет равна $\alpha(t) = \frac{\pi}{2} - \frac{\frac{\pi}{2}}{420} t(\text{мин})$. Итоговое уравнение для нахождения температурной зависимости будет следующим:

$$\int_0^t \cos(\alpha(t)) dt = mc\Delta T(t) \quad (4)$$

Заключение

Таким образом, для теплового баланса в системах, где присутствуют материалы с изменяемой фазой (агрегатным состоянием), следует учитывать, что:

1. Теплоемкость материала вне фазового перехода может играть существенную роль при $m_{PCM} \geq 0,1m_0$
2. При непрерывной подаче тепла теплопоглощение в точке фазового перехода приводит к временной стабилизации температуры.
3. Функция скорости подачи тепла может сильно повлиять на форму изменения температуры системы в целом.
4. Тщательный учет временной зависимости температуры для систем содержащих нелинейные термодинамические системы, таких как РСМ позволяет повысить эффективность солнечных систем совмещенных с тепловыми батареями.

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ОСОБЕННОСТИ МОТИВАЦИИ ТРУДА ПЕРСОНАЛА ГОСУДАРСТВЕННЫХ (МУНИЦИПАЛЬНЫХ) ОРГАНОВ УПРАВЛЕНИЯ

Аннотация: Статья посвящена исследованию особенностей мотивации труда персонала государственных и муниципальных органов управления в Российской Федерации. Рассматриваются ключевые факторы, влияющие на мотивацию государственных служащих, такие как материальные и нематериальные стимулы, карьерный рост и социальная защита. Особое внимание уделяется методам мотивации, используемым в государственных учреждениях, а также проблемам, с которыми сталкиваются сотрудники в процессе профессиональной деятельности. Подчеркивается необходимость создания гибкой и эффективной системы мотивации для повышения эффективности работы государственных органов и удовлетворенности служащих.

Ключевые слова: мотивация труда, государственные служащие, кадровая политика, социальная защита, материальные стимулы, нематериальная мотивация, карьерный рост, цифровизация.

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FEATURES OF LABOR MOTIVATION IN PUBLIC (MUNICIPAL) AUTHORITIES

Abstract: This article analyzes legislation-governing citizens' right to privacy, personal and family confidentiality in the Russian Federation and foreign countries. The study examines key regulatory frameworks protecting personal data and private life of Russian citizens. The paper also investigates international privacy protection standards. The article emphasizes the importance of improving legislation in the context of digitalization and technological changes.

Keywords: right to privacy, personal information, protection of rights, Constitution of the Russian Federation, international standards, personal data.

Мотивация труда персонала в государственных и муниципальных органах управления является ключевым элементом в обеспечении высокой эффективности функционирования государственного аппарата. В рамках

современной кадровой политики государственных учреждений Российской Федерации, мотивация является важнейшим фактором достижения стратегических целей, таких как развитие гражданского общества, улучшение качества государственных услуг, обеспечение социально-экономического роста и поддержка общественного порядка.

Однако одной из наиболее значимых проблем управления персоналом в органах государственного и муниципального управления остается формирование эффективной системы мотивации труда. В отличие от частного сектора, где основными мотивационными факторами являются заработная плата, премии и бонусы, в государственных учреждениях мотивация часто основывается на других принципах, таких как стабильность, социальная защищенность и интерес к общественно значимой деятельности.

Согласно Федеральному закону «О системе государственной службы Российской Федерации» (ст. 10), различаются два типа государственных служащих: федеральные и государственные гражданские служащие субъектов Российской Федерации. Мотивация этих служащих требует комплексного подхода, включающего как материальные, так и нематериальные стимулы.

Материальная мотивация в государственных и муниципальных органах управления традиционно включает в себя заработную плату, премии, надбавки за выслугу лет, а также различные дополнительные выплаты, такие как премии за выполнение сложных и важных задач. Однако существующие ограничения в бюджете и нормативной базе часто сужают возможности для эффективного использования системы премирования. В отличие от коммерческого сектора, где гибкие бонусные системы могут быть адаптированы под результаты работы сотрудников, в государственных учреждениях существует жесткая бюджетная дисциплина, что ограничивает возможности для выплаты крупных бонусов.

Нематериальная мотивация играет важную роль в государственных органах, где стабильность, профессиональное развитие и работа на общественно значимые цели становятся важными источниками внутренней мотивации для сотрудников. Теория мотивации общественного служения (PSM), предложенная Дж. Перри и Л. Вайс, подчеркивает важность просоциальных мотивов, таких как стремление участвовать в выработке государственной политики и приверженность государственному долгу.

Мотивация труда персонала государственных органов управления зависит от множества факторов, которые можно разделить на внешние и внутренние. Внешние факторы включают:

- бюджетные ограничения, влияющие на размеры заработной платы и премий;
- законодательные и нормативные акты, регулирующие систему оплаты труда и предоставление социальных гарантий;
- организационная структура, включая возможности карьерного роста и профессионального развития.

Внутренние факторы связаны с личными ценностями и убеждениями сотрудников, их удовлетворенностью от работы, отношением к коллективу и управленческому стилю. Внутренние мотивы включают:

- желание быть признанным за успешную работу и достигнутые результаты;
- ожидание карьерного роста и повышения профессиональных навыков;
- приверженность идеям государственного служения и служения обществу.

Несмотря на существующие усилия, направленные на развитие системы мотивации, в государственных и муниципальных органах управления по-прежнему существуют серьезные проблемы. Одной из основных является низкий уровень оплаты труда, который не соответствует высоким требованиям к квалификации госслужащих, что приводит к высокой текучести кадров и снижению привлекательности государственной службы. Данная проблема особенно актуальна в условиях высокой инфляции и растущих расходов на проживание. Другой важной проблемой является ограниченность карьерного роста и профессионального развития. Во многих государственных учреждениях отсутствуют четкие и прозрачные карьерные траектории, что затрудняет сотрудникам планирование своего профессионального пути.

Кроме того, отсутствие прозрачной системы премирования и ограниченные возможности для дополнительных поощрений являются значимыми факторами, влияющими на мотивацию. В государственных структурах часто нет четких критериев для получения премий, что вызывает недовольство среди сотрудников и воспринимается как несправедливость.

Для эффективного стимулирования труда персонала в государственных и муниципальных органах управления необходимо использовать как материальные, так и нематериальные методы мотивации. Среди основных методов можно выделить:

- системы премирования, надбавок за выслугу лет, бонусов за достижение целей и выполнения сложных задач;
- создание благоприятной рабочей атмосферы, организация корпоративных мероприятий, программы развития персонала, повышение статуса сотрудников, признание их заслуг;
- медицинская страховка, программы по улучшению здоровья, отпускные дни и другие мероприятия, направленные на повышение благополучия сотрудников;
- вознаграждение за предложения, которые приводят к улучшению процессов и повышению эффективности работы.

Таким образом, эффективная система мотивации труда персонала государственных и муниципальных органов управления требует комплексного подхода, который сочетает материальные стимулы с

нематериальными, а также создает условия для долгосрочной мотивации и развития сотрудников.

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ОСОБЕННОСТИ УПРАВЛЕНИЯ ПРОЕКТАМИ В НЕГОСУДАРСТВЕННЫХ НЕКОММЕРЧЕСКИХ ОРГАНИЗАЦИЯХ

***Аннотация:.** В статье рассматриваются сущность и особенности управления некоммерческими организациями как институциональная основа реализации проектов в негосударственных некоммерческих организациях в неправительственном секторе нашей страны.*

***Ключевое слово:** некоммерческие, организации, неправительственные некоммерческие организации, третий сектор, неправительственные некоммерческие организации, государственные организации, проект*

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FEATURES OF PROJECT MANAGEMENT IN NON- GOVERNMENTAL NON-PROFIT ORGANIZATIONS

***Abstract.** The article examines the essence and features of the management of non-profit organizations as an institutional basis for the implementation of projects in non-governmental non-profit organizations in the non-governmental sector of our country.*

***Keyword.** non-profit, organizations, non-governmental non-profit organizations, third sector, non-governmental non-profit organizations, government organizations, project.*

Введение Проектное управление негосударственными некоммерческими организациями (НПО) в Узбекистане имеет свои особенности, данные организации реализуют проекты, направленные на решение социальных вопросов, создание изменений в обществе и принесение социальных благ. Одной из отличительных особенностей проектного управления неправительственных некоммерческих организаций является то, что они всегда направлены на конкретную социальную цель. Проекты обычно направлены на удовлетворение потребностей сообщества в социальной, экологической, культурной или правовой областях. Поэтому цель и направление проекта должны быть четко определены. Кроме того, неправительственные некоммерческие организации в основном нацелены на удовлетворение социальных потребностей общества, а их проекты всегда направлены на решение конкретных и актуальных проблем. Например,

проекты разрабатываются на основе таких целей, как сокращение бедности, улучшение образования или решение экологических проблем.

АНАЛИЗ ЛИТЕРАТУРЫ И МЕТОДОЛОГИЯ. Ученые стран СНГ, в том числе Т.В. Юрьева, Макальская М.Л., Гамольский П.Ю., Пирожкова Н.А. и многие другие ученые провели научные исследования по ряду вопросов, таких как устойчивое развитие проектного управления в неправительственных некоммерческих организациях.

В нашей республике ряд научных работ Ерназарова Д.З., Холмановой Д.Р., Шамсиевой М.Х., Ходжиева М.С. и других ученых посвящены роли неправительственных некоммерческих организаций в социальной защите женщин в Узбекистане и проблемам развития и развития. повышение эффективности сетей совершенствования бухгалтерского учета.

РЕЗУЛЬТАТ. При реализации своих проектов НПО часто приходится сотрудничать с государственными органами и другими социальными группами. Зависимость от одобрения и поддержки правительства играет важную роль в успешной реализации проектов НПО. Некоторые проекты, особенно в сфере образования или здравоохранения, требуют сотрудничества с государственными органами. сотрудничество неправительственных некоммерческих организаций и государства помогает более эффективно распределять ресурсы.

ОБСУЖДЕНИЕ. НПО работают в самых разных областях: от гуманитарной помощи до защиты окружающей среды и социального развития. Основная цель НПО – служить общественным интересам и отстаивать различные интересы. Их проекты часто направлены на улучшение жизни маргинализированных сообществ, содействие устойчивому развитию и решение насущных глобальных проблем.

В отличие от традиционного бизнеса, НПО работают с ограниченными ресурсами, полагаются в основном на пожертвования и гранты и часто сталкиваются со сложными политическими и социальными контекстами. Эти факторы создают уникальные проблемы, которые требуют индивидуальных подходов к управлению проектами для обеспечения успеха.

Проекты – мероприятия (программы) ³⁸из внешних источников, финансируемые за счет средств и осуществляемые на территории Республики Узбекистан ; - определяются как.

Согласно РМВОК 6-го издания ³⁹, проект — это набор задач или управленческих действий, которые дают один или несколько результатов на основе одной или нескольких записей путем применения определенных инструментов и методов.

Управление проектом — это деятельность по планированию, организации и направлению ресурсов для достижения конкретных целей и

³⁸ Узбекистан Республика Министры Суд решение № 527 от 04.10.2023

³⁹ PMI - РМВОК, Проект управление основы в соответствии с руководство . Шестой издание , том. 6, I. Проект управление Институт , Ред., Чикаго : Проект управление Институт , 2017, с.762.

результатов проекта . Первый вызов управление проектом – достижение всех целей, поставленных перед проектом, выполнение поставленных задач и запланированных результаты мониторинга , этот заранее определенные ограничения будут зависеть от проектов, связанных с объемом, финансированием, графиком и качеством.

Харви Мэйлор считает, что концепция управления проектами со временем изменилась и теперь включает планирование, координацию и управление сложными и диверсифицированными процессами, связанными с современными производственными, экономическими, промышленными и информационными проектами (ИТ). ⁴⁰Мы считаем, что, хотя Харви Мэйлор добился многих успехов в области управления проектами, в практике управления проектами существует множество проблем и недостатков. Такие факторы, как сложность, ограниченность ресурсов, эффективность команды, меняющиеся обстоятельства и внедрение инноваций, могут создать проблемы в управлении проектами. Преодоление этих проблем требует гибкости, эффективной коммуникации и использования передовых методологий. Из-за наличия постоянного риска и неопределенности практически невозможно с полной уверенностью предсказать результаты проекта. Многие проекты значительно превышают бюджеты, в результате чего они завершаются с опозданием или даже преждевременно.

Провал проекта распространен во всех типах проектов в бизнесе, торговле и правительстве.⁴¹ Книга Высоцкого Р.К. «Управление проектами » (2007) является важным источником, систематически освещающим современные подходы и эффективные практики в области управления проектами. Ключевые аспекты, такие как выбор и адаптация методологий, управление рисками, оптимизация командной работы, эффективное распределение ресурсов и измерение успеха проекта, важны для повышения эффективности процесса управления проектами. Мы полностью поддерживаем эти взгляды, поскольку они помогают четко и последовательно организовать процессы управления проектом, что в конечном итоге служит успешной реализации проекта .

Заключение. В Узбекистане негосударственный некоммерческая организация организации большую часть времени ограниченный ресурсы с работает Эти организации коммерция цели не ожидал ибо они доноры , международные организации или благотворительность средства полагается на С этим вместе , это ограничения проекты управлять в процессе строго планирование , ресурсы эффективный распределение и высокий уровень требует оптимизации . негосударственный некоммерческая организация организации проекты в управлении финансовый ресурсы эффективный управлять важный важный иметь Обычно финансовые средства проекты финансист организации к разделен , поэтому для средств конечно и

⁴⁰ Мэйлор, Х. (2010). Проект менеджмент (4-е изд.). Пирсон.

⁴¹ Высоцкий, РК (2007). Проект эффективный менеджмент (4-е изд.). Джон Уайли и сыновья.

прозрачный способ требуется потратить . Эти организации большую часть времени проекты финансирует организации или международный партнеры с около на связи будет и каждый из проектов этап для конечно отчеты подарок они будут в Узбекистане негосударственный некоммерческая организация организации большую часть времени собственный в проектах собрание аттракцион делать и социальный активность увеличить направил. И это проектов результаты укрепляет и общества активный участие обеспечивает . негосударственный некоммерческая организация организации собственный проекты продвигать делать и общественность аттракцион делать для другой социальный маркетинг и повышение кампании потратю В этом процессе социальный сети , публичные информация инструменты и общественный события через общественный с связи установлен.

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МЕТОДИКА ПОВЫШЕНИЯ КОММУНИКАТИВНЫХ СПОСОБНОСТЕЙ УЧИТЕЛЕЙ ПУТЕМ РАЗВИТИЯ ЭМОЦИОНАЛЬНОГО ИНТЕЛЛЕКТА

Аннотация: Данная статья посвящена теоретическому изучению процесса развития интеллектуальной мобильности будущих специалистов в области педагогики. Также среди учителей начальной школы обсуждаются теоретические основы эмоционального интеллекта как психолого-педагогической концепции. Представлены современные и эффективные методы развития эмоционального интеллекта, а также различные позиции по развитию интеллектуальной мобильности студентов, выявлены обобщенные подходы, способствующие активному развитию изучаемого явления.

Ключевые слова: интеллектуальная мобильность, процесс развития, будущий специалист, эмоциональный интеллект вуза, отрицательные эмоции, эмпатия, компетентность, эмоциональное состояние.

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METHODOLOGY FOR IMPROVING THE COMMUNICATIVE ABILITY OF TEACHERS BY DEVELOPING EMOTIONAL INTELLIGENCE

Abstract: This article is devoted to the theoretical study of the process of developing the intellectual mobility of future specialists in the field of pedagogy. Also, the theoretical foundations of emotional intelligence, as a psychological and pedagogical concept, are discussed among elementary school teachers. Modern and effective methods of developing emotional intelligence, as well as various positions on the development of intellectual mobility of students are presented, generalized approaches that contribute to the active development of the studied phenomenon are revealed.

Key words: intellectual mobility, development process, future specialist, higher education institution emotional intelligence, negative emotions, empathy, competence, emotional state,

Как известно, главной целью реформ, проводимых в настоящее время в системе образования нашей страны, является подготовка конкурентоспособных кадров, создание необходимых условий для развития их профессиональных навыков, осуществление непрерывной подготовки кадров на основе внедрения механизмов вооружения профессиональными знаниями в соответствии с современными требованиями, рассматривается в качестве приоритетного направления государственной образовательной политики. В указе “Об утверждении Концепции развития системы высшего образования Республики Узбекистан до 2030 года”, утвержденном постановлением № ПФ-5847 от 8 октября 2019 года, определены приоритетные направления системной реформы высшего образования в Республике Узбекистан, даны рекомендации по качественному совершенствованию процесса подготовки высококвалифицированных кадров, обладающих современными знаниями и высокими морально-нравственными качествами. модернизации высшего образования, приоритетной задачей определено развитие социальной сферы на основе передовых образовательных технологий. Данная концепция является основой для разработки отраслевых научных программ и комплексных мер, определяющих стратегические цели, приоритеты, задачи, этапы развития высшего образования в Республике Узбекистан на среднесрочную и долгосрочную перспективу.

Также в постановлении Президента Республики Узбекистан от 11 июля 2019 года № ПП-4391 “о мерах по внедрению новых принципов управления в систему высшего и среднего специального образования” определены следующие основные задачи: создание независимой системы высшего и среднего профессионального образования, обладающей современными знаниями и высокими морально-нравственными качествами. реализация единой государственной политики, направленной на подготовку мыслящих высококвалифицированных кадров; организация образовательного процесса в соответствии с международной практикой внедрения новых педагогических технологий и методов обучения, совершенствование учебных планов и предметных программ, качественное обновление образовательного процесса за счет внедрения современных форм обучения и средств информационно-коммуникационных технологий; расширение доступа к базе данных и т. д. [1].

При организации образовательного процесса в системе подготовки педагогических кадров необходимо учитывать значимость процесса взаимодействия, т. е. возможность достижения следующих результатов, имеющих важное значение в развитии профессионально значимых личностных качеств:

- изменение психологических особенностей личности;
- развитие духовных и культурных концепций;
- повышение уровня профессиональной компетентности;
- развитие навыков самосознания и самооценки;

— возникновение совместной деятельности и возникновение в ней психологической адаптации к профессиональной деятельности в результате обмена информацией; п. развитие активности и инициативы субъекта. Эмоциональный интеллект - это столкновение сердца и разума. Эмоциональный интеллект (обычно сокращенно "EQ" для эмоционального коэффициента)-это способность воспринимать, контролировать и оценивать эмоции как в себе, так и в других. Эта концепция возникла в результате исследований социального интеллекта в 1930-х годах и работы над различными формами интеллекта в 1970-х годах. В 1990-х годах американский психолог Дэниел Гоулман опубликовал книгу "Эмоциональный интеллект: почему это может иметь значение больше, чем IQ". В книге он выделил пять "ветвей"эмоционального интеллекта: знание своих эмоций, управление своими эмоциями, самомотивация, распознавание и понимание эмоций других людей и управление отношениями. Гоулман определяет высокий EQ как общую черту эффективных бизнес-лидеров. Он утверждал, что без эмоционального интеллекта лидер может обладать безграничной энергией и идеями, проницательным и логическим умом и впечатляющей квалификацией, но при этом неэффективен и не вдохновляет. " Самые эффективные лидеры одинаковы в одном аспекте: все они обладают высоким уровнем эмоционального интеллекта", - Дэниел Гоулман [2;37].

Эмоциональный интеллект состоит из пяти категорий:

- 1. Самосознание (способность распознавать и понимать эмоции).
- 2. Социальные навыки (умение находить общую сферу и строить отношения).
- 3. Саморегуляция (способность контролировать импульсы и эмоции).
- 4. Сочувствие (способность понимать другие вещи). чувства людей).
- 5. Мотивация (стремление к достижению целей с помощью энергии).

Гоулман говорит, что высокий эквалайзер способствует развитию других важных лидерских качеств. Например, способность точно понимать, что чувствует другой человек (сочувствие) позволяет вам контролировать это чувство и любое поведение, которое оно вызывает. Кроме того, характеристики важны для лидерства, но EQ растет с возрастом, опытом и саморефлексией. Новым и начинающим лидерам дают советы опытные; вместе они обсуждают прошлые и будущие процессы, различные реакции и эмоциональные моменты. В таком порядке он стремится повысить эмоциональную зрелость. Исследование 1999 года показало, что партнеры многопрофильной компании, предоставляющей услуги, с высокими показателями EQ, получили на 1,2 миллиона долларов больше прибыли, чем другие партнеры. Другие исследования показали аналогичную связь между эквалайзером и производительностью. Эмоциональное равновесие, по-видимому, является ключевым фактором профессионального успеха [3,16].

Заключение

Исходя из вышеизложенного, можно сказать, что необходимо внедрение системы подготовки педагогических кадров, имеющих научно-теоретическое и практическое значение для осуществления межличностных контактов, порождающих взаимодействие, имеющее важное значение для повышения профессиональной активности педагогов, совершенствования их рефлексивных способностей, развития духовно-культурного понимания. В организации процессов подготовки педагогических кадров понятия педагогики “воспитание”-“самообразование”, “информация”-“самостоятельная информация”, “образование”-“самостоятельное образование” дополняют друг друга и являются поставщиками одного-второго, второго-третьего необходимо учитывать, что он служит как для развития личности, так и для формирования личных способностей.

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ТИП ПЕВЧЕСКИХ ГОЛОСОВ (У МУЖЧИН И ЖЕНЩИН)

Аннотация: Развитие музыкального искусства невозможно без учета различных типов исполнительских голосов. Каждый тип голоса связан с анатомией и физиологией человека и играет важную роль в усилении эмоционального воздействия музыкальных произведений. Мужские и женские голоса обладают разным диапазоном и тембром, и каждый из них имеет свое значение в различных жанрах музыки. В данной статье подробно рассматриваются категории исполнительских голосов, их характеристики и роль в музыкальном исполнении. Также будут рассмотрены методы определения и развития голосов.

Ключевые слова: Бас, баритон, тенор, альт, контратенор, меццо-сопрано.

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TYPES OF SINGING VOICES (FOR MEN AND WOMEN)

Annotation: The development of musical art is impossible without considering the various types of performing voices. Each type of voice is related to human anatomy and physiology and plays an important role in enhancing the emotional impact of musical works. Male and female voices have different ranges and timbres, and each has its significance in various music genres. This article provides a detailed overview of the categories of performing voices, their characteristics, and their role in musical performance. Methods for identifying and developing voices will also be discussed.

Keywords: Bass, baritone, tenor, alto, countertenor, mezzo-soprano.

Мужские исполнительские голоса делятся на три основные категории: бас, баритон и тенор. Каждый из этих типов имеет свой собственный диапазон и тембр, которые используются для выражения различных музыкальных образов. Далее представлена более подробная информация о каждом типе голоса.

Бас — самый низкий голос среди мужчин, отличающийся глубоким и насыщенным тембром. Он обычно используется для создания сильных и серьезных образов. Бас часто встречается в операх и религиозной музыке. Его

диапазон обычно от E2 до E4. Яркие примеры басового голоса можно найти в операх, таких как роли "Фигаро" и "Дон Жуан".

Баритон — голос с промежуточным диапазоном между басом и тенором, обладающий мощным и богатым тембром. Этот голос очень универсален и часто используется для выражения лирических и драматических образов. Диапазон баритона обычно от A2 до G4. Например, баритоновые партии в операх Дж.Верди придают музыкальному исполнению драматическую силу.

Тенор — самый высокий мужской голос. Этот голос выделяется ярким и мощным тембром. Тенор используется для исполнения героических и романтических ролей. Его диапазон обычно от C3 до B4. Исполнение тенора, как у Лучано Паваротти, демонстрирует величие этого типа голоса.

Женские исполнительские голоса делятся на три основные категории: альт, меццо-сопрано и сопрано. Эти типы голосов отличаются своими диапазонами, тембрами и манерой исполнения.

Альт — самый низкий голос среди женщин, отличающийся глубоким и насыщенным тембром. Его диапазон обычно от F3 до F5. Голос контратенора часто используется для выражения драматических и эмоционально насыщенных образов. Примером могут служить сильные женские роли в операх.

Меццо-сопрано — голос с диапазоном между альтом и сопрано, обладающий высокой гибкостью и широким диапазоном. Этот тип голоса идеально подходит для исполнения лирических и драматических ролей. Диапазон меццо-сопрано обычно от A3 до A5. Ярким примером может служить роль в опере "Кармен".

Сопрано — самый высокий женский голос, отличающийся ярким и звонким тембром. Этот тип голоса используется для создания романтических и лирических образов. Диапазон сопрано может варьироваться от C4 до C6. Известные роли сопрано можно найти в операх Пуччини и Россини.

Определение и развитие голосов

Правильное определение и развитие исполнительского голоса играет важную роль в музыкальном искусстве. Определение типа голоса обычно осуществляется с помощью следующих методов:

- **Определение диапазона:** Это делается путем выявления границ низких и высоких нот, которые исполнитель может комфортно исполнять.
- **Оценка тембра:** Тип голоса определяется на основе его богатства, глубины и эмоциональной выразительности.
- **Техника и сила голоса:** Важно оценить контроль дыхания исполнителя, стабильность и силу его голоса.

Для развития голосов необходимы регулярные упражнения, улучшение вокальной техники и освоение правильных методов дыхания. Кроме того, индивидуальный подход со стороны педагогов играет важную роль в достижении успешных результатов.

Изучение типов исполнительских голосов напрямую влияет на качество музыкального исполнения и успех артистов. Классификация мужских и женских голосов, определение их диапазонов и развитие позволяют усилить эмоциональное воздействие музыкальных произведений. Также необходимо продолжать исследования, направленные на совершенствование вокальной техники. Это будет способствовать дальнейшему обогащению музыкального искусства.

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ВКЛАД ДЖАДИДОВ В ОБРАЗОВАНИЕ УЗБЕКИСТАНА

Аннотация: В статье рассматривается вклад джадидов в развитие образовательной системы Узбекистана в конце XIX – начале XX века. Джадидизм, как реформаторское движение, способствовал модернизации традиционного образования, введению новых методов обучения и расширению учебных программ. Анализируются ключевые инициативы джадидов, их влияние на общество и сопротивление, с которым они сталкивались. Работа основана на историко-аналитическом методе с использованием трудов отечественных и зарубежных исследователей.

Ключевые слова: джадидизм, образование, реформы, модернизация, Узбекистан, культура, толерантность.

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CONTRIBUTION OF THE JADIDS TO THE EDUCATION OF UZBEKISTAN

Abstract: This article examines the contribution of the Jadids to the development of Uzbekistan's educational system in the late 19th and early 20th centuries. As a reformist movement, Jadidism facilitated the modernization of traditional education, the introduction of new teaching methods, and the expansion of curricula. Key initiatives of the Jadids, their societal impact, and the resistance they encountered are analyzed. The study is based on a historical-analytical method using the works of domestic and foreign researchers.

Keywords: Jadidism, education, reforms, modernization, Uzbekistan, culture, tolerance.

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JADIDLARNING O'ZBEKISTON TA'LIMIGA QO'SHGAN HISSASI

Annotatsiya: Maqolada XIX asr oxiri – XX asr boshlarida jadidlarning O‘zbekiston ta’lim tizimini rivojlantirishga qo‘shgan hissasi ko‘rib chiqiladi. Jadidchilik islohotchi harakat sifatida an’anaviy ta’limni modernizatsiya qilish, yangi o‘qitish usullarini joriy etish va o‘quv dasturlarini kengaytirishga xizmat qildi. Jadidlarning asosiy tashabbuslari, ularning jamiyatga ta’siri va duch kelgan qarshiliklari tahlil qilinadi. Tadqiqot mahalliy va xorijiy tadqiqotchilar asarlari asosida tarixiy-tahliliy metod yordamida amalga oshirilgan.

Kalit so‘zlar: jadidchilik, ta’lim, islohotlar, modernizatsiya, O‘zbekiston, madaniyat, bag‘rikenglik.

Джадидизм (от араб. "джадид" – "новый") – реформаторское движение, возникшее в конце XIX – начале XX века среди мусульман Российской империи. Основной целью джадидов было обновление мусульманского общества через образование, науку и просвещение. В Узбекистане джадиды сыграли важную роль в модернизации системы образования, внедрив новые методы обучения, реформировав учебные программы и продвигая идею светского знания.

В данной работе использованы историко-аналитический и сравнительный методы. Анализируются первичные источники, включая труды джадидов и их современников, а также вторичные источники, такие как исследования Алимовой Д.А., Муртазаевой Р. и Боймирзы Хайита. Особое внимание уделяется изменениям в системе образования, введенным джадидами, и их влиянию на общество.

Джадиды внесли значительный вклад в образовательные реформы, внедрив "усули джадид" (новый метод обучения), который ускорил процесс грамотности среди мусульманского населения. Они реформировали учебные программы, включив в них математику, естественные науки, историю и иностранные языки, что способствовало интеграции мусульман в современные социальные и экономические процессы. Особое внимание уделялось подготовке нового поколения интеллектуалов, что привело к появлению новой прослойки учителей, журналистов и общественных деятелей. Джадиды также способствовали развитию национальной прессы, которая стала важным инструментом просвещения и модернизации. Они активно использовали газеты и журналы, такие как "Таржимон" и "Шуро", для распространения своих идей о необходимости реформирования общества (Алимова, н.д.).

Помимо образовательных реформ, джадиды поддерживали социальные преобразования, направленные на улучшение положения женщин, внедрение светского образования и повышение уровня общей культуры населения (Murtazayeva, 2019). Они способствовали открытию школ для девочек, что вызвало как поддержку, так и критику со стороны традиционного духовенства. В регионах, таких как Бухара и Коканд, новые школы столкнулись с активным сопротивлением, однако, несмотря на это, их количество продолжало расти.

Однако их реформы вызвали не только поддержку, но и жесткое противодействие со стороны консервативного духовенства и колониальной администрации. Российская власть воспринимала джадидизм как потенциальную угрозу колониальному порядку и предпринимала попытки ограничить его влияние (Хайит, н.д.). В советский период многие джадиды подверглись репрессиям, а их школы были либо закрыты, либо преобразованы в советские образовательные учреждения. Как отмечает Боймирза Хайит, ликвидация джадидизма была вызвана не только политическими репрессиями, но и изменениями в идеологическом курсе государства, направленными на уничтожение альтернативных форм национального сознания.

Несмотря на преследования, идеи джадидов оказали долговременное влияние на развитие узбекской культуры и образования. Многие их инициативы, такие как распространение грамотности и модернизация учебных программ, получили продолжение в последующие десятилетия, став основой для формирования современной образовательной системы Узбекистана.

Вклад джадидов в образование Узбекистана невозможно переоценить. Их усилия способствовали распространению грамотности, модернизации учебных программ и формированию национальной интеллигенции. Несмотря на преследования в советский период, идеи джадидов оставили глубокий след в культурном развитии Узбекистана и продолжают вдохновлять современные образовательные реформы. Будущие исследования могут сосредоточиться на детальном анализе отдельных джадидских школ и их педагогических методов.

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ДЕПОЗИТНАЯ ПОЛИТИКА КОММЕРЧЕСКОГО БАНКА В СОВРЕМЕННЫХ УСЛОВИЯХ

***Аннотация:** В настоящий момент необходимыми к изучению являются вопросы по осуществлению депозитной политики коммерческих банков. Для того, чтобы банк беспрепятственно осуществлял свою финансовую деятельность, ему необходимо достаточное количество ресурсов, которые он получает благодаря эффективной реализации депозитной политики. Анализ и оценка проводимой депозитной политики банком на данный момент являются важнейшими задачами, так как банкам необходимо извлечь максимальную выгоду от привлеченных средств граждан, находящихся на вкладах и депозитах в банке. В данной статье мы рассмотрим особенности формирования депозитной политики, определим ее роль в банковской системе и предложим некоторые мероприятия по улучшению осуществления депозитной политики коммерческих банков.*

***Ключевые слова:** депозитная политика банка, процентная ставка, банковская система, ресурсная база коммерческого банка.*

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DEPOSIT POLICY OF A COMMERCIAL BANK IN MODERN CONDITIONS

***abstract:** At the moment, issues related to the implementation of the deposit policy of commercial banks need to be studied. In order for a bank to carry out its financial activities smoothly, it needs a sufficient amount of resources, which it receives through the effective implementation of its deposit policy. Analysis and assessment of the bank's deposit policy at the moment are the most important tasks, since banks need to extract maximum benefit from the attracted funds of citizens*

held on deposits with the bank. In this article we will consider the features of the formation of deposit policy, define its role in the banking system and propose some measures to improve the implementation of the deposit policy of commercial banks

Keywords: *bank deposit policy, interest rate, banking system, resource base of a commercial bank.*

В настоящее время финансовый рынок, который находится в условиях конкурентной среды, нуждается в четком наблюдении и построении деятельности Центральным банком.

Каждый банк в наше время сталкивается с одной из важнейших проблем – формирование ресурсной базы. Благодаря привлечению средств банк может осуществлять свою деятельность в полном размере, а так как у граждан имеются собственные средства, каждый банк должен предлагать им определенный комплекс услуг для того, чтобы они совершали вклады и предоставляли банкам возможность использовать эти денежные средства в своей деятельности. В свою очередь такой фактор как ресурсная база может повлиять на платежеспособность и ликвидность банка в целом. Значит формирование и использование ресурсов банка – одна из частей эффективного управления активами и пассивами банка. Большая часть ресурсов банка формируется при осуществлении депозитных операций клиентами банка. В этом случае инструментами привлечения являются процентная ставка депозитов и модели ценообразования этих видов депозитов.

Депозитная политика – это система мер, направленных банком на привлечение свободных денежных ресурсов юридических, физических лиц с последующим их размещением на взаимовыгодной основе. То есть депозитная политика выступает основой формирования банковских ресурсов, которые банк использует в операционной деятельности.

Когда банки занимаются разработкой депозитной политики, они в первую очередь обращают внимание на законодательство и некоторые критерии:

- связь между кредитными и депозитными операциями банка;
- конкурентоспособность продуктов банка;
- уровень диверсификации ресурсной базы коммерческого банка;
- сегментирование депозитного портфеля.

С помощью депозитной политики можно решить нынешние задачи и задачи, которые являются стратегическими для банка. Само формирование депозитной политики включает в себя четыре этапа: постановка цели и задач, выделение подразделений банка и распределение полномочий между банковскими работниками, разработка мероприятий, способствующих привлечению дополнительных денежных средств, организация и контроль в процессе осуществления депозитных операций [1]. При должной реализации этих этапов депозитная политика сможет принести коммерческому банку достаточное количество ресурсов для осуществления своей деятельности.

Перспективным направлением в развитии депозитной политики выступает расширение видов депозитных счетов клиентов, которые будут способны функционировать в разных режимах. Это позволит клиентам, которые совершают вклады в банки использовать дополнительные возможности в управлении своими средствами. Для анализа структуры депозитных операций банка необходимо обратить внимание на следующие показатели [3]:

1. Отношение привлеченных к собственным ресурсам банка;
2. Доля межбанковских кредитов в ресурсной базе. Этот показатель указывает какая степень зависимости от рынка межбанковских кредитов присутствует в коммерческом банке. Этот показатель не должен превышать 10-12%;
3. Доля остатков на счетах до востребования и на счетах клиентов коммерческого банка. Этот показатель в основном и формирует ресурсную базу банка, то есть является важнейшим из рассматриваемых;
4. Величина зависимости банка от разных секторов депозитного рынка;
5. Время использования привлекаемых средств клиентов. Этот показатель позволяет провести оценку управления ресурсами банка;
6. Структура базы ресурсов по всем филиалам коммерческого банка. Благодаря пониманию всей структуры будет возможность повышения эффективности каждого филиала банка и в дальнейшем получения наибольшей прибыли.

Для расширения своего ресурсного потенциала банку необходимо заниматься совершенствованием своей депозитной политики в дни кризиса, для получения максимального объема денежных средств, которые в дальнейшем можно будет использовать для выдачи кредитов физическим и юридическим лицам [2]. Для достижения такой цели необходимо использовать различные финансовые и маркетинговые инструменты.

Расширение количества депозитных вкладов и введение инновационных видов услуг выступает одним из важнейших направлений в осуществлении депозитной политики коммерческим банком. Банку нужно понимать потребности людей разного возраста и людей, которые имеют разный уровень дохода. То есть банку следует обратить внимание на то что хотят получить люди в пенсионном возрасте, люди в среднем возрасте и молодежь, каким бы доходом не обладал тот или иной представитель возрастной группы.

Отличным вариантом станут выгодные вклады, предназначенные для достижения каких-то целей, выплата по которым будет происходить, например, к отпуску, какому-нибудь празднику или дате, которую укажет сам клиент. Проценты по таким вкладам необходимо сделать выше чем по обыкновенным срочным вкладам, однако и срок у таких депозитов должен быть меньше. Так же банкам можно предложить осуществлять открытие депозитного счета вкладчика вместе с оформлением дебетовой карты банка на

сумму вложенных средств. В этой ситуации клиент с помощью банкоматов сможет осуществлять операции по вкладу в рамках условий договора. Такое предложение является очень выгодным для держателя этой карты, с помощью которой можно оплачивать товары и услуги, имея при этом открытый депозитный счет в банке.

Многие банки уже перешли на обслуживание клиентов в онлайн формате. Это нововведение позволяет снизить операционные расходы банка и значительно сокращает время на обслуживание клиентов. Однако не все клиенты имеют возможность скачать приложение банка или не понимают, как работает система открытия вкладов онлайн. На это случай необходимо выделить штатную единицу для осуществления помощи людям, которые столкнулись с проблемой открытия онлайн. Эта помощь будет осуществляться благодаря выездам определенного специалиста на адрес проживания клиента, ознакомлению с необходимыми продуктами и консультированию по открытию вкладов, не выходя из дома.

Когда банк вводит новый вид депозита или банковского продукта нужно учесть потребности клиентов. Для этого можно проводить маркетинговые исследования по выявлению интереса вкладчиков. К примеру, для большего внимания ко вкладам, можно осуществлять выплату процентов раньше срока закрытия вклада, для компенсации потерь по инфляции. Однако при досрочном закрытии вклада, банку необходимо будет пересчитать выплаченный процентный доход.

В современных условиях депозитная политика банка должна осуществляться с использованием инновационных продуктов, обоснованных процентных ставок и ориентироваться на достаточно высокий уровень предоставления услуг по открытию вкладов в банке.

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ПЕРСПЕКТИВЫ ДЕМОГРАФИЧЕСКОГО РАЗВИТИЯ СЕВЕРО-КАВКАЗСКОГО ФЕДЕРАЛЬНОГО ОКРУГА

***Аннотация:** в статье рассматривается демографический прогноз для СКФО.*

***Ключевые слова:** рождаемость, смертность, население, демография, демографический кризис, естественный прирост населения, депопуляция.*

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PROSPECTS OF DEMOGRAPHIC DEVELOPMENT OF THE NORTH CAUCASUS FEDERAL DISTRICT

***Abstract:** The article discusses the demographic forecast for SKFO according to Rosstat.*

***Keywords:** birth rate, mortality, population, demography, demographic crisis, natural population growth, depopulation.*

СКФО выделяется темпам роста населения, которые в несколько раз превышают среднероссийские. Население росло благодаря естественному приросту, который всегда выше, чем во многих других районах.

По плотности населения (60,15 человек на 1 км²) СКФО занимает 2-е место в РФ. Население размещено неравномерно, особенно оно малочисленно в северо-восточных засушливых районах Ставрополья и Республики Дагестан. Больше всего людей проживают в следующих регионах СКФО: Дагестан (3,2 млн человек), Ставропольский край (2,8 млн человек) и Чечня (1,5 млн человек).

Меньше всего людей живут в Карачаево-Черкесии, там постоянная численность населения на начало 2024 года составляет 468 тыс. чел. Далее идут Ингушетия (527 тыс. чел.), Северная Осетия (679 тыс. чел.) и Кабардино-Балкария (905 тыс. чел.).

В СКФО урбанизации в СКФО намного ниже, чем в среднем по России. Большая часть населения проживает в сельской местности, особенно в таких Республиках, как Дагестан, Кабардино-Балкария и Карачаево-Черкесия.

Такие крупные города, как Махачкала (622 660 тыс. чел.), Грозный (333 672 тыс. чел.), Владикавказ (321 106 тыс. чел.) и Ставрополь (557 275 тыс. чел.).

Северный Кавказ не является районом с высокой степенью урбанизации. Тем не менее в связи с общероссийскими процессами роста урбанизации, развитием промышленного производства, расширением имеющихся и созданием новых индустриальных центров, в том числе в национальных административно-территориальных образованиях, в округе отмечается рост городского населения.

Городское население в СКФО насчитывает порядка 5 млн 259 тысяч человек, сельское население – 4 млн 994 тысяч человек. Доля в СКФО городского населения на 1 января 2024 г. составляет 50,7% (табл. 1).

Таблица 1 – Городское население СКФО [52]

Субъект	Население, тыс. чел.	Городское население, тыс. чел.	Доля городского населения, %	Доля столицы субъекта, %
Республика Дагестан	3 209 781	1 335 969	45,1	19,5
Республика Ингушетия	519 078	289 978	55	1,1
Кабардино-Балкарская Республика	903 266	468 249	51,7	27,8
Карачаево-Черкесская Республика	468 444	193 948	41,4	26,6
Республика Северная Осетия – Алания	680 748	429 634	63,3	43,1
Ставропольский край	2 891 204	1 755 601	60,8	15,0
Чеченская республика	1 553 209	660 227	42,5	20,8

В округе в данном плане наблюдается относительный паритет: в 2010-м в селах жили 50,8%, в 2024 году – 49,3%. С одной стороны, большое количество жителей, проживающих в сельской местности, позволяет легче справляться с последствиями высокого уровня безработицы в регионе. Однако, с другой стороны, такая структура населения приводит к снижению налоговых поступлений, что делает региональный бюджет зависимым от дотаций [16].

Самый высокий показатель младенческой смертности – в Республике Дагестан, где показатель составляет 8,3‰. Самый низкий показатель – в Республике Северная Осетия – Алания, где он составляет всего 4,1‰ [35].

Ингушетия вошла в число регионов РФ, где отмечается рост численности населения. По оценке Ингушетиястата, численность

постоянного населения на 1 января 2023 года составила 519,1 тыс. человек, рост в сравнении с 2022 г. – на 1,6%. При этом в 2022 году регион также был лидером по росту численности населения за год. Так численность населения республики за 3 года, – с 2019 по 2021 гг., выросла на 5,4% (табл. 2).

Таблица 2 – Рейтинг регионов СКФО по демографии – 2022

Место	Регион	Прирост (убыль) населения за 2019-2021 гг., %	Численность населения на 1 января 2022 г., тыс. чел.	Естественный прирост населения за 2019-2021 гг., тыс. чел.	Миграционный прирост населения за 2019-2021 гг., тыс. чел.
2	Республика Ингушетия	5,36	524,1	19,41	7,20
3	Чеченская Республика	4,08	1516,4	63,28	-5,03
12	Республика Дагестан	2,19	3153,9	82,18	-14,33
18	Кабардино-Балкарская Республика	0,49	870,5	5,86	-1,21
26	Ставропольский край	-0,54	2780,2	-27,86	13,87
23	Карачаево-Черкесская Республика	-0,29	464,2	-0,10	-1,05
39	Республика Северная Осетия - Алания	-1,59	688,1	-0,60	-10,21

Наибольший прирост жителей в абсолютном выражении наблюдался в Республике Дагестан – 67,7 тыс., Чеченской республике – 59,4 тыс. человек. Республика Ингушетия является лидером среди регионов СКФО по продолжительности жизни – 82,4 года, Ставропольский край имеет минимальное значение – 74,2 года.

В последние годы активно пропагандируется здоровый образ жизни, как как один из аспектов улучшения качества жизни человека. Отказ от вредных привычек и занятия физкультурой могут качественно изменить жизнь и повлиять на многие ее сферы. Ежегодно растет количество людей из разных регионов РФ, которые активно формируют привычки здорового образа жизни. Эксперты агентства РИА Рейтинг, по заказу РИА Новости, представили рейтинг регионов по приверженности населения здоровому образу жизни. По

итогах 2023 г. в восьмой раз подряд лидерами рейтинга стали регионы Северного Кавказа и юга России (табл. 3).

Таблица 3 – Рейтинг регионов СКФО по приверженности населения ЗОЖ – 2023 [4]

Место в 2023 г.	Регион	Рейтинговый балл в 2023 г.	Место в 2022 г.
1	Республика Дагестан	99,1	2
2	Чеченская республика	95,5	1
3	Республика Кабардино-Балкария	87,8	3
8	Республика Ингушетия	82,3	9
9	Ставропольский край	81,7	21
22	Республика Карачаево-Черкессия	75,7	17
34	Республика Северная Осетия - Алания	68,7	27

Высокое положение регионов Северного Кавказа в рейтинге объясняется низким уровнем потребления табачных изделий и невысокими объемами продаж алкогольной продукции, а также и низкой доли занятых на работе с вредными или опасными условиями труда. Но только в Республике Дагестан высока доля занимающихся спортом и по этому показателю регион входит в число лидеров по стране.

Безработица в СКФО остается крайне высокой – ее официальный уровень варьируется от 8 до 55 процентов, что в 1,5-9 раз превышает среднероссийский уровень. Имеет место скрытая безработица и высокий процент занятости населения в низкооплачиваемых секторах экономики.

Не смотря на рост в некоторых регионах СКФО числа работающих, уровень безработицы превышает в них 10% и к ним относятся: Республика Дагестан (12,5%) (+0,9% по отношению к 2022-му), Республика Северная Осетия-Алания – 8,6% (-3,3%) и Чеченская Республика – 10,4% (-0,6%).

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ИНКЛЮЗИВНЫЕ И КОМФОРТНЫЕ ГОРОДА БУДУЩЕГО: ЦИФРОВИЗАЦИЯ, ГИБКОЕ ЗОНИРОВАНИЕ И ДЕЦЕНТРАЛИЗАЦИЯ

Аннотация: *Современные города сталкиваются с необходимостью создания инклюзивной и комфортной среды для всех жителей, включая людей с ограниченными возможностями. Для достижения этой цели необходимо учитывать ряд факторов, таких как цифровизация, гибкое зонирование и децентрализация городской инфраструктуры.*

Ключевые слова: *города, урбанизация, субурбанизация, децентрализация, мегаполисы, население, цифровизация, города будущего.*

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INCLUSIVE AND COMFORTABLE CITIES OF THE FUTURE: DIGITALIZATION, FLEXIBLE ZONING AND DECENTRALIZATION

Abstract: *Modern cities face the need to create an inclusive and comfortable environment for all residents, including people with disabilities. To achieve this goal, it is necessary to take into account a number of factors, such as digitalization, flexible zoning and decentralization of urban infrastructure.*

Keywords: *cities, urbanization, suburbanization, decentralization, megacities, population, digitalization, cities of the future.*

Города будущего обещают стать воплощением передовых технологий, экологической ответственности и социальной интеграции. Они будут отличаться от современных мегаполисов в ряде ключевых аспектов, направленных на улучшение качества жизни жителей и снижение негативного воздействия на окружающую среду.

Интеграция технологий в городскую инфраструктуру станет нормой, обеспечивая умное управление ресурсами, автономные транспортные системы и эффективное использование возобновляемых источников энергии. Экологичность и устойчивость станут приоритетами, снижая выбросы и развивая зелёную инфраструктуру.

Гибкие пространства и развитие зелёных зон будут способствовать созданию комфортной городской среды, а цифровизация образования и здравоохранения сделает эти сферы более доступными и удобными. Децентрализация может привести к снижению нагрузки на крупные мегаполисы и обеспечению равномерного развития.

Адаптация к изменению климата и интеграция с природой станут важными аспектами, а развитие креативных индустрий и международного сотрудничества укрепит культурное разнообразие и глобальное сотрудничество.

Одним из ключевых аспектов создания инклюзивных городов является цифровизация городской инфраструктуры. Это включает в себя использование современных технологий для обеспечения доступности информации и услуг для всех жителей. Например, это может быть использование мобильных приложений для людей с ограниченными возможностями зрения или слуха, а также для пожилых людей. Такие приложения могут предоставлять информацию о транспорте, медицинских учреждениях, культурных мероприятиях и других сервисах, которые могут быть полезны для этих групп населения.

Ещё одним примером цифровизации городской инфраструктуры является использование умных систем управления городским пространством. Такие системы могут автоматически регулировать освещение, температуру и другие параметры в зависимости от времени суток, погодных условий и наличия людей. Это не только делает городскую среду более комфортной, но и способствует экономии энергии и ресурсов.

Гибкое зонирование городской территории предполагает создание пространств, которые могут быть адаптированы под различные нужды и интересы жителей. Например, это могут быть многофункциональные общественные пространства, которые могут использоваться для отдыха, работы, обучения и других целей. Такие пространства могут включать в себя парки, скверы, спортивные площадки, библиотеки, коворкинги и другие объекты.

Гибкое зонирование также предполагает создание доступных и удобных транспортных систем, которые могут быть использованы всеми жителями города. Например, это могут быть системы общественного транспорта, которые включают в себя автобусы, трамваи, троллейбусы и другие виды транспорта. Такие системы должны быть доступны для людей с ограниченными возможностями и пожилых людей.

Децентрализация городской инфраструктуры предполагает распределение городских функций и услуг по всему городу, а не только в его центре. Это может включать в себя размещение медицинских учреждений, образовательных учреждений, культурных центров и других объектов в различных районах города. Такой подход способствует доступности услуг для всех жителей города, независимо от их местоположения.

Традиционную модель города, когда люди едут в центр на работу, а вечером возвращаются в спальные районы или пригороды, хорошо известна на примере Москвы. Ее главные минусы – вечные пробки, большие расстояния, которые ежедневно преодолевают люди, тратя на это время. А кроме того, такая модель несет в себе социальное неравенство: уровень жизни в богатом центре не сопоставим со скромными стандартами окраины. В городе будущего не должно быть центра – это мегаполис равноправных районов или даже сеть небольших городов.

Децентрализация также предполагает создание гибких и адаптивных систем управления городской инфраструктурой. Такие системы должны быть способны быстро реагировать на изменения в потребностях жителей и адаптировать городскую среду под эти потребности.

В заключение можно сказать, что создание инклюзивных и комфортных городов будущего требует комплексного подхода, который включает в себя цифровизацию городской инфраструктуры, гибкое зонирование городской территории и децентрализацию городских функций и услуг. Такой подход позволит создать городскую среду, которая будет доступна и комфортна для всех жителей, независимо от их возраста, состояния здоровья или других факторов.

Однако важно учитывать, что путь к городам будущего потребует значительных усилий и инвестиций. Необходимо разработать комплексные стратегии, учитывающие потребности всех слоёв общества, и обеспечить их реализацию. Города будущего могут стать примером того, как передовые технологии, экологическая ответственность и социальная интеграция могут работать вместе для создания лучшего будущего для всех.

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ТЕРРИТОРИАЛЬНЫЕ ОСОБЕННОСТИ ОРГАНИЗАЦИИ ОБРАЗОВАНИЯ В КРАСНОДАРСКОМ КРАЕ

Аннотация: *Образование подразделяется на общее образование, профессиональное, дополнительное и профессиональное обучение, обеспечивающие возможность реализации права на образование в течение всей жизни.*

Ключевые слова: *образование; система образования; доступность образования; качество образования; муниципальные органы управления.*

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TERRITORIAL FEATURES OF THE ORGANIZATION OF EDUCATION IN THE KRASNODAR TERRITORY

Abstract: *Education is divided into general education, vocational, additional and vocational training, providing the opportunity to realize the right to education throughout life.*

Keywords: *education; education system; accessibility of education; quality of education; municipal educational authorities.*

Территориальная система образования (ТСО) – это структурированная совокупность образовательных учреждений, связей между ними, образовательных и управленческих процессов, обеспечивающая выполнение функций образования, воспитания, социализации и профессиональной подготовки населения территории. Неосистемный подход всё многообразие экономических систем сводит к четырём типам: объекты, процессы, среды и проекты.

Система образования Краснодарского края на начало 2023 года включает 3 108 образовательных организаций, из них:

- дошкольных образовательных организаций–1462;
- общеобразовательных организаций–1152;
- организаций дополнительного образования детей–494.

На территории Краснодарского края работают 43 государственных образовательных организаций– специальных. Также на территории края функционируют государственные общеобразовательные организации, подведомственные министерству, в их число входят: специальные коррекционные общеобразовательные организации, кадетские школы-интернаты, общеобразовательные организации закрытого типа, специальные общеобразовательные организации, для лиц, отбывающих наказание.

Кадетские школы-интернаты находятся в городах: Краснодар, Тимашевск, Курганинск, Туапсе. Одна общеобразовательная организация закрытого типа в Брюховецком районе, станица Переясловская. Специальные общеобразовательные организации, для лиц, отбывающих наказание находятся в городах: Хадыженск, Армавир, Краснодар, а также в Усть-Лабинском районе в поселке Двубратский.

В регионе остро стоит проблема второй смены. Демография и миграционные процессы пока не позволяют ее решить, особенно в таких городах, как Сочи, Краснодар и Анапа. Однако за последние три года в крае за счет консолидированного бюджета построено 32 школы, из них 14 в сельской местности, и создано около 28 тысяч мест (табл. 2).

Таблица 2 – Численность населения Краснодарского края в разрезе административно-территориальных образований

Административно-территориальное образование	Численность населения, тыс. чел.	В том числе городское население, тыс. чел.	Доля населения от всего населения края, %
г. Краснодар	1226,2	1121	0,192634853
г. Анапа	82,7	82	0,021047205
г. Армавир	184,2	184	0,031618923
г. Геленджик	80,3	80	0,013747358
г. Горячий Ключ	41,5	41	0,007045521
г. Ейск	82,5	82,5	0,014176963
г. Кропоткин	74,9	74,9	0,012870964
г. Новороссийск	342,0	342,0	0,058769955
г. Сочи	561,8	561,8	0,096540821
г. Тихорецк	54,6	54,6	0,009382572
г. Туапсе	60,7	60,7	0,010430808

Абинский район	97,5	60	0,010310518
Апшеронский район	97,3	66	0,01134157
Белоглинский район	29,6	–	–
Белореченский район	105,8	55	0,009451309
Брюховецкий район	46,3	–	–
Выселковский район	54,6	–	–
Гулькевичский район	97,4	48	0,008248415
Динской район	147,4	–	–
Ейский район	134,4	83	0,014262884
Кавказский район	116,9	75	0,012888148
Калининский район	50,0	–	–
Каневский район	97,2	–	–
Кореновский район	83,4	41	0,007045521
Красноармейский район	100,8	–	–
Крыловский район	33,5	–	–
Крымский район	130,8	54	0,009279467
Курганинский район	99,2	46	0,007904731
Куцевский район	63,6	–	–
Лабинский район	89,6	56	0,009623151
Ленинградский район	58,9	–	
Мостовский район	68,7	36	0,006186311
Новокубанский район	83,0	33	0,005670785
Новопокровский район	41,2	–	–
Отраденский район	63,5	–	–
Павловский район	61,1	–	–
Приморско-Ахтарский район	56,1	34	0,005842627
Северский район	122,5	57	0,009794993
Славянский район	126,4	62	0,010654202

Староминский район	39,5	-	-
Тбилисский район	48,1	-	-

Продолжение таблицы 4

Темрюкский район	125,8	41	0,007045521
Тимашевский район	105,9	51	0,008763941
Тихорецкий район	109,6	55	0,009451309
Туапсинский район	124,7	78	0,013403674
Успенский район	38,9	—	—
Усть-Лабинский район	100,7	39	0,006701837
Щербиновский район	33,6	—	—
Краснодарский край	5819,3	3324	1

Драйвером развития этого направления стал федеральный проект «Современная школа» нацпроекта «Образование», который реализует Минпросвещения России. Он позволил в этом году открыть долгожданную новую сельскую школу для 1100 учащихся (пос. Южный Динского района).

В Краснодарском крае насчитывается более 250 тыс. студентов. Более 100 тыс. студентов учатся в вузах, около 120 тыс. – в учреждениях среднего профессионального образования. Еще около 29 тыс. человек получают образование в колледжах и техникумах при вузах.

В Краснодарском крае – 111 колледжей и техникумов, учреждения СПО есть при 25 вузах и филиалах. Здесь трудятся 7,5 тысячи работников, обучаются 150 тысяч студентов. За четыре года на базе учреждений СПО в Краснодаре по нацпроекту «Образование» открыли 83 мастерские.

В образовательных организациях высшего образования на дневной форме обучения по педагогическим направлениям (специальностям) подготовки обучается около 3,5 тысяч студентов. Ведущими вузами по подготовке педагогических кадров являются Армавирская государственная педагогическая академия, Кубанский государственный университет и его филиалы в Славянске - на - Кубани и Новороссийске.

В 2024 году на территории города реализуются 36 социальных объектов, из них 11 школ на 13 825 мест, 24 садика на 6 970 мест и 1 событийная площадка. Всего в течение 2024–2026 годов в Краснодаре планируется открыть 55 школ на 60 200 мест, а детских садов в этот же период – 88 на 23 955 мест.

В Краснодарском крае на данный момент одновременно возводится 22 школы. Восемь из них будут сданы уже в 2024 году, что позволит создать более 8 тысяч школьных мест.

Суммарно из федерального и регионального бюджетов на создание новых учебных мест в Краснодарском крае на этот и следующий годы было выделено около 4,5 миллиарда рублей. На эти средства будут открыты школы в Анапе, Новороссийске, Краснодаре и Динском районе.

Строительство новых общеобразовательных организаций – это не только решение проблемы второй смены, но и обеспечение доступности образования.

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ОБРАЗОВАТЕЛЬНОЕ ПРОСТРАНСТВО КРАСНОДАРСКОГО КРАЯ: ОСОБЕННОСТИ И ПЕРСПЕКТИВЫ

Аннотация: *Образование подразделяется на общее образование, профессиональное, дополнительное и профессиональное обучение, обеспечивающие возможность реализации права на образование в течение всей жизни.*

Ключевые слова: *образование; система образования; доступность образования; качество образования; муниципальные органы управления.*

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THE EDUCATIONAL SPACE OF THE KRASNODAR TERRITORY: FEATURES AND PROSPECTS

Abstract: *Education is divided into general education, vocational, additional and vocational training, providing the opportunity to realize the right to education throughout life.*

Keywords: *education; education system; accessibility of education; quality of education; municipal educational authorities.*

Территориальная система образования (ТСО) – это структурированная совокупность образовательных учреждений, связей между ними, образовательных и управленческих процессов, обеспечивающая выполнение функций образования, воспитания, социализации и профессиональной подготовки населения территории. Неосистемный подход всё многообразие экономических систем сводит к четырём типам: объекты, процессы, среды и проекты. Под системой понимают относительно устойчивую в пространстве и во времени целостную часть окружающего мира, выделяемую из него по пространственным или функциональным признакам [3].

Образование подразделяется на общее образование, профессиональное образование, дополнительное образование и профессиональное обучение, обеспечивающие возможность реализации права на образование в течение всей жизни (непрерывное образование) (табл.1).

Таблица 1 – Структура системы образования в Российской Федерации

Виды образования	
Общее образование	дошкольное образование
	начальное общее образование
	основное общее образование
	среднее общее образование
	среднее профессиональное образование
Профессиональное образование	высшее образование - бакалавриат
	высшее образование - специалитет, магистратура
	высшее образование - подготовка кадров высшей квалификации
Дополнительное образование	дополнительное образование детей
	дополнительное образование взрослых
	дополнительное профессиональное образование
Профессиональное обучение	программы переподготовки
	программы повышения квалификации

В крае существует система муниципального образования, где каждый муниципалитет отвечает за организацию и функционирование образовательных учреждений на своей территории. Каждый муниципалитет имеет свою сеть школ и других образовательных учреждений, обеспечивая доступность образования для всех жителей региона.

Кроме того, в Краснодарском крае есть специализированные образовательные центры и колледжи, которые предлагают профессиональное образование в различных отраслях, таких как сельское хозяйство, медицина, технические науки и другие.

Также стоит отметить наличие высших учебных заведений в Краснодарском крае, включающих университеты и институты, которые предлагают бакалавриат, магистратуру и докторантуру по различным направлениям подготовки.

В 2023 году завершили строительство 16 школ, при этом абсолютное большинство из них – это школы больше 1000 мест, и 26 детских садов. Дефицит мест в школах и детских садах сохраняется по крупным городам. Это, Краснодар, который прирос только в этом году на 10 тысяч школьников.

Город Сочи, Новороссийск, Армавир и ближайшие к Краснодару муниципалитеты (Динской и Северский районы).

Территориально-пространственная организация образовательной системы в Краснодарском крае направлена на обеспечение доступности качественного образования для всех жителей региона и соответствует требованиям федерального законодательства в области образования.

В Краснодарском крае 70% школ – сельские. В них обучаются 286 тысяч детей и работает около 18 тысяч учителей. В регионе сложился позитивный опыт развития сельских школ благодаря эффективному труду педагогов и управленцев. Эта работа отмечена на федеральном уровне.

Каждое десятое общеобразовательное учреждение входит в число лучших сельских школ России. За последние три года 80 краснодарских педагогов получили премии за достижения в профессиональной деятельности. Пять учителей стали победителями и призерами всероссийских конкурсов «Директор школы России», «Учитель здоровья России», «Разговор о правильном питании».

Доступность дошкольного образования (отношение численности детей в определенном возрасте, получивших дошкольное образование в текущем году, к сумме численности детей в определенном возрасте, получающих дошкольное образование в текущем году, и численности детей в определенном возрасте, находящихся в очереди на получение дошкольного образования) в 2022 году (показатели на 1 января 2023 г.) для детей в возрасте от 2 месяцев до 7 лет составила 100 % (в 2021 году – 100 %).

Численность детей, состоящих на учете муниципальных образований края для получения дошкольного образования, ежегодно снижается. На 1 января 2023 г. она составила 86 384 человек, что на 9 569 человек меньше, чем на 1 января 2022 года (95 953 человек).

В целях обеспечения доступности дошкольного образования в крае реализуются государственные программы «Развитие общественной инфраструктуры», «Развитие образования», средства которых направлены на строительство новых детских садов и пристроек, приобретение зданий под детские сады, реконструкцию и капитальный ремонт.

В 2022 году за счет средств всех уровней бюджета организовано 2 030 новых дошкольных мест, из них 520 – для детей до 3-х лет.

Удельный вес численности детей, посещающих частные организации, осуществляющие образовательную деятельность по образовательным программам дошкольного образования, присмотр и уход за детьми, в общей численности детей, посещающих организации, реализующие образовательные программы дошкольного образования, присмотр и уход за детьми в 2022 году составил 0,89 % (без учета численности детей у индивидуальных предпринимателей, реализующих программы дошкольного образования). В 2021 году этот показатель составлял 3,25 % с учетом численности детей у индивидуальных предпринимателей, реализующих программы дошкольного образования.

По итогам 2022 года около 258,7 тыс. детей получают дошкольное образование в организациях, осуществляющих образовательную деятельность по образовательным программам дошкольного образования, что на 12,6 тыс. человек меньше, чем в предыдущем году (271,2 тыс. человек).

Сеть образовательных организаций края, реализующих образовательные программы дошкольного образования, по итогам 2022 года составила 1 568, что на 229 единицы меньше, чем в 2021 году (1 797).

При этом сеть дошкольных образовательных организаций края (юридических лиц) в целом увеличилась на 5 единиц (в 2021 году – 1488, в 2022 году – 1493) без учета дошкольных организаций ФТ Сириуса.

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ЗЕМЛИ И ФИНАНСОВЫЕ ДОХОДЫ ОТ НИХ В КОКАНДСКОМ ХАНСТВЕ

Аннотация: В статье анализируются формы земли и ее собственности в Коканском ханстве. При этом кратко был затронут вопрос доходов от земли в ханстве.

Ключевые слова: Земля, собственность, собственность, государство, финансы, продажа

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LAND AND FINANCIAL INCOME FROM THEM IN THE KHOKAND KHANATE

Abstract: The article analyzes the forms of land and its ownership in the Kokan Khanate. At the same time, the issue of land revenues in the Khanate was briefly touched upon.

Key words: Land, property, property, state, finance, sale

Одним из источников финансовых доходов в Коканском ханстве были земли, и, как и в других странах, в Коканском ханстве имелись их виды [1.24]. Р.Набиев, А.Троицкая, Х.Бобобеков, Т.Худойкулов, М.Ахмедова, М.Алиходжиев, З.Хатамова проанализировали этот вопрос исходя из своей научной темы.

В истории государственности Средней Азии традиционно существовало четыре типа земель: Хиродж, Амлок, частные и вакфные земли. Земля принадлежит правителям и является одним из ресурсов, приносящих доход, и доказано, что в исследованиях А. Троицкой выделяются 3 их вида: усадебные, резервные и частные земли [2.1.4.]. Земли, принадлежавшие хану, назывались амлок, а в документах отмечалось также, что собственность - хос, хамини хос [3.1.68.]. Из-за большого размера этой земли хан не мог использовать ее всю для земледелия, поэтому сдавал ее в аренду и получал прибыль.

Р.Набиев и Т.Худайкулов анализируют формы собственности на землю в ханстве, такие как *мулк*, *ижара*, *ургу*, *танхо*, следующим образом:

- *Мулк* – это частные земли, принадлежащие богатым и сдаваемые в аренду фермерам.

- *Ижара* - включает в себя все недвижимое и движимое имущество - землю, рву, мельницу, тим, расту, улов и т.п., предоставляемое на определенных условиях.

- *Ургу* - это земля и другое имущество, обращенное в собственность хана путем конфискации или переданное лицам, принимавшим участие в поимке грешника.

Танхо - форма собственности, возникшая вследствие дарения части земель людям, которым правитель оказал особые услуги, а право сбора налогов с таких земель было предоставлено владельцам *танхо* - *танходарам*. Он получил в дар пожалованную ему землю, несколько деревень и даже годовой или половину дохода большого имения. Иногда человек был монахом всю жизнь, и если его сын получал благосклонность хана, он продолжал наследовать монашество. Если военным преподносят *танхо* или *хирадж*, это называется *тархан*.

Не все люди, которые много работают в общественной жизни, жили комфортно. Многие крестьяне работали на арендованной земле и должны были платить налоги государству, а также арендную плату за землю, поэтому от годового дохода у них почти ничего не оставалось. Эту категорию земледельцев называли *чорикорами*. Рабочих в ханстве нанимали на тяжелые работы за небольшие деньги [5.1.22.]. Что их повседневная жизнь и финансовое положение были жалкими. В.Наливкин и М.Наливкина также утверждают следующее: «Изучив образ жизни населения, проживающего на территории Кокандского ханства, они пишут, что их грабят бедные земледельцы и даже мелкие торговцы, а также представители среднего и низшего класса мяса почти не едят» [6.1.33.].

Полные сведения о землевладении, налоговой системе, фундаментальных свойствах Кокандского ханства можно найти в книге П.П.Иванова «Очерки по истории Средней Азии» [7.1.245.]. Анализируются финансовые доходы и социальные взгляды на землях ханства.

Относительно финансовых доходов земель в Кокандском ханстве можно отметить, что средства, полученные от земель, принадлежавших хану и членам его семьи, расходовались на расходы дворца и членов ханской семьи, а также ежемесячные зарплаты служащих.

Охраняемые земли— это земли, созданные жителями после приспособления к земледелию заброшенных, безводных, каменистых земель, тростниковых полей и зарослей. Однако эти земли также официально принадлежали хану, которые могли быть проданы или сданы в аренду правителем. Если владелец такой земли желает ее купить, ему дается разрешение.

Чекские земли — это земли, принадлежащие хану и его родственникам[8.1.]. По мнению Р.Набиева, в собственность хана входили резервные, охотничьи и частные земли, отведенные для сельскохозяйственных целей[4.2.149.]

Анализ документов, хранящихся в УзНА, показал, что ханы часто получали доход от покупки недвижимости. В одном из документов 1043-го фонда УзНА приведены списки богатых людей Ёрмасджидского района, а также указана цена их земли[9.1.]. Лица, указанные в этом документе, имели свидетельство о праве собственности на землю.

В названии списка написано как «Список грантополучателей на территории Ёрмаджида» - (انچخ زمئن های وثيقه داران موضع یرمسجد). В списке в этом документе упомянуты имена двадцати человек, и им принадлежало в общей сложности двадцать три акта. Согласно документу, общая стоимость земель, входящих в эти двадцать три акта, составляет 3521 золото. Мы можем знать, что количество земель составляет 462, которого принадлежащих Азимджонбою. Мы думаем, что землю купили люди, указанные в списке. Однако печать документа неясна. Известно, что она принадлежит 1865-66 гг. Лист(*варак*) 532 является первым из 18 *дафтара*, и финансовая информация, вносимая в каждую *дафтеру* (книгу), хранится в ханской канцелярии. В нем упоминаются имя каждого доверенного лица и цена земли. Сын муллы Мухаммеда Бекамгула - 224 золотых, сын Нурмухаммадбоя Розимухаммад - 200 золотых, сын Гафурджонбоя Маллу Миробидбой - 60 золотых, Мирокилбой, Мирзасалихбой, Нурмухаммадбой - 400 золотых, Мулла Дияр и Ширинбиби - 160 золотых, Шахрисабзлик принадлежит Азимджонбою наследники - 400 золотых, сын Кори Мухаммадзиё богатый Мухаммад Насирбой - 110 золотых, благодарный Маллабой - 150 золотых, Миррахимбой сын Мирраббибоя, Маллабой сын Розибоя - 210 золотых, сын муллы Мухаммадрасула Мухаммаднасира - 110 золотых, Гафурджанбой сын муллы Миробидбоя - 224 золота, Сын Абдурасула Ибодуллахбоя - 190 золотых, сын Хакназара Пирназарбоя - 250 золотых, сын Худоидада Муллы Бобобоя - 320 золотых, Кори Нематуллахбой - 280 золотых, у Ахунходжи Эшона есть два документа - 25 золотых, еще двое наследников Азимджанбоя Шахрисабзлика - 62 золота 3 четверти, Мулла Дадабой 145 золотых, всего 3216 золотых записано как 3 четверти. Но в целом ошибка.

Имеются также документы, сообщающие о поступлении оплаты в виде продуктов и денег при продаже земель Коканских ханов. Например, в фонде 1043 УзМА имеется 11 тетрадей объемом 540. В его четвертой тетради некоторые земли в селах Гумайлы, Дангара, Амирабад, Тегирманбаши оценены в 240 золотых. На 224 тилы указанной суммы были получены продукты из овса, пшеницы, риса, люцерны и 16 тил в денежной форме [9.2.]. В этом документе 1871-72 годов видно, что земли, принадлежавшие хану, продаются местному населению, поскольку на имя хана было написано заявление от неназванного лица и приводились приведенные выше сведения.

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ОБОСНОВАНИЕ СПОСОБНОСТИ БИОПРЕПАРАТОВ ДИСПЕРГИРОВАТЬ НЕФТЕПРОДУКТЫ

Аннотация: В статье изложен метод определения способности биопрепаратов (нефтеокисляющих микроорганизмов и продуктов их жизнедеятельности) диспергировать нефтепродукты, основанный на теоретических и экспериментальных исследованиях и результатах измерения оптической плотности диспергируемых нефтепродуктов. На основе проведенных исследований сделан вывод, что усвоение нефтепродуктов микроорганизмами происходит в два этапа. На начальном этапе микроорганизмы диспергируют нефтепродукты, то есть доводят их до состояния очень мелких частиц, а затем начинают их поглощать. Представлены результаты диспергирования дизельного топлива под воздействием бактерий и дрожжей. В течение первых 1,5 часов наблюдается прямолинейное увеличение (увеличение) оптической плотности. Этот период считается стандартной продолжительностью экспериментов

Ключевые слова: суспензия микроорганизмов, оптическая плотность, диспергирующая способность, стандартные условия, единица активности, бактерия, дрожжи, нефтепродукты.

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RATIONALE FOR THE ABILITY OF BIOLOGICAL PRODUCTS

Abstract: The article describes a method for determining the ability of biological products (oil-oxidizing microorganisms and their waste products) on the dispersion of petroleum products, based on theoretical and experimental studies and the results of measuring the optical density of dispersed petroleum products. Based on the conducted research, it was concluded that the assimilation of petroleum products by microorganisms occurs in two stages. At the initial stage, microorganisms disperse petroleum products, that is, bring them to the state of very small particles, and then begin to absorb them.

Key words: suspension of microorganisms, optical density, dispersing capacity, standard conditions, unit of activity, bacterium, yeast, oil products.

Процесс биологической очистки отработанных вод от нефтяных примесей на ремонтно-сервисных предприятиях осуществляется с помощью биопрепаратов (нефтеокисляющих микроорганизмов и продуктов их жизнедеятельности).

В настоящее время учеными выявлено несколько сотен видов (штаммов) микроорганизмов, окисляющих нефтепродукты, причем каждый штамм микроорганизмов обладает наилучшей способностью воздействовать на нефтепродукты определенного состава, может оказывать более слабое воздействие на нефть или ее продукты других видов. состав, а в некоторых случаях и вовсе может не пострадать. Поэтому важно изучить способность микроорганизмов воздействовать на нефтепродукты (нефтяное загрязнение).

Существующие методы определения способности микроорганизмов воздействовать на нефтепродукты основаны на скорости их роста (размножения) в среде, где присутствуют эти самые нефтепродукты. Однако процесс оценки способности микроорганизмов по скорости роста очень трудоемок и требует длительного времени. Поэтому, применять этот метод к процессу очистки технических объектов, нецелесообразно.

На основании проведенных исследований можно сделать вывод, что усвоение нефтепродуктов микроорганизмами происходит в два этапа. На начальном этапе микроорганизмы диспергируют нефтепродукты, то есть доводят их до состояния очень мелких частиц, а затем начинают их поглощать. На наш взгляд, способность микроорганизмов диспергировать нефтепродукты является важнейшим фактором очистки технических объектов. Потому что диспергирование нефтяных примесей является достаточным условием для их устранения в виде коллоидной смеси. Какой бы микроорганизм обладал сильной диспергирующей способностью, процесс очистки также будет эффективным.

В исследованиях, проведенных по изучению диспергирующей способности микроорганизмов, было замечено, что оптическая плотность эмульсии нефтепродуктов, образующейся в результате действия микроорганизмов, изменяется. При явлении дисперсии оптическая плотность очищающей среды увеличивается, а с началом процесса окисления оптическая плотность снижается. Эта ситуация может быть основой для определения дисперсионной способности микроорганизмов

Для изучения дисперсионной способности микроорганизмов эксперименты можно проводить в следующем порядке. Полученную в определенном порядке и условиях суспензию микроорганизмов разводят специальным раствором соли (физиологическим раствором), определяют ее начальную оптическую плотность как 0,6 ед., затем отбирают 3 колбы. Первую колбу (опытную колбу) заполняют дизельным топливом и суспензией микроорганизмов в соотношении 1:50 (0,02 мл дизельного топлива и 1 мл суспензии микроорганизмов). Во вторую колбу (контроль 1) в тот же физиологический раствор добавляют только дизельное топливо, а в третью (контроль 2) колбу добавляют только взвесь микроорганизмов. После этого

все три колбы, помещают в термостатические устройства и инкубируют в течение определенного периода. После инкубации измеряли оптическую плотность смесей в каждом контейнере. Разность оптических плотностей образцов, взятых из опытной и контрольной пробирок, анализируют следующим образом:

$$\Delta D = D_T * R - D_{k1} - D_{k2},$$

где: D_T – оптическая плотность экспериментального образца в конце инкубации;

R – коэффициент разбавления;

D_{k1} , D_{k2} – соответственно, оптическая плотность первого и второго контрольных образцов

Таким образом, разница в изменении оптической плотности образцов ΔD может служить критерием оценки способности микроорганизмов диспергировать нефтепродукты.

При оценке дисперсионной способности микроорганизмов эксперименты следует проводить в стандартных условиях. К стандартным условиям относятся физические параметры (продолжительность процесса, температура, скорость циркуляции жидкости) и коллоидные свойства (плотность суспензии микроорганизмов, соотношение нефтепродукта и суспензии микроорганизмов, их концентрация при использовании синтетических ПАВ (СПАВ)).

Степень дисперсности дизельного топлива монотонно возрастает до тех пор, пока оптическая плотность суспензии микроорганизмов не увеличится до единицы. За стандартное значение оптической плотности суспензии принимали 0,6 единицы (измеренная с помощью кюветы диаметром 5 мм). Объемное соотношение нефтепродукта и суспензии микроорганизмов устанавливают 1:50, поскольку при меньших соотношениях недиспергированные излишки нефтепродуктов затрудняют определение оптической плотности.

Продолжительность дисперсии является важным параметром, ограничивающим процесс. Увеличение оптической плотности продолжается до момента потребления дисперсного субстрата микроорганизмами, то есть до лаг-фазы роста.

Представлены результаты диспергирования дизельного топлива под воздействием бактерий и дрожжей (на рисунках 1, 2). В течение первых 1,5 часов наблюдается прямолинейное увеличение (увеличение) оптической плотности. Этот период считается стандартной продолжительностью экспериментов. Оптимальная температура процесса диспергирования дизельного топлива составляет 30...34°C.

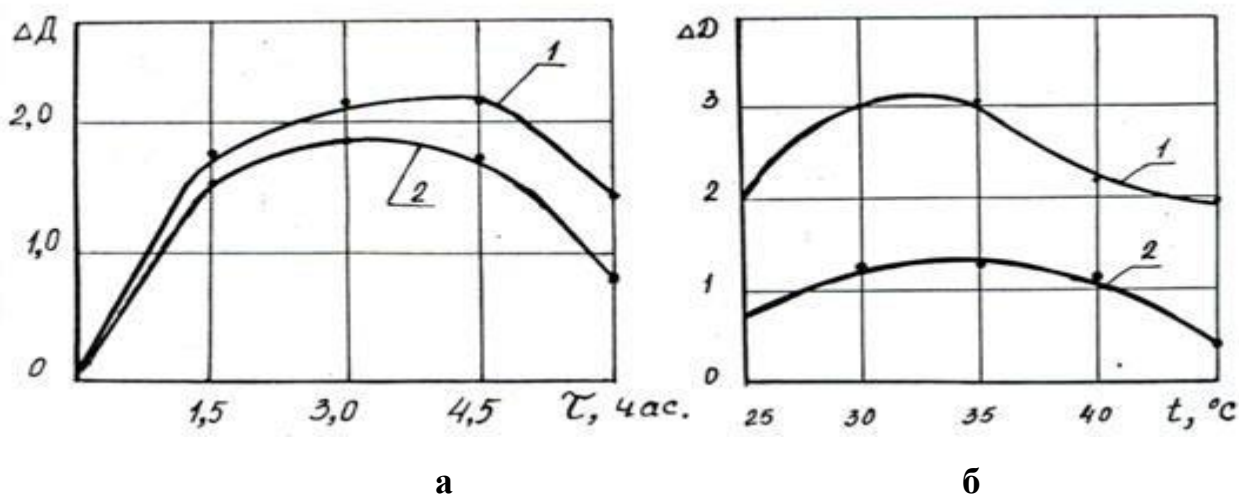


Рис.1.Влияние времени инкубации (а) и температуры (б) на оптическую плотность дизельного топлива: 1-Штамм ВСБ-570; 2- Штамм ВСБ-638.

За стандартную температуру принимали 30°C. Степень дисперсности дизельного топлива увеличивается до тех пор, пока скорость вращения среды (смеси) не увеличится до 250 об/мин, а затем начинает снижаться. Поэтому стандартная величина скорости вращения смеси установлена на уровне 250 об/мин.

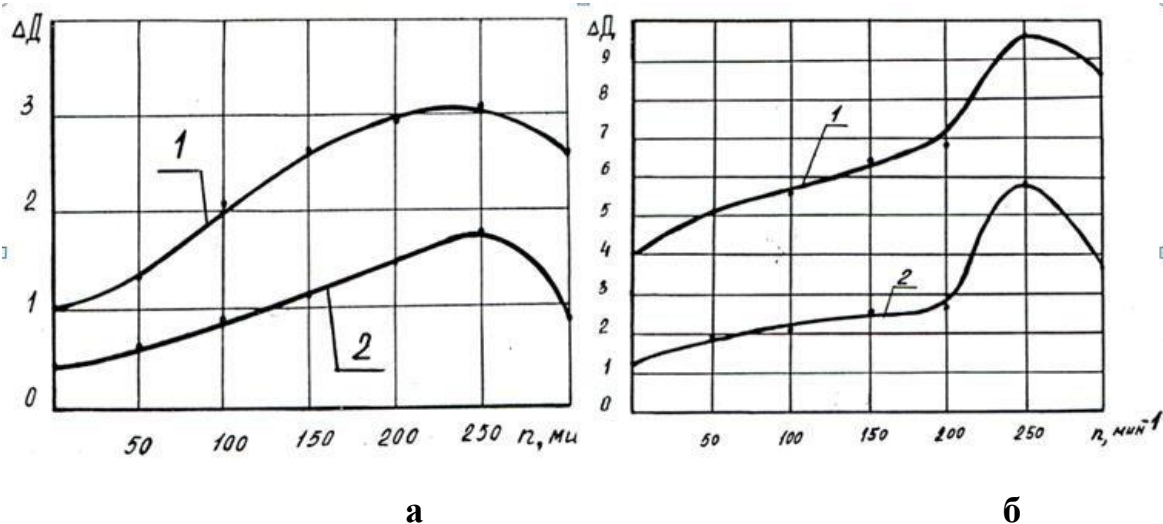


Рис. 2. Влияние скорости смешивания на оптическую плотность эмульсии дизельного топлива: а- без добавления ПАВ; б- при добавлении сульфурита поверхностно-активного вещества. 1-штамм ВСБ-570; 2-штамм ВСБ-638

Величина дисперсионной способности микроорганизмов, определенная в результате экспериментов, проведенных по сравнительной оценке дисперсионной способности более 15 штаммов микроорганизмов в стандартных условиях, описанных выше, представлена в следующей таблице.

Как видно из таблицы, диспергирующая способность многих микроорганизмов с высоким уровнем активности высока по сравнению с промышленно выпускаемым препаратом «Путидойл», и их можно использовать в дальнейшем для производства биопрепаратов для очистки нефтяных загрязнений.

Таблица 1.

Диспергирующая способность микроорганизмов

№	Название микроорганизма и номера штаммов	способность микроорганизмов
1	Дрожжи: ВСБ-638 ВСБ-569 ВСБ-935	20,0 17,5 16,0
2	Бактерии: ВСБ-570 ВСБ-568 ВСБ-567	31,1 28,1 22,1
3.	Препарат нефтеокисляющие бактерии «Путидойл»	19,7

Для оценки диспергируемости принято понятие «единица активности», которая соответствует такой активности микроорганизма, при которой микроорганизм в результате увеличивает оптическую плотность эмульсии дизельного топлива на одну единицу в стандартных условиях. Дисперсионная способность перечисленных в таблице микроорганизмов также выражается этой единицей активности. Таким образом, предлагаемый метод рекомендуется для экспресс-определения дисперсионной способности микроорганизмов. Также его можно использовать при лабораторных исследованиях и испытаниях биопрепаратов, выпускаемых промышленностью для очистки технических объектов от нефтяных загрязнений.

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ОПТИМИЗАЦИЯ ПРОЦЕССОВ УПРАВЛЕНИЯ В КОСМЕТОЛОГИЧЕСКИХ КЛИНИКАХ: СОВРЕМЕННЫЕ ПОДХОДЫ И ИНСТРУМЕНТЫ

***Аннотация:** В статье рассматриваются современные подходы и инструменты для оптимизации процессов управления в косметологических клиниках. Проведён анализ ключевых направлений, включая цифровизацию, маркетинговые инструменты и организационные подходы, такие как CRM-системы, автоматизация процессов, таргетированная реклама, программы лояльности, Лин-менеджмент и аутсорсинг. На основе кейс-стади успешных клиник выявлены их преимущества и влияние на основные показатели эффективности: рост клиентской базы, повышение лояльности клиентов и увеличение доходов. В статье представлены практические рекомендации по внедрению современных подходов, этапы оптимизационных процессов, подходы к обучению персонала и оценка экономической эффективности внедрения. Полученные результаты подчеркивают значимость применения инновационных инструментов для повышения конкурентоспособности клиник и удовлетворения потребностей клиентов.*

***Ключевые слова:** оптимизация процессов, косметологические клиники, цифровизация, CRM-системы, автоматизация, маркетинг, Лин-менеджмент, аутсорсинг, программы лояльности, конкурентоспособность.*

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OPTIMIZATION OF MANAGEMENT PROCESSES IN COSMETOLOGY CLINICS: MODERN APPROACHES AND TOOLS

***Abstract:** The article discusses modern approaches and tools for optimizing management processes in cosmetology clinics. An analysis of key areas was conducted, including digitalization, marketing tools and organizational approaches, such as CRM systems, process automation, targeted advertising, loyalty programs, Lean management and outsourcing. Based on the case studies of successful clinics, their advantages and impact on key performance indicators were*

identified: growth of the client base, increased customer loyalty and increased revenue. The article presents practical recommendations for the implementation of modern approaches, stages of optimization processes, approaches to staff training and assessment of the economic efficiency of implementation. The results emphasize the importance of using innovative tools to improve the competitiveness of clinics and meet customer needs.

Keywords: *process optimization, cosmetology clinics, digitalization, CRM systems, automation, marketing, Lean management, outsourcing, loyalty programs, competitiveness.*

В современном обществе косметологические клиники играют значительную роль, предоставляя услуги, направленные на улучшение внешности и поддержание здоровья кожи. Согласно данным ВЦИОМ, каждый третий россиянин (34%) обращается к услугам косметологов и «мастеров красоты», причём среди женщин этот показатель достигает 52% [1]. Это свидетельствует о высокой востребованности косметологических услуг и их интеграции в повседневную жизнь населения.

В условиях растущей конкуренции на рынке косметологических услуг, где количество клиник и салонов красоты в России, по разным оценкам, варьируется от 60 тыс. до 150 тыс. [2], повышение эффективности управления становится необходимым условием для обеспечения устойчивого развития и конкурентоспособности организаций. Эффективное управление позволяет клиникам оптимизировать внутренние процессы, улучшить качество обслуживания и адаптироваться к динамичным изменениям рынка.

Цель исследования:

— Определение современных подходов и инструментов для оптимизации процессов управления в косметологических клиниках.

Задачи исследования:

— Провести анализ текущих проблем управления в косметологических клиниках.

— Выявить и систематизировать современные подходы и инструменты оптимизации управленческих процессов.

— Разработать практические рекомендации по внедрению выявленных подходов и инструментов в деятельность косметологических клиник.

Управление косметологическими клиниками включает множество задач, направленных на обеспечение их эффективной работы и конкурентоспособности. Основными аспектами управления являются стратегическое планирование, организация бизнес-процессов, финансовый менеджмент, маркетинг и управление персоналом. Стратегическое планирование предполагает определение долгосрочных целей клиники, разработку миссии и видения, а также стратегий для их реализации. Организация бизнес-процессов включает стандартизацию процедур, обеспечение высокого качества услуг и оптимизацию процессов

предоставления услуг. Финансовый менеджмент направлен на управление бюджетом, контроль затрат, формирование ценовой политики и обеспечение прибыльности клиники. Маркетинговая деятельность заключается в разработке эффективных стратегий продвижения услуг и привлечения клиентов, с акцентом на использование цифровых инструментов и социальных сетей. Управление персоналом требует подбора квалифицированных специалистов, их обучения, мотивации и создания благоприятных условий для работы [3].

Специфика работы косметологических клиник заключается в высокой ориентации на клиента. Это подразумевает индивидуальный подход, обеспечение высокого уровня сервиса и поддержание долгосрочных отношений с клиентами. Большое значение имеет понимание их потребностей, предоставление подробной информации об услугах и поддержание обратной связи. Кроме того, стандартизация услуг и внедрение единых стандартов обслуживания помогают поддерживать репутацию клиники и повышать удовлетворенность клиентов. Управление персоналом также является ключевым элементом, поскольку успех клиники во многом зависит от профессионализма сотрудников. Руководитель должен быть не только менеджером, но и лидером, способным мотивировать коллектив и формировать позитивную рабочую атмосферу. Эффективная работа с клиентскими отзывами, как в клинике, так и на сторонних площадках, способствует постоянному улучшению качества услуг и повышению лояльности клиентов [4]. Таким образом, успешное управление косметологической клиникой требует системного подхода, сочетающего стратегическое планирование, оперативное управление и ориентацию на потребности клиентов и сотрудников.

В современных косметологических клиниках внедряются различные подходы для повышения эффективности управления и удовлетворения потребностей клиентов. Одним из ключевых является клиентоориентированный подход, который фокусируется на глубоком понимании потребностей клиентов и их удовлетворении через предоставление качественного сервиса и высококачественных услуг. Этот подход направлен на установление прочных связей с клиентами, что в конечном итоге приводит к их лояльности, привлечению новых клиентов и повышению прибыли [5].

Другим важным направлением является применение цифровых технологий. Внедрение систем автоматизации бизнес-процессов, использование цифровых платформ и технологий сбора и анализа больших данных позволяют клиникам оптимизировать внутренние процессы, улучшить качество обслуживания и адаптироваться к динамичным изменениям рынка. Цифровая трансформация включает в себя использование передовых цифровых решений, таких как искусственный интеллект, облачные вычисления и интернет вещей, что способствует созданию

долгосрочного конкурентного преимущества и переосмыслению того, как компания создает добавленную стоимость для клиентов [6].

Несмотря на преимущества современных подходов, косметологические клиники сталкиваются с рядом проблем. Одной из них является недостаток стандартов в предоставлении услуг, что может приводить к вариативности качества обслуживания и снижению доверия со стороны клиентов. Кроме того, ограниченные ресурсы — финансовые, кадровые и временные — могут затруднять внедрение новых технологий и подходов, необходимых для повышения эффективности и конкурентоспособности клиники. Эти ограничения требуют от руководства клиник тщательного планирования и приоритизации задач для эффективного использования доступных ресурсов.

Современные косметологические клиники находятся под постоянным давлением конкуренции, что требует внедрения эффективных инструментов для оптимизации процессов. Среди наиболее значимых решений, способствующих улучшению работы клиник, можно выделить цифровизацию, инструменты маркетинга и организационные подходы.

Цифровизация играет ключевую роль в повышении эффективности управления клиниками. Одним из центральных инструментов цифровой трансформации является использование CRM-систем. Эти системы позволяют автоматизировать процессы управления взаимоотношениями с клиентами, начиная от записи на приём и заканчивая обратной связью. Благодаря CRM-системам клиники получают возможность систематизировать информацию о клиентах, анализировать их предпочтения и поведение, что способствует персонализации предоставляемых услуг. Например, использование CRM позволяет автоматически напоминать клиентам о записях, уведомлять об акциях и собирать отзывы после посещения, что повышает лояльность и удовлетворённость клиентов [7].

Электронные записи — ещё один важный аспект цифровизации. Они позволяют отказаться от традиционных бумажных журналов и упрощают процесс регистрации клиентов. Автоматизированные системы записи минимизируют человеческие ошибки, оптимизируют расписание специалистов и улучшают доступ к информации. Такие платформы, как Yclients или MyTime, предоставляют возможность интеграции с другими инструментами, включая финансовый учёт и аналитику.

Автоматизация процессов учёта и аналитики также играет важную роль. Современные системы позволяют оперативно отслеживать ключевые показатели эффективности (KPI), такие как загрузка специалистов, выручка по услугам и общая прибыльность клиники. Это облегчает процесс принятия решений на основе данных и способствует повышению прозрачности управления. Например, аналитические инструменты на базе облачных технологий помогают руководителям оценивать успешность маркетинговых кампаний и выявлять точки роста для бизнеса [8].

Маркетинг в косметологических клиниках становится всё более важным элементом стратегии развития. Одним из самых эффективных

инструментов являются социальные сети. Платформы, такие как Instagram, TikTok и Facebook, позволяют клиникам взаимодействовать с аудиторией, демонстрировать результаты работы, информировать о новых услугах и привлекать клиентов с помощью визуального контента. Особенно эффективны таргетированные рекламные кампании, которые позволяют охватывать узконаправленную аудиторию. Например, клиники могут запускать рекламу, нацеленную на людей с определёнными интересами, географическим положением и возрастной группой. Это увеличивает конверсию и снижает затраты на привлечение клиентов [9].

Программы лояльности — ещё один мощный инструмент. Они включают накопительные бонусы, скидки за повторные посещения, специальные предложения для постоянных клиентов и другие стимулы. Такие программы способствуют увеличению числа возвратных клиентов, что особенно важно для косметологических клиник, где многие процедуры требуют регулярного посещения. Исследования показывают, что клиенты, участвующие в программах лояльности, приносят бизнесу на 25-30% больше дохода, чем новые клиенты [10].

Кроме цифровых технологий и маркетинговых инструментов, важным элементом оптимизации процессов являются организационные подходы. Одним из наиболее успешных методов является Лин-менеджмент (Lean Management). Этот подход был разработан для производства, но успешно применяется в сфере услуг, включая косметологию. Лин-менеджмент направлен на устранение всех видов потерь, повышение эффективности работы и улучшение качества предоставляемых услуг. Например, внедрение методик Лин позволяет минимизировать время ожидания клиентов, сократить избыточные запасы материалов и оптимизировать маршруты взаимодействия между специалистами и клиентами [11].

Современные инструменты оптимизации процессов в косметологических клиниках включают цифровизацию, маркетинговые технологии и организационные подходы. Использование CRM-систем, электронных записей и автоматизации аналитики позволяет улучшить внутренние процессы, повысить качество обслуживания и персонализировать взаимодействие с клиентами. Социальные сети и программы лояльности обеспечивают эффективное привлечение и удержание клиентов. Организационные подходы, такие как Лин-менеджмент и аутсорсинг, помогают оптимизировать ресурсы и снизить затраты. Интеграция этих инструментов обеспечивает клиникам устойчивое развитие, конкурентоспособность и повышение удовлетворённости клиентов, что особенно важно в условиях растущей конкуренции на рынке косметологических услуг.

Метода и исследования

Для достижения поставленных целей исследования использованы нижеследующие методы.

1. Анализ литературы:

— Изучение теоретических и практических источников, посвящённых вопросам управления в сфере косметологических услуг, включая научные статьи, монографии, аналитические отчёты и профессиональные издания.

— Систематизация и обобщение современных подходов к оптимизации управленческих процессов.

2. Кейс-стади (анализ конкретных случаев):

— Исследование практического опыта успешных косметологических клиник, применяющих инновационные управленческие подходы.

— Выявление наиболее эффективных инструментов на основе реальных примеров, включая описание внедрённых решений и их результатов.

2. Экспертные опросы:

— Проведение интервью и анкетирования с руководителями косметологических клиник, специалистами в области управления и маркетинга.

— Сбор данных о текущих проблемах и перспективах внедрения современных инструментов управления.

Такой подход позволил получить комплексное представление о проблематике управления в косметологических клиниках и разработать рекомендации для их оптимизации.

Результаты оригинального авторского исследования

Косметологические клиники, стремящиеся повысить свою конкурентоспособность, активно внедряют современные подходы и инструменты для оптимизации процессов управления. Рассмотрим несколько примеров из практики, которые демонстрируют эффективность таких решений.

Пример 1: Внедрение CRM-системы для повышения качества взаимодействия с клиентами в клинике Quantum Clinic

Одна из ведущих косметологических клиник Quantum Clinic в Москве внедрила CRM-систему, чтобы оптимизировать управление клиентскими данными и автоматизировать внутренние процессы. Ранее клиника сталкивалась с проблемами из-за ручного ведения записей, что приводило к ошибкам, пропущенным визитам и неудовлетворённым клиентам. После интеграции CRM-системы удалось централизовать данные о клиентах, автоматизировать процесс записи, а также отправлять автоматические напоминания о предстоящих визитах и акциях.

Результаты не заставили себя ждать. В течение первого года использования системы клиника отметила рост клиентской базы на 20%, снижение числа отменённых визитов на 30% и повышение уровня удовлетворённости клиентов, согласно внутренним опросам, на 15%. Дополнительно CRM-система позволила внедрить программы лояльности и предложить клиентам персонализированные скидки, что укрепило их приверженность бренду. Этот кейс показывает, что цифровизация клиентских

процессов может значительно повысить эффективность работы и улучшить качество обслуживания.

Пример 2: Использование таргетированной рекламы для привлечения новых клиентов в «МедиЭстетик»

Одна из региональных клиник «МедиЭстетик» в Санкт-Петербурге столкнулась с проблемой недостаточного притока новых клиентов. Руководство решило сосредоточиться на использовании таргетированной рекламы в социальных сетях, таких как Instagram и Facebook. В рамках кампании клиника определила свою целевую аудиторию (женщины в возрасте 25–45 лет) и создала привлекательный визуальный контент, демонстрирующий результаты косметологических процедур.

В течение шести месяцев клиника привлекла более 500 новых клиентов, причём около 30% из них стали постоянными. Кампания также повысила узнаваемость бренда, о чём свидетельствует увеличение числа подписчиков в социальных сетях на 40%. Дополнительно внедрение инструментов аналитики позволило клинике оптимизировать рекламный бюджет, сосредоточившись на наиболее эффективных каналах продвижения. Данный кейс подчёркивает значимость стратегического подхода к маркетингу и использования цифровых инструментов для привлечения клиентов.

Пример 3: Применение Lean-менеджмента для оптимизации внутренних процессов в «Линлайн»

Клиника «Линлайн» в Екатеринбурге столкнулась с проблемами перегруженности персонала и низкой эффективностью использования ресурсов. После анализа работы руководством было принято решение внедрить подход Lean-менеджмента. Основное внимание уделялось устранению избыточных действий, оптимизации маршрутов взаимодействия сотрудников и улучшению планирования рабочего времени.

В результате внедрения подхода клиника сократила время ожидания клиентов на 25%, уменьшила объёмы избыточных запасов материалов на 15% и повысила общую продуктивность персонала на 20%. Более того, сотрудники отметили улучшение условий работы, что положительно сказалось на их мотивации и удовлетворённости. Клиника также снизила затраты на 10%, что позволило инвестировать в дальнейшее развитие. Этот пример демонстрирует, что даже традиционные производственные методики могут быть успешно адаптированы для сферы услуг.

Пример 4: Аутсорсинг для сокращения затрат и повышения качества услуг в «МедЭстет»

Одна из косметологических клиник в Казани «МедЭстет» приняла решение передать на аутсорсинг ряд непрофильных функций, включая бухгалтерский учёт, IT-обслуживание и управление социальными сетями. Это позволило клинике сосредоточиться на основной деятельности и существенно сократить расходы. Например, стоимость услуг по ведению бухгалтерии через аутсорсинговую компанию оказалась на 30% ниже, чем содержание штатного бухгалтера.

Помимо этого, профессиональное агентство, занимавшееся продвижением клиники в социальных сетях, повысило качество контента, что привело к росту вовлечённости аудитории на 50%. Увеличение присутствия в социальных медиа способствовало привлечению новых клиентов, многие из которых пришли в клинику благодаря рекомендациям и позитивным отзывам в интернете. Этот кейс подчёркивает эффективность аутсорсинга для повышения качества услуг и оптимизации затрат.

Анализ успешных примеров оптимизации работы косметологических клиник показывает, что использование современных инструментов и подходов может значительно повысить их конкурентоспособность. Внедрение CRM-систем позволяет улучшить взаимодействие с клиентами и повысить их удовлетворённость, а использование таргетированной рекламы способствует привлечению новой аудитории. Применение Lean-менеджмента помогает оптимизировать внутренние процессы и улучшить продуктивность сотрудников, в то время как аутсорсинг снижает затраты и повышает качество выполнения специализированных задач.

Каждый из рассмотренных примеров демонстрирует, что ключом к успеху является индивидуальный подход к выбору инструментов, который учитывает особенности конкретной клиники, её ресурсы и цели. Косметологические клиники, которые готовы внедрять современные методы управления, способны не только повысить свою эффективность, но и укрепить свою позицию на высококонкурентном рынке.

Диаграмма 1 наглядно демонстрирует влияние различных инструментов оптимизации на ключевые показатели косметологических клиник.

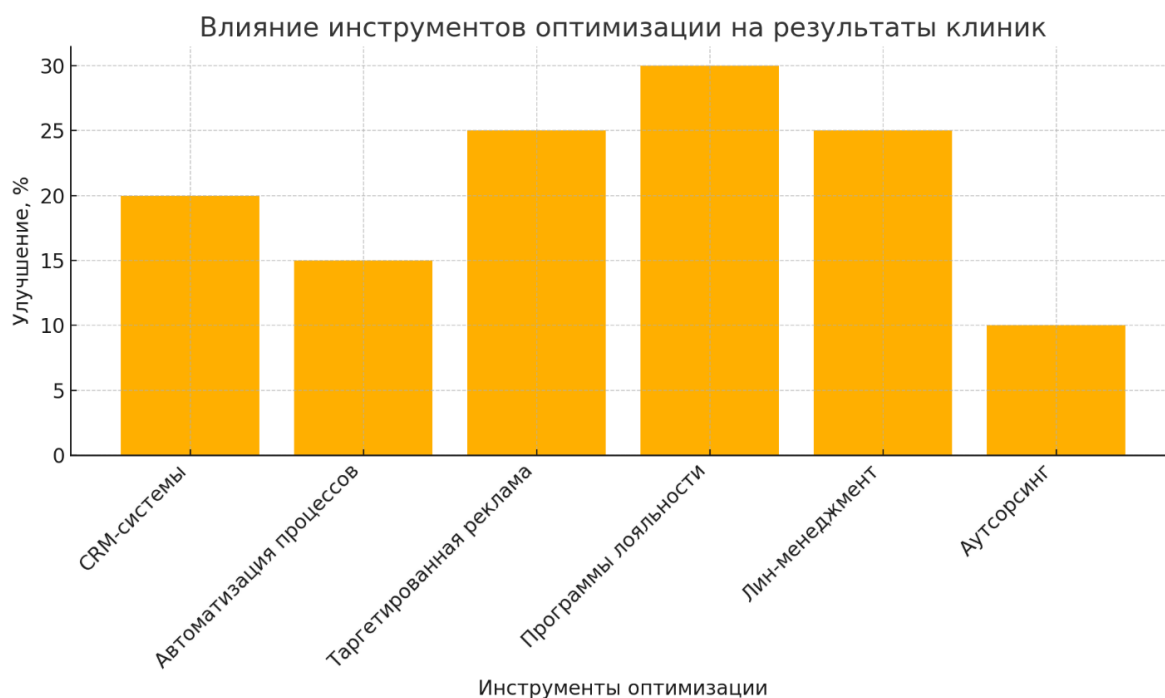


Диаграмма 1 – Влияние инструментов оптимизации на результаты клиник

Использование CRM-систем обеспечило рост клиентской базы на 20%, благодаря улучшению взаимодействия с клиентами и автоматизации записей. Автоматизация процессов позволила снизить операционные издержки на 15%, улучшив контроль и аналитику. Таргетированная реклама способствовала увеличению клиентской базы на 25% за счёт точного охвата целевой аудитории. Программы лояльности показали наибольший эффект в части удержания клиентов, увеличив их возврат на 30%. Лин-менеджмент, направленный на оптимизацию внутренних процессов, сократил время ожидания клиентов на 25%. Аутсорсинг непрофильных функций, таких как бухгалтерский учёт и управление социальными сетями, снизил операционные затраты на 10%. Эти данные подчёркивают эффективность современных подходов и инструментов в повышении конкурентоспособности клиник.

Для успешного внедрения современных подходов и инструментов в управление косметологической клиникой необходимо следовать определённой последовательности действий, включающей этапы планирования, реализации и оценки эффективности.

На первом этапе важно провести анализ текущего состояния клиники. Это включает аудит внутренних процессов, оценку эффективности работы персонала, уровня удовлетворённости клиентов и финансовых показателей. Основываясь на этих данных, необходимо выявить основные проблемы, требующие решения, и определить ключевые области для улучшения.

Следующий этап — разработка стратегии внедрения изменений. Руководству клиники следует выбрать подходящие инструменты и технологии, такие как CRM-системы, платформы для автоматизации учёта и аналитики или программное обеспечение для управления расписанием. Важно учитывать доступный бюджет и ресурсы, чтобы реализация новых решений была экономически обоснованной и реально достижимой.

Третий этап — постепенное внедрение изменений. Оптимально начинать с пилотного проекта, который позволит протестировать новые решения в ограниченном масштабе. Например, можно внедрить CRM-систему только для определённых услуг или отделений клиники. Пилотный запуск помогает выявить возможные проблемы и адаптировать процесс до масштабирования.

Заключительный этап — мониторинг и корректировка. После внедрения новых инструментов и подходов важно регулярно отслеживать их эффективность. Руководство должно анализировать ключевые показатели, такие как рост клиентской базы, уровень удовлетворённости клиентов, финансовая прибыльность, и при необходимости вносить изменения в процесс.

Эффективное внедрение современных инструментов невозможно без обучения персонала. Первым шагом является информирование сотрудников о предстоящих изменениях и их важности для улучшения работы клиники. Это помогает преодолеть возможное сопротивление изменениям и мотивировать коллектив к активному участию в процессе.

Далее следует организовать обучающие программы, которые могут включать тренинги, семинары и мастер-классы. Например, при внедрении CRM-системы персоналу необходимо объяснить, как работать с системой, какие задачи она решает и как её использование улучшает клиентский сервис. Для специалистов, работающих с клиентами, полезно проводить тренинги по клиентоориентированному подходу.

Руководству клиники также важно обеспечить постоянную поддержку и обратную связь. Сотрудники должны иметь возможность задавать вопросы, получать техническую помощь и делиться своими предложениями по улучшению процессов. Создание команды внутренних экспертов, которые смогут консультировать коллег по использованию новых инструментов, также повышает уровень вовлечённости и эффективность внедрения.

Оценка экономической эффективности внедрения современных подходов включает анализ потенциальной окупаемости и влияния на прибыльность клиники. Для этого важно учитывать затраты на покупку и внедрение технологий, обучение персонала, а также возможные издержки, связанные с переходным периодом. Например, установка CRM-системы требует первоначальных инвестиций, однако долгосрочные выгоды, такие как рост числа клиентов, повышение их лояльности и улучшение внутренней организации, могут значительно превышать эти затраты.

Оценка экономической эффективности также предполагает анализ ключевых финансовых показателей, таких как увеличение доходов, сокращение затрат и рост рентабельности. Например, внедрение автоматизированной системы записи позволяет уменьшить количество пропущенных визитов, что напрямую влияет на выручку клиники. Аналогично, использование таргетированной рекламы может снизить расходы на маркетинг за счёт более точного охвата целевой аудитории.

Дополнительно важно учитывать долгосрочные эффекты, такие как укрепление репутации клиники, повышение удовлетворённости клиентов и создание конкурентных преимуществ. Эти факторы могут существенно повлиять на прибыльность клиники в будущем, обеспечив её устойчивое развитие и рост на рынке.

Заключение

Проведённое исследование показало, что использование современных подходов и инструментов в управлении косметологическими клиниками играет ключевую роль в повышении их эффективности и конкурентоспособности. Анализ практических кейсов продемонстрировал, что внедрение цифровых технологий, таких как CRM-системы и платформы автоматизации, позволяет оптимизировать внутренние процессы, улучшить взаимодействие с клиентами и сократить операционные издержки. Применение инструментов маркетинга, таких как таргетированная реклама и программы лояльности, способствует привлечению новых клиентов и укреплению отношений с уже существующими. Организационные подходы,

включая Лин-менеджмент и аутсорсинг, помогают рационально использовать ресурсы и повышать продуктивность работы клиник.

Современные инструменты управления не только повышают качество предоставляемых услуг, но и создают устойчивое конкурентное преимущество. Успешное внедрение этих подходов способствует увеличению клиентской базы, росту лояльности и улучшению финансовых показателей клиник. Таким образом, значимость оптимизационных процессов подтверждается как с точки зрения удовлетворённости клиентов, так и с точки зрения экономической эффективности.

Несмотря на достигнутые результаты, дальнейшее изучение темы оптимизации процессов в косметологических клиниках остаётся актуальным. Одним из перспективных направлений является углублённое изучение роли цифровизации. Внедрение искусственного интеллекта, больших данных и машинного обучения в процессы управления открывает новые возможности для персонализации услуг и улучшения клиентского опыта. Например, использование аналитических систем на основе AI может предсказывать потребности клиентов и формировать индивидуальные предложения, что повышает их удовлетворённость.

Другим важным направлением для дальнейших исследований является анализ влияния оптимизационных процессов на удовлетворённость клиентов. Это включает изучение того, как различные подходы — от автоматизации записи до внедрения программ лояльности — влияют на восприятие клиентов, их готовность рекомендовать услуги клиники и возвращаться вновь. Кроме того, необходимо уделить внимание исследованию долгосрочных эффектов оптимизации, таких как укрепление репутации клиники на рынке и создание лояльной клиентской базы.

Таким образом, дальнейшие исследования позволят не только углубить понимание возможностей современных инструментов управления, но и разработать ещё более эффективные стратегии для их интеграции в деятельность косметологических клиник, что будет способствовать их устойчивому развитию и росту.

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ИСПОЛЬЗОВАНИЕ ЦИФРОВИЗАЦИИ И ТРАНСФОРМАЦИИ СИСТЕМЫ ОБРАЗОВАНИЯ

Аннотация: Развитие цифровых технологий, создание благоприятной среды для национального рынка цифровых технологий, развитие перспективных цифровых стартапов, повышение цифровых навыков всех слоев населения, а также государственного управления и образования – всё это является важными задачами. В тексте приведены преимущества использования цифровых технологий в образовании, описано использование цифровых данных в образовательном процессе, а также рассмотрены аспекты цифровизации всей системы образования. Особое внимание уделено организации учебного процесса на игровых платформах, созданию комплексов электронных тестов и их применению в обучении. Отмечается, что цифровизация способствует повышению эффективности уроков, развитию самостоятельного мышления учащихся, повышению интереса к предмету и достижению высокого уровня овладения материалом.

Ключевые слова: цифровизация, цифровые технологии, онлайн-платформы, Learningapps.org, Google Form, Kahoot, Quizizz, Google Classroom, онлайн-сервис платформа, интерактив.

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USING DIGITALIZATION AND TRANSFORMATION OF THE EDUCATION SYSTEM

Annnotation: Development of digital technologies, creation of a favorable environment of promising digital startups, increasing digital skills of the entire construction population, public administration, education. The advantages of using digital technologies in education, the use of digital data in education are given, and aspects of digitalization of the entire education system are also given. Organization of the educational process on gaming platforms, creation of a set of electronic tests and its use in teaching, increasing the effectiveness of the lesson and increasing the

independent thinking of students, interest in the lesson, and a high level of mastery of the taught subject.

Keywords: digitalization, digital technologies, online platforms, Learningapps.org, Google Form, Kahoot, Quizizz, Google Classroom, online service platform, interactive.

Непрерывный прогресс во многих областях нашей жизни, в частности, это относится к информационным технологиям, которые играют ключевую роль в нашей современной жизни. На протяжении последних десятилетий мы стали свидетелями революции в области развития коммуникаций и обмена информацией. Благодаря развитию интернета и мобильных устройств, мы теперь можем легко получать доступ к информации и оставаться на связи с другими людьми в любой точке мира [2]. Но вместе с этими новыми возможностями возникают и новые вызовы. Например, на сегодняшний день очень быстрыми темпами увеличивается количество и объем информации, которую мы получаем, и естественно становится труднее отличить правдивую информацию от ложной [4]. В наше время, информация стала фундаментом глобального развития, двигателем прогресса и инноваций во всех сферах жизни. На сегодняшний день человек овладел цифровыми технологиями и активно использует их в своей деятельности.

Как известно, использование цифровых технологий обеспечивает доступ к глобальной информационно-образовательной сети и выполняет такие важные функции, как интеграция и взаимодействие. Поэтому сегодня в организации качественного образования для обучающихся применяются современные цифровые технологии, такие как: электронное обучение (e-learning), интерактивные технологии, искусственный интеллект (AI) и адаптивное обучение, облачные технологии, дистанционное обучение, большие данные и аналитика, а также мультимедийные ресурсы. Все эти технологии являются продуктом научно-технического развития, материальной основой которого выступают создание электронных учебников и учебных пособий, использование интернет-ресурсов и дистанционное обучение. Программное обеспечение остается требованием времени, и именно поэтому так важно использовать современные цифровые технологии для повышения качества общих знаний и профессиональной подготовки специалистов. Актуальность данной темы обусловлена необходимостью сделать образовательный процесс более интересным и содержательным для обучающихся, используя возможности научно-технических инноваций, интернета и цифровых технологий в условиях развитого общества. В настоящее время существует множество цифровых программных средств, позволяющих создать цифровую образовательную среду, организовать онлайн-занятия, оценивать знания учащихся и делать уроки более увлекательными. Наиболее распространенными программными инструментами являются Learningapps.org, OpenAI Forms, Kahoot, Quizizz, Google Classroom, Zoom и Skype.

Преимуществами использования цифровой образовательной системы для студентов можно считать следующие аспекты [3]:

1. Индивидуализация обучения: Учебный процесс в цифровом образовании основан на индивидуальном подходе, адаптируясь к конкретному студенту. В цифровом образовании преподаватели могут создавать учебные программы, которые соответствуют индивидуальной скорости и способностям каждого студента.

2. Развитие навыков самообучения: Цифровое обучение позволяет студентам развивать навыки самообучения, поскольку они осваивают умение анализировать необходимую информацию, а также находить и использовать онлайн-ресурсы для решения конкретных задач. Получение образования в цифровой среде способствует улучшению результативности и эффективности учащихся, а также развитию навыков аналитического мышления, необходимых для работы с информацией.

3. Повышение мотивации и вовлеченности: Цифровые инструменты и технологии способствуют повышению мотивации и вовлеченности студентов в учебный процесс. Содержание, представленное в цифровом формате, легче запоминается по сравнению с традиционным подходом благодаря возможности интерактивного взаимодействия в процессе обучения.

4. Расширение возможностей и творческий подход: Использование цифрового подхода в обучении открывает широкие перспективы для расширения возможностей как у студентов, так и у преподавателей. Цифровизация стимулирует применение творческих подходов в образовательном процессе. Появляются перспективы в формировании онлайн-курсов, интерактивном выполнении домашних заданий и разработке специализированных платформ.

5. Прозрачность оценивания и контроль успеваемости: Рейтинговая система с прозрачными оценками обеспечивает контроль успеваемости в режиме онлайн. Таким образом, цифровизация создает уникальную обучающую среду в онлайн-пространстве. Использование цифровых данных в образовании способствует эффективной организации учебного процесса и обогащению его разнообразными учебными ситуациями.

Цифровые технологии открывают новые возможности и ставят новые задачи перед системой образования. К основным возможностям можно отнести решение образовательных задач, расширение выбора форм обучения и увеличение средств передачи знаний. Необходимость понимания места и роли цифровых технологий в современном образовании должна найти отражение в современных исследованиях в области методологии и дидактики дошкольного и начального образования. В настоящее время проблемы использования цифровых технологий в интеграции дошкольного и начального образования являются актуальной темой для исследований, связанных с выбором стратегии и направления дальнейшего развития. Очевидно, что программа цифровой трансформации должна быть разработана уже сейчас, чтобы в будущем перейти к конкурентоспособной модели

образования и исследований. Сегодня роль цифровых технологий в нашей системе образования неоспорима. Мы наблюдаем не только возросшую способность студентов осваивать науку, но и то, как они учатся одновременно, как усваивают материал, их интерес к задачам и умение комментировать проблемы на своем уровне.

В век современных технологий использование онлайн-сервисов и платформ приобретает всё большую популярность. Сегодня в интернет-пространстве существует множество цифровых ресурсов, инструментов и сервисов, которые любой педагог может использовать для различных целей в своей профессиональной деятельности. Создавая интерактивные задания с помощью онлайн-сервисов, учитель учится разрабатывать наглядные дидактические материалы, совершенствует свои профессиональные навыки и, тем самым, делает урок более живым, интересным и наглядным. Следует отметить, что использование ИТ в образовании в целом открывает следующие возможности: доступность, индивидуализация, интерактивность и повышение мотивации.

Известно, что программа цифровой трансформации должна быть разработана уже сейчас, чтобы в будущем перейти к конкурентоспособной модели образования и исследований. Сегодня роль цифровых технологий в нашей системе образования неоспорима. Дело не в неспособности наших учеников и студентов изучать науку, а в том, как они при этом учатся, как усваивают знания, в их интересе к задачам и умении комментировать проблемы на своем уровне. Тем не менее, следует отметить, что существуют и некоторые вызовы, и проблемы:

- **Неравенство в доступе:** Отсутствие необходимой техники или доступа к интернету у некоторых учащихся.

- **Перегрузка студентов и преподавателей:** Избыточное количество используемых платформ.

- **Необходимость дополнительного обучения педагогов:** Для эффективного использования ИТ-технологий.

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ИЗМЕНЕНИЯ ЛАБОРАТОРНЫХ ПОКАЗАТЕЛЕЙ В РЕЗУЛЬТАТЕ ПРИМЕНЕНИЯ ИТОПРИДА ГИДРОХЛОРИДА ПРИ ВИРУСНОМ ЦИРРОЗЕ ПЕЧЕНИ

Аннотация: По литературным данным, по итогам 2017 года, от цирроза печени погибло более 1,32 миллиона человек. Это составило 2,4% от общего показателя смертности в популяции. Цирроз печени, занимая одно из главных мест среди болезней человечества, входит в десятку хронических заболеваний, увеличивающих причины потери трудоспособности и смерти. Целью исследования явилось изучение этиологических, эпидемиологических и клинико-диагностических особенностей цирроза печени, совершенствование мер его профилактики у сельских жителей Андижанской области. Для этого были изучены больные 89 больных циррозом печени.

В работе представлены результаты применения фармакологической комбинации протеаза ингибитора аprotинин и блокатора ХЦК-1 рецепторов итоприда гидрохлорида, назначенных 41 пациентам с циррозом печени HBV-инфекцией и 39 пациентам с HCV-инфекционным циррозом печени.

Ключевые слова: цирроз печени, вирусный гепатит, алкогольный цирроз печени.

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CHANGES IN LABORATORY PARAMETERS AS A RESULT OF THE USE OF ITOPRIDE HYDROCHLORIDE IN VIRAL CIRRHOSIS OF THE LIVER

Abstract: According to the literature, according to the results of 2017, more than 1.32 million people died from cirrhosis of the liver. This accounted for 2.4% of the total mortality rate in the population. Cirrhosis of the liver, occupying one of the main places among the diseases of mankind, is one of the ten chronic diseases that increase the causes of disability and death. The aim of the study was to study the etiological, epidemiological and clinical diagnostic features of cirrhosis of the liver, to improve its prevention measures in rural residents of the Andijan region. To do this, 89 patients with cirrhosis of the liver were studied.

The paper presents the results of the pharmacological combination of the protease inhibitor aprotinin and the blocker of CCC-1 receptors of itopride hydrochloride, prescribed to 41 patients with cirrhosis of the liver with HBV infection and 39 patients with HCV-infectious cirrhosis of the liver.

Keywords: *cirrhosis of the liver, viral hepatitis, alcoholic cirrhosis of the liver.*

Введения

В результате проведенных работ все показатели исследования были выше нормы. Показатель пепсиногена-1 был ниже нижних показателей нормы. Одновременно показатели пепсиногена-2 были на границе нормы. При лечении больных В вирусным циррозом печени показатели ХЦК-8 и гастрин-17 повысились больше чем верхней границы нормы. (1- таблица).

1 таблица.

Показатели лабораторных исследований у больных с В вирусным циррозом печени.

Сывороточные маркеры	Норма	HBV инфекцияли жигар циррози	
		Декомпенсация даводан аввал	Декомпенсация даводан сўнг
Жигар синамалари			
АЛТ(ммоль/ч*л)	0,1-0,68	0,74±0,08*	0,56±0,06
АСТ(ммоль/ч*л)	0,1-0,68	0,93±0,11*	0,71±0,09
Умумий билирубин (мкмоль/л)	8,5-20,5	47,9±5,5*	29,7±4,1**
Бевосита билирубин(мкмоль/л)	0-5,0	26,0±2, 7*	24,0±2, 5
Қон гидролазалари			
Пепсиноген-I (мкг/л)	40–130	24,7±5,3*	56,2±6,7**
Пепсиноген-II (мкг/л)	4–22	17,3±2,1	15,2±1,7
Пептидлар			
ХЦК-8 нг/мл	0,5–1	2,37±0,26*	1,74±0,21**
Гастрина-17(наҳорга) пмоль/л	< 7	21,4±1,4*	8,9±1,1**

Одновременно показатели общего билирубина были достоверно ниже аналогичных показателей до лечения, но они были выше контрольных значений. Показатели непрямого билирубина, с другой стороны, были незначительно ниже аналогичных показателей до лечения, а также выше контрольных значений. При одновременном сравнении с показателями до лечения показатели пепсиногена-1 были достоверно высокими, в то время как показатели пепсиногена-2 существенно не изменились по сравнению с контрольными показателями, но показатели пепсиногена-1 оставались в

пределах контрольных значений. После лечения уровни ХЦК-8 и гастрин-17 в крови пациентов были достоверно низкими по сравнению с результатами до лечения, но контрольные значения упали с верхней границы нормы.

У пациентов с циррозом печени, инфицированным HCV, показатели пепсиногена-1 были ниже нижней границы нормы. В этом случае показатели пепсиногена-2 оставались на границе нормы. В крови пациентов с хроническим HCV-инфицированным циррозом печени показатели ХЦК-8 и гастрин-17 превышали верхнюю границу нормы.

У больных с С вирусным циррозом печени при комбинированном применении апротинина и итотрида гидрохлорида наблюдалось снижение показателей АЛТ и АСТ, но это не было достоверным при сравнении с аналогичными показателями до лечения, значения были выше нормальных отметок. При этом общие показатели билирубина были достоверно ниже, чем при тех же результатах до лечения, но эти показатели были выше нормальных значений. Показатели непрямого билирубина были незначительно ниже аналогичных показателей до лечения, которые были выше нормальных значений. Показатели пепсиногена-1 были достоверно выше по сравнению с результатами до лечения, и референсные значения оставались в пределах допустимых значений. Однако показатели пепсиногена-2 оставались в пределах допустимых значений. После лечения показатели ХЦК-8 и гастрин-17 в крови пациентов были достоверно ниже, чем до лечения, но упала по сравнению с показателями высокой границы нормы.

Исследования показали, что как при циррозе печени HBV инфекцией, так и у пациентов с циррозом печени, инфицированным HCV, в результате комбинированного применения апротинина и итотрида гидрохлорида частота возникновения печеночных показателей снизилась, но эти показатели снизились в большей степени у пациентов с HCV-инфицированным циррозом печени. Это свидетельствует об улучшении функциональной активности печени.

На основании полученных в результате исследования этиологических, эпидемиологических, клинико-диагностических и профилактических аспектов цирроза печени (проспективный селекционный скрининг) сделаны следующие выводы.

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ЭКОНОМИЧЕСКИЕ ФАКТОРЫ РАЗВИТИЯ: СОЦИАЛЬНО-ФИЛОСОФСКОЕ ОСМЫСЛЕНИЕ

***Аннотация.** В статье анализируются социально-философские аспекты понятия "экономическое развитие". Рассматриваются концепции, касающиеся целей экономических реформ и достижения экономического прогресса. Выдвигаются научные рассуждения и делаются теоретические выводы о том, что экономическое развитие включает в себя изменения, связанные с формированием инновационной экономики. Инновационная экономика отражает процессы, связанные с внедрением новых технологий в экономику. Экономический рост – это один из важнейших показателей, свидетельствующий об экономическом развитии.*

***Ключевые слова:** Экономика, экономическая сфера, экономическое развитие, инновационная экономика, глобальная экономика, экономический рост, инвестиции, традиционная экономика*

Введение

Понятие "экономическое развитие" не только богато по своему содержанию, но и широко по охвату. Под экономическим развитием понимается качественное изменение в нескольких направлениях. Прежде всего, оно включает в себя экономический рост, о котором мы уже говорили. Мы упоминали, что экономический рост связан с количественным увеличением производства товаров и услуг.

Экономисты по-разному описывают механизмы, приводящие к экономическому росту. Например, такие ученые, как Л. Вальрас, А. Маршалл, М. Фридман в своих работах представляют экономический рост как количественное повышение, обусловленное чисто экономическими факторами. Такие экономисты, как Дж. Тобин, считают, что экономический рост обусловлен не только экономическими, но и многими неэкономическими факторами, влияющими на экономику. Р. Нельсон и С. Уинтер в своих работах представляют экономический рост как яркий результат развития национальной экономики. Как видно, природу, характеристики проявления, факторы и средства экономического роста можно описать по-разному. Однако, несмотря на это, он остается одним из важнейших направлений, указывающих на экономическое развитие в любой стране и в любой ситуации.

ECONOMIC FACTORS OF DEVELOPMENT: SOCIO- PHILOSOPHICAL UNDERSTANDING

Annotation: *The article analyzes the social-philosophical aspects of the concept of "economic development." It examines the goals of economic reforms concerning achieving economic development through various concepts. The article emphasizes that economic development encompasses changes associated with the formation of an innovative economy, which reflects processes related to the application of new technologies in the economy. It presents scientific reflections on the idea that economic growth is one of the critical directions indicating economic development and draws theoretical conclusions.*

Keywords: *economy, economic sector, economic development, innovative economy, global economy, economic growth, investments, traditional economy.*

Анализ литературы по теме

Анализируя факторы экономического развития, специалисты Г.В. Семеко, И.А. Угаров, Г.В. Плохотникова обращают внимание на развитие образования и науки как основные факторы экономического развития.

Выдающийся государственный деятель Ислам Каримов в своей книге "Узбекистан на пути углубления экономических реформ" определил коренное изменение структуры экономики, переход от поставки сырья к производству готовой продукции, повышение ее качества и конкурентоспособности до мировых стандартов как одну из стратегических задач экономической политики.

Русские ученые А.В. Логинов и А.О. Ярославцев обращают внимание на другой аспект диалектической взаимосвязи политической стабильности и экономического развития. Они отмечают, что само по себе экономическое развитие является фактором, укрепляющим политическую стабильность. Чем интенсивнее темпы экономического подъема в стране, тем крепче политическая стабильность. Экономический спад, напротив, выводит политическую ситуацию из равновесия.

Американские экономисты Д. Аджемоглу и Дж. Робинсон обращают внимание на то, что экономическое развитие требует политической стабильности. По их мнению, политическая стабильность создает основу для формирования инклюзивных институтов. Эти институты позволяют вовлечь большую часть населения в процесс принятия политических решений по экономическим вопросам. В результате этого проблемы в экономике решаются своевременно, открывая путь для быстрого экономического развития.

Напротив, политическая нестабильность приводит к возникновению экстрактивных институтов. Такие институты отчуждают значительную часть населения от экономической жизни общества, что приводит к замедлению темпов экономического развития.

Анализ и результаты

Понятие "экономическое развитие" Й. Шумпетер использует для того, чтобы отделить экономический прогресс от простого экономического роста. В своей книге "Теория экономического развития" он ярким примером демонстрирует то, что экономическое развитие фундаментально отличается от простого экономического роста.

Экономическое развитие включает в себя изменения, связанные с формированием инновационной экономики. Инновационная экономика отражает процессы, связанные с внедрением новых технологий в экономику. Внедрение этих технологий не только меняет количество и качество продукции и услуг, но и закладывает основу для кардинального повышения производительности труда. Важно отметить, что инновационная экономика способствует повышению уровня жизни населения, созданию новых рабочих мест, росту экспортного потенциала, развитию науки и образования.

Еще одно направление экономического развития связано с характером структурных изменений в экономике. Экономика с простой структурой преимущественно ориентирована на поставку сырья. Всем известно, что экономика, основанная на добыче и экспорте сырья, не может процветать. Такая экономика не может выйти за пределы стагнации, и ее развитие крайне сложно. Для процветания экономики необходимо делать упор на производство готовой продукции. Для этого необходимо провести фундаментальные структурные изменения в экономике, т.е. коренным образом обновить деятельность экономических субъектов, создать новые отрасли и сектора, укрепить взаимосвязь между ними. Начавшаяся реализация этих процессов свидетельствует о готовности экономики к процветанию. Иными словами, разнообразие, современность, соответствие требованиям времени и потребностям населения отраслей и секторов свидетельствует не только о богатстве структуры национальной экономики, но и о ее направленности на развитие.

Поэтому выдающийся государственный деятель... Следующее направление экономического развития связано с производительностью труда. Эффективная организация и реализация трудовой деятельности позволяет произвести больше продукции и оказать больше услуг за короткий срок. В результате этого объем производства в стране постоянно растет, а стоимость готовой продукции, предлагаемой населению, снижается. Кроме того, эффективный и рациональный труд снижает расходы на различные ресурсы. Специалисты отмечают существование определенной взаимосвязи между уровнем инфляции в стране и производительностью труда. В частности, по мере повышения эффективности уровень инфляции снижается, а неэффективность и непроизводительность труда, напротив, приводит к

ускоренному росту инфляции. То, что труд в предприятиях и организациях, фирмах и компаниях страны становится все более эффективным, свидетельствует о развитии национальной экономики.

Необходимо также отметить, что ни одно из указанных выше направлений не может стать источником экономического развития в отрыве от других. Например, крайне сложно назвать развивающейся экономикой экономику, характеризующуюся высокими темпами экономического роста за счет продажи сырья, но в то же время имеющую архаичную структуру и отстающую от инновационных технологий. Точно так же экономическое развитие не произойдет в странах, где создаются новые отрасли и сектора, но при этом производительность труда остается на низком уровне. Для того, чтобы в экономике произошли качественные изменения и она процветала, все указанные выше направления должны проявляться гармонично, взаимосвязано, непрерывно и в долгосрочной перспективе.

Экономическое развитие - это не стихийный и случайный процесс. Оно требует мобилизации всех доступных ресурсов общества в широком масштабе. В научных трудах специалистов описываются множество факторов, способствующих экономическому развитию. Например, американские экономисты Д. Аджемоглу и Дж. Робинсон делают особый акцент на том, что экономическое развитие требует политической стабильности. По их мнению, политическая стабильность создает основу для формирования инклюзивных институтов. Эти институты позволяют вовлечь большую часть населения в процесс принятия политических решений по экономическим вопросам. В результате этого проблемы в экономике решаются своевременно, открывая путь для быстрого экономического развития. Напротив, политическая нестабильность приводит к возникновению экстрактивных институтов. Такие институты отчуждают значительную часть населения от экономической жизни общества, что приводит к замедлению темпов экономического развития.

Авторы приводят в качестве примера экономическое развитие в таких странах, как США, Франция, Австралия, где укоренились инклюзивные институты, а также экономическую ситуацию в странах Африки и Латинской Америки, где функционируют экстрактивные институты.

Г.В. Семеко, И.А. Угаров, Г.В. Плехотникова обращают внимание на другой фактор экономического развития - развитие образования и науки. По их мнению, образование и наука играют важную роль в достижении экономического прогресса, потому что именно наука и образование обеспечивают экономику инновациями, новыми технологиями и квалифицированными кадрами. Эффективное выполнение этих задач создает возможности для повышения производительности труда, усиления конкурентоспособности предприятий и организаций, привлечения новых и новых инвестиций. Кроме того, благодаря науке и образованию специалисты, занятые в разных отраслях экономики, постоянно улучшают свои навыки и квалификацию, что открывает путь для инновационного развития экономики.

Без развития образования и науки достижение экономического прогресса крайне сложно. Отставание этих сфер от требований времени или их кризис оставляют отрасли экономики без квалифицированных кадров, подрывают процессы создания новых технологий и инноваций. Кризис образования и науки также является фактором, ослабляющим производительность труда в обществе. В результате этого экономика постепенно впадает в стагнацию.

Еще одна группа специалистов отмечает, что для достижения экономического развития необходимо совершенствовать экономическую инфраструктуру. Значение экономической инфраструктуры заключается в том, что она создает необходимые условия для эффективного функционирования экономики, обеспечивает бесперебойное снабжение экономических объектов сырьем и ресурсами, доставку продукции и услуг потребителям, закладывает основу для освоения и внедрения новых технологий. В частности, транспортная инфраструктура позволяет перемещать продукцию и людей, обеспечивает их доступ к рынкам, что способствует развитию торговли и бизнеса. Энергетическая инфраструктура обеспечивает энергоснабжение, необходимое для индустриализации и развития экономики. Инфраструктура связи и информации способствует развитию бизнеса, освоению новых инноваций. Банковская система обеспечивает использование финансовых ресурсов, необходимых для инвестирования и экономического развития. Эффективное функционирование указанных инфраструктурных систем свидетельствует о том, что экономика страны шагнула на путь развития.

Ученые также отмечают, что экономическое развитие является результатом широкого внедрения инноваций в производство. "Невозможно представить перспективы и развитие любой отрасли без достижений науки и техники, - пишет Ш. Шарипов, директор Научно-практического центра по внедрению инновационных разработок. - В современный период глобального развития, где инновационные разработки последовательно внедряются в жизнь, там и происходит рост". Действительно, в наше время роль инноваций в обеспечении экономического развития стала настолько велика, что специалисты ввели в научный оборот понятия "традиционная экономика" и "инновационная экономика" для того, чтобы отделить экономику, где роль инноваций незначительна, от экономики, ориентированной на внедрение инноваций. По их мнению, традиционная экономика может иметь прочную основу и решать задачи удовлетворения потребностей населения в конкретный период. Однако, пока вопрос внедрения инноваций остается вне внимания, рост такой экономики будет иметь прерывистый характер. Только активное внедрение инноваций в производство может обеспечить устойчивое процветание экономики.

Опыт ряда развивающихся стран за последние годы также свидетельствует о значительной роли инноваций в экономическом развитии. В этих странах вопрос внедрения инноваций в экономическую жизнь стал

одной из приоритетных задач экономической политики, появилась тенденция к освоению и внедрению различных новых технологий в отрасли экономики. В результате этого темпы экономического роста в них существенно увеличились. Эти результаты отмечаются и многими международными организациями. В научных источниках в качестве одного из важнейших факторов, обеспечивающих экономическое развитие, отмечается значение инвестиций. Например, исследователь А.Р. Карамиева в своей статье особо отмечает роль и значение инвестиций, подчеркивая, что они создают следующие возможности:

- а) позволяют реализовать политику расширения воспроизводственного процесса;
- б) способствуют ускоренному научно-техническому прогрессу и повышению конкурентоспособности продукции;
- в) перестраивают структуру процесса общественного производства и закладывают основы для гармоничного развития всех отраслей;
- г) формируют необходимую сырьевую базу для промышленности;
- д) создают основы для развития образования, культуры и здравоохранения;
- е) способствуют решению проблемы безработицы;
- ж) совершенствуют работу по охране окружающей среды;
- з) развивают военно-промышленный комплекс и укрепляют оборонную способность страны.

Темпы экономического развития стран и достигнутые в этой сфере успехи измеряются, определяются и выражаются с помощью ряда критериев. В этом наборе критериев первое место занимает валовой внутренний продукт (ВВП).

"Под валовым внутренним продуктом, - пишет И.А. Маткаримова, - понимается стоимость товаров и услуг, произведенных для конечного потребления всеми предприятиями (резидентами), расположенными на территории данной страны". ВВП является одним из самых точных критериев, позволяющих определить рост экономики. Поэтому "определение, расчет и анализ этого показателя, отражающего экономическое состояние страны, имеет важное значение".

Заключение.

Экономисты предлагают ряд методов для достижения экономического развития, которые позволяют не только определять объем ВВП более детально, но и определять направления будущего развития экономического прогресса. Скорость и характер экономического развития также можно определить, оценивая структуру отраслей экономики страны и долю в ней отраслей, занимающихся поставкой сырья. Например, чем больше в экономике современных, востребованных на рынке отраслей, приносящих значительный доход, тем более интенсивным будет экономический рост. Напротив, если в структуре экономики преобладают отрасли,

ориентированные на поставку сырья, и отстающие от инновационных технологий, сложно признать такую экономику системой, направленной на процветание. Поэтому во всех странах, ставящих перед собой цель экономического процветания, большое внимание уделяется диверсификации экономики, т.е. обогащению ее структуры. Скорость экономического развития можно определить, измеряя производительность труда в различных отраслях. Если в этих отраслях удастся производить больше продукции при меньших трудовых затратах и ресурсах, при этом сохраняя высокое качество продукции, это свидетельствует о развитии экономики.

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МЕЖДУНАРОДНЫЙ ОПЫТ В МОЛОДЕЖНОЙ ПОЛИТИКЕ: УРОКИ ДЛЯ РЕСПУБЛИКИ БАШКОРТОСТАН

***Аннотация:** Данная статья посвящена международному опыту молодежной политики, а также возможность реализации в Республике Башкортостан. Республика Башкортостан, стремящаяся к повышению своего социально-экономического развития, может извлечь значительную выгоду из передового международного опыта в молодежной политике. В этой статье рассматриваются образцовые инициативы молодежной политики со всего мира, извлекая основные уроки для политиков Башкортостана. Принимая и адаптируя эти международные стратегии, Башкортостан может лучше решать свои уникальные проблемы и извлекать выгоду из потенциала своей молодежи.*

***Ключевые слова:** молодежная политика, Республика Башкортостан, международный опыт, вовлечение молодежи, социальные процессы, образование, участие, инициативы, партнерство, молодежные советы.*

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INTERNATIONAL EXPERIENCE IN YOUTH POLICY% LESSONS FOR THE REPUBLIC OF BASHKORTOSTAN

***Abstract:** This article is dedicated to the international experience of youth policy and its potential implementation in the Republic of Bashkortostan. The Republic of Bashkortostan, aiming to enhance its socio-economic development, can significantly benefit from advanced international practices in youth policy. This article examines exemplary youth policy initiatives from around the world, drawing key lessons for policymakers in Bashkortostan. By adopting and adapting these*

international strategies, Bashkortostan can better address its unique challenges and leverage the potential of its youth.

Keywords: youth policy, Republic of Bashkortostan, international experience, youth engagement, social processes, education, participation, initiatives, partnership, youth councils.

Молодежная политика как подвид государственной политики фокусируется на решении уникальных потребностей, проблем и стремлений молодых людей, обычно определяемых как люди в возрасте от 15 до 30 лет. В Республике Башкортостан, как и во многих регионах мира, молодежь сталкивается с множеством проблем, включая безработицу, ограниченный доступ к качественному образованию и здравоохранению, а также недостаточное представительство в политической и социальной сферах. Использование международного опыта может дать бесценные идеи для политиков в Башкортостане, позволяя разрабатывать более эффективную, отзывчивую и дальновидную молодежную политику.

В статье А.В. Лубского отмечалось, что: «Молодежная политика в современной Германии базируется на представлении о молодежи не как социальном ресурсе, а как социальной проблеме и необходимости расширения ее участия в общественно-политической жизни. Поэтому основными направлениями молодежной политики в Германии являются: 1) разрешение молодежных проблем; 2) профилактика социальных проблем молодого поколения; 3) интеграция молодежи в общественную жизнь; 4) поддержка различных форм участия молодежи в общественной жизни; 5) привлечение молодежи к делам государства и местного самоуправления, вовлечение молодежи в процессы принятия решений; 6) развитие принципов демократии и толерантности в молодежной среде; 7) воспитание молодого поколения в интересах государства на основе сложившейся культуры».

Молодежная политика Германии ориентирована на создание условий для активного участия молодежи в общественной жизни. Программа «Jugend für Europa» (Молодежь для Европы) предоставляет для молодежи возможность участвовать в международных обменах и проектах, что способствует развитию межкультурного понимания и навыков. Данная программа позволяет молодым людям не только путешествовать и учиться, но и развивать лидерские качества, что крайне важно для их будущего.

Внедрение элементов системы двойного образования в нашей республике может лучше согласовать образовательные результаты региона с требованиями рынка труда, повышая трудоустройство.

Сингапурская система очень похожа на советские и российские разработки Л.С. Выготского, Д.Б. Эльконина и В.В. Давыдова, однако в Восточной Азии их довели до технологии. «Специалисты из Сингапура рассказывали нам, что, создавая эту систему, они взяли лучшее из имеющегося в России и пропустили через американский опыт. Сингапурская «Модель развития молодежи» объединяет образование, занятость и участие в

жизни общества. Такие инициативы, как «Национальный молодежный совет» и «Молодежный корпус Сингапура», способствуют развитию лидерства, волонтерства и предпринимательства.

Внедрение подобной многогранной модели в Республике Башкортостан может повысить вовлеченность и готовность молодежи к трудоустройству, потенциально снижая уровень безработицы среди молодежи.

Шведская модель молодежной политики включает активное вовлечение молодежи в сам процесс. Основными особенностями являются механизмы, позволяющие молодежи влиять на политику через советы, гарантирующие, что их голоса будут услышаны в процессах принятия решений.

Уроком для Башкортостана в данном случае является включение более прямых каналов для участия молодежи в управлении, что может привести к более инклюзивной, актуальной и эффективной молодежной политике.

Для вовлечения молодежи Республики Башкортостан в социальные процессы могут послужить такие факторы, как образование и информирование, участие в принятии решений, поддержка инициатив, партнерство с различными секторами. Ниже рассмотрим подробнее каждый из факторов.

- Образование и информирование.

Образование играет ключевую роль в вовлечении молодежи в социальные процессы. Программы, направленные на повышение осведомленности о социальных вопросах, помогают молодежи понять важность их участия. Важно создавать образовательные платформы, доступные для молодежи, которые помогут развить критическое мышление и навыки анализа социальных проблем студентов ВУЗов Республики Башкортостан.

Внедрение курсов по гражданскому образованию в школьные и университетские программы может стать эффективным инструментом для формирования активной гражданской позиции. Эти курсы могут включать темы, такие как права человека, основы демократии и механизмы участия граждан в управлении. Также стоит рассмотреть возможность организации семинаров и тренингов, которые помогут молодежи развить навыки публичных выступлений и ведения переговоров.

Современные технологии могут служить мощным инструментом для вовлечения молодежи. Онлайн-платформы и социальные сети могут использоваться для информирования молодежи о социальных инициативах, а также для создания сообществ, где молодые люди могут обмениваться опытом и идеями. Виртуальные мероприятия, такие как вебинары и онлайн-дискуссии, позволяют молодежи участвовать в обсуждениях без необходимости физического присутствия, что особенно важно в условиях ограничений, связанных с пандемией.

- Участие в принятии решений.

Эффективность молодежной политики включает в себя механизмы, которые позволяют молодым людям участвовать в самом процессе принятия

решений. Необходимо создать молодежные советы и форумы, в которых молодёжь может высказывать свои мнения и предлагать инициативы – это способствует формированию у молодых людей чувства ответственности и вовлеченности.

Примеры молодежных советов, действующих в различных странах, показывают, как важно предоставить молодежи платформу для выражения своих мнений. Данные советы могут работать на уровне местных сообществ, а также на уровне региональных и национальных органов власти. Участие молодежи в таких структурах позволяет им влиять на принятие решений, касающихся их жизни, и повышает их уверенность в своих силах.

Организация общественных слушаний, на которых молодежь может высказать свои идеи и предложения, также является важным шагом. Это создает возможность для диалога между молодежью и представителями власти, что способствует лучшему пониманию потребностей и ожиданий молодежи.

- Поддержка инициатив.

Создание условий для реализации молодежных инициатив является важным фактором вовлечения. Это может включать финансирование молодежных проектов, предоставление ресурсов и создание платформ для обмена опытом.

Государственные и частные организации могут предоставлять гранты для реализации молодежных проектов. Это не только поддерживает креативные идеи, но и дает молодежи возможность развивать свои предпринимательские навыки. Программы, предлагающие финансирование для стартапов, могут способствовать созданию новых рабочих мест и развитию экономики региона.

Создание инкубаторов идей и креативных пространств, где молодежь может разрабатывать и тестировать свои проекты, также может стать эффективным инструментом. Эти инкубаторы могут предоставлять доступ к ресурсам, таким как рабочие места, менторство и обучение, что поможет молодежи реализовать свои идеи.

- Партнерство с различными секторами.

Сотрудничество между государственными органами, образовательными учреждениями и частным сектором может значительно повысить эффективность молодежной политики.

Совместные проекты между университетами и местными бизнесами могут помочь молодежи получить практический опыт и знания, необходимые для успешной карьеры. Это сотрудничество может включать стажировки, совместные исследовательские проекты и программы наставничества, которые помогут молодежи развивать свои навыки и находить работу после окончания учебы. Необходимо также привлекать неправительственные организации к разработке и реализации молодежных программ. Эти организации могут предложить уникальные подходы и ресурсы, которые

помогут молодежи стать более активными и вовлеченными в социальные процессы.

Международный опыт в молодежной политике предоставляет ценные уроки для Республики Башкортостан. Адаптация успешных практик из других стран может помочь в создании эффективной системы вовлечения молодежи в социальные процессы. Важно учитывать ключевые факторы, такие как образование, участие в принятии решений, поддержка инициатив и партнерство с различными секторами. Внедрение этих принципов в молодежную политику Республики Башкортостан может способствовать более активному участию молодежи в общественной жизни и, в конечном итоге, развитию региона.

Республика Башкортостан находится на критическом этапе, готовая использовать потенциал своей молодежи для стимулирования социально-экономического роста. Принимая и адаптируя вышеуказанное в данной статье, политики республики могут создать более эффективную и устойчивую структуру молодежной политики. Этот стратегический подход не только решит непосредственные проблемы, с которыми сталкивается молодежь Башкортостана, но и обеспечит более светлое, более процветающее будущее для региона.

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ОБЗОР ХАРАКТЕРИСТИК РАЗЛИЧНЫХ МЕТОДОВ ЛЕЧЕНИЯ ПАРАЛИЧА

Аннотация. Детские церебральные параличи представляют один из сложных разделов неврологии и реабилитации. Многообразие форм заболевания связано с преимущественным поражением тех или иных структур центральной нервной системы. Анализ имеющихся исследований показывает, что в специальном образовании отсутствуют методологические, научно-теоретические, практикоориентированные основы организации ранней комплексной коррекционно-развивающей помощи детям с ДЦП.

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REVIEW OF CHARACTERISTICS OF VARIOUS METHODS OF PARALYSIS TREATMENT

Abstract. Cerebral palsy in children is one of the complex sections of neurology and rehabilitation. The diversity of forms of the disease is associated with the predominant damage to certain structures of the central nervous system. Analysis of existing studies shows that in special education there are no methodological, scientific-theoretical, practice-oriented foundations for organizing early comprehensive correctional and developmental assistance to children with cerebral palsy

Имеющийся отечественный опыт теоретического и практического обоснования необходимости ранней помощи основан на данных многолетней научно-исследовательской и практической деятельности сотрудников УРАО «Института коррекционной педагогики», которые разрабатывают концепцию раннего выявления и коррекции различных отклонений в развитии у детей первых лет жизни (Е.Р.Баенская, О.Е.Громова, Н.Н.Малофеев,

Т.В.Николаева, Ю.А.Разенкова, Е.А.Стребелева, Л.И.Фильчикова, Г.В.Чиркина, Н.Д.Шматко и др.). В их исследованиях показано, что адекватно организованная ранняя диагностика и комплексная коррекция с первых месяцев и лет жизни позволяют не только скорректировать уже имеющиеся отклонения в развитии, но и предупредить появление вторичных нарушений, снизить степень социальной недостаточности детей, достичь максимально возможного для каждого ребенка уровня общего развития, образования, степени интеграции в общество. Этой проблемой также успешно занимаются в различных регионах России и СНГ (Л.И.Аксенова, Е.В.Кожевникова, Р.Ж.Мухамедрахимов, Р.А.Сулейменова, Л.А.Чистович; Л.Ф.Бурдыко, Н.В.Михалкович, А.Степура). Недостаточно разработан и требует адресной конкретизации диагностический инструментарий, позволяющий актуальные и потенциальные возможности детей первых лет жизни с церебральным параличом и осуществить дифференцированный и индивидуальный подход к дальнейшей медико-психолого-педагогической работе. Не проработаны в теоретико-методологическом плане вопросы социально-образовательной адаптации детей раннего возраста с ДЦП. И неполно представлены аспекты междисциплинарного взаимодействия специалистов и родителей в организации медико-педагогической реабилитации детей данной категории на ранних возрастных этапах.

Неравномерность в развитии ребенка раннего возраста определяется созреванием различных функций в определенные сроки. Наблюдая эту закономерность в развитии, Н.М. Щелованов и Н.М. Аксарина выявили периоды особой чувствительности малыша к определенным видам воздействия и выделили ведущие линии в его развитии. Темп и значение разных линий развития в различные периоды жизни ребенка неодинаковы. На каждом возрастном этапе есть свои «ведущие» (т.е. наиболее значимые) линии развития. Они имеют наибольшее значение для данного возраста, своевременное развитие их обеспечивает переход на качественно новый этап. Так, например, в возрасте 7-8 месяцев ведущим движением является ползание, так как оно полезно для общего физического развития и расширяет ориентировку в окружающем. В возрасте 1 год 6 месяцев – 1 год 9 месяцев очень важно, овладеть, способностью обобщать предметы по существенным признакам, так, как это будет способствовать дальнейшему развитию мышления, формирования понятий. В 1 год – 1 год 5 месяцев происходит быстрое развитие понимания речи, но медленнее нарастание активного словаря.

Научившись новому, приобретя новое умение, действие, на какой-то период времени оно становится доминирующим в поведении ребенка. Так, научившись ходить самостоятельно, ребенок почти перестает играть, а «неудержимо» ходит. Произнеся впервые какое-то слово, он многократно повторяет его в течение дня [5, с. 38-39].

На разных возрастных этапах ребенок оказывается очень чувствительным к определенному рода воздействиям. «...При наличии

соответствующих педагогических условий наиболее легко развиваются определенные психические процессы и качества, которые очень трудно сформировать на более поздних возрастных этапах» (Л.С. Выготский). Именно эти соответствующие психические процессы имеют первостепенные значения не только для настоящего, но и для будущего.

Таким образом, можно констатировать, что существует **противоречие** между потребностью общества в новых возможностях обучения, развития и социальной адаптации детей с церебральным параличом, основанной на расширении горизонтов современного научного знания о возможностях человека, гуманизации социальной жизни и образования, а, с другой стороны, недостатком адекватных форм и методов педагогической помощи детям первых лет жизни с ДЦП, а также неэффективным использованием возможностей уже имеющихся средств решения этой проблемы.

Приведенные нами исследования состояния возрастных сенсомоторных особенностей конечности у здоровых и больных детей дали возможность разработать более патогенически обоснованный комплекс восстановительной терапии. Это в свою очередь, позволило достигнуть дальнейшего улучшения эффективности лечения больных с церебрального паралича в условиях детского специализированного реабилитация.

Материал и методы исследования: Обследованы и получили лечение 46 детей в возрасте от 4 до 8 лет, страдающие ДЦП. Во всех возрастных группах больных детей наиболее частое ограничение подвижности было отмечено при разгибании в суставах, супинации предплечья и при отведении большого пальца. Таким образом пострадали больше всего функции конечности. Мы их разделили на две группы. Все 46 больные дети получали базовую терапию, повторные курсы массажа и комплексы лечебных физических упражнений. Второй группе кроме этого физиотерапевтических процедур и рефлексотерапии способствующих нормализации состояния нервной системы, как центральной, так и периферической улучшающих состояние других функций организма больного. Рефлексотерапией у которого старейшие методы восстановительной терапии включают разнообразные приемы раздражения определенных участков в виде растирания, давления, вибрация, укалывания. В процессе работы практически проверялись и отбирались наиболее эффективные точки воздействия, в общей сложности свыше 50 для различных частей тела. Такое число их обусловлено тем, что в связи с индивидуальной реакцией больных было подобрано несколько точек с аналогичным воздействием. Применение указанных методик рефлексотерапии при детском церебральном параличе было рассчитано на снижение гипертонуса мышц и гиперкинезов, на стимуляцию воздействия координированной двигательной деятельности. Реабилитационные мероприятия проводилась постоянно, делая акцент на том, что приносит максимальный эффект. Только в этом случае можно рассчитывать на устойчивые результаты. Как мы знаем лечение ДЦП комплексное, многолетнее и направлено движению, восстановление нарушенных движению, восстановление нарушенных

функций, что достигается неустойчивым трудом родителей. Мы все это объяснив родителям занимались вместе с больными детьми. Ежедневная лечебная физкультура и массаж помогли малышам развиваться нормально. Начало занятий лечебной физкультурой дали положительные изменения: улучшалось эмоциональное состояние ребенка, уменьшились мышечные контрактуры. При начальной стадии ДЦП лечение положением проводили после расслабляющего массажа расслабляющих упражнений. Для того чтобы расслабит мышцы верхней конечности ребенок лежит на спине, голова расположена строго по средней линии, рука и нога на одной стороне фиксированы мешочками с песком. После нашего курса и у них появилась хорошие изменения. Используя запланированный комплекс упражнений, направленных развитие ощущений, могли улучшить состояние двигательной сферы ребенка с дефектом нервной системы. При первом группе все эти перечисленные результаты не выявлены. Так как двигательные функции при каждой форме церебрального паралича разные, при спастической диплегии мы назначили сравнительно легко осваивающие упражнения, требующие непрерывного движения. А при атактической форме кратковременные упражнения, дающие возможность чаще отдыхать между упражнениями. Атонической форме выдвигало несколько другие проблемы. Дети с этой формой паралича особенно страдали при упражнениях на поддержания равновесия. Разнообразие и новизна в проведении занятий упражнений обновлялись и повторялись для закрепления достигнутых успехов. С одной стороны, нет способа лечения, дающего возможность восстановить поврежденный мозг. Однако, если работать по научно обоснованной программе, то нервная система, находящаяся в неповрежденном состоянии, может выполнять все свои функции. Программы по физическому воспитанию играют ведущую роль в комплексной реабилитации детей с ДЦП. При составлении комплексов упражнений надо быть внимательным к больным с церебральным параличом (спастической диплегией или в атонической форме), так как выполняемые ими упражнения требуют большей активности, чем произвольные мышечные движения.

У больных с церебральным параличом отмечается недостаток силы восприятия, и его можно устранить в какой-то степени посредством реализации программы упражнений. Дефекты восприятия в основном восполняются программой упражнений для развития зрительных и тактильных ощущений.

Программа коррекционной работы направлена на снижение примитивных рефлексов, повышение двигательной силы, развитие способности удерживать равновесие тела, выполнение ритмических движений.

С одной стороны, нет способа лечения, дающего возможность восстановить поврежденный мозг. Однако, если работать по научно обоснованной программе, то нервная система, находящаяся в неповрежденном состоянии, может выполнять все свои функции. Программы

по физическому воспитанию играют ведущую роль в комплексной реабилитации детей с ДЦП. Мы тщательно проанализировав особенности двигательной среды каждого больного церебральным параличом, составили программу, дающую возможность стимулировать двигательные функции. При составлении комплексов упражнений были внимательным к больным с церебральным параличом (спастической диплегией или в атонической форме), так как выполняемые ими упражнения требуют большей активности, чем произвольные мышечные движения.

Таким образом, у больных которую получали дополнительную терапии отмечено улучшение координированных и силовых показателей конечности, как результат возрастающих компенсаторных возможностей. При этом применять, лекарственные препараты еще улучшит состояние ребенка. Все эти упражнения с матерем играют огромную роль в адаптации больного к внешним условиям. Предлагаемая нами лечебная физкультура в домашних условиях наиболее эффективные легко выполняемые и дали очень хорошие результаты сравнения с предыдущей группой. Те дети которые занимались в домашних условиях хотя мало но научились самообслуживанию. У гипертонуса понизилась тонус, наоборот гипотонуса повысилась. В решении основной задачи комплексного лечения нормализации произвольной двигательной деятельности больных на основе возможного восстановления сенсо-моторных функций, ведущее значение имеет лечебная гимнастика и физиотерапия. Они являются наиболее разносторонним средством, мобилизующим активность больного в образовании новых условно-рефлекторных связей, дающих возможность перестраивать патологические статокинетические стереотипы, имеющиеся у больных. Введенный нами в комплексное лечение метод рефлекторной терапии дает возможность общего и местного воздействия и позволяет добиваться достаточно стойкого снижения тонуса спастических мышц.

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БУДУЩЕЕ РЕЗОНАНСНЫХ ИНВЕРТОРОВ В КОНТЕКСТЕ МИРОВОЙ ЭНЕРГЕТИЧЕСКОЙ ТРАНСФОРМАЦИИ

***Аннотация:** Статья посвящена исследованию роли резонансных инверторов в контексте глобальной энергетической трансформации. В условиях ускоренного перехода мировых энергетических систем к устойчивым и возобновляемым источникам энергии, резонансные инверторы становятся важным элементом для эффективного управления энергоснабжением и повышения производительности преобразования электрической энергии.*

***Ключевые слова:** резонансные инверторы, мировая энергетическая трансформация, возобновляемые источники энергии, солнечные и ветряные установки, эффективность преобразования энергии.*

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THE FUTURE OF RESONANT INVERTERS IN THE CONTEXT OF GLOBAL ENERGY TRANSFORMATION

***Abstract:** This article is dedicated to exploring the role of resonant inverters in the context of global energy transformation. In the context of the accelerated transition of global energy systems to sustainable and renewable energy sources, resonant inverters become an important element for effective energy management and improving the efficiency of electrical energy conversion.*

***Keywords:** resonant inverters, global energy transformation, renewable energy sources, solar and wind installations, energy conversion efficiency.*

Введение Мировая энергетическая трансформация характеризуется стремлением к повышению энергоэффективности, снижению углеродного следа и переходу к возобновляемым источникам энергии. Резонансные инверторы, как ключевая технология в преобразовании электрической энергии, играют важную роль в достижении этих целей.

Методы В данной статье используется несколько методов для анализа и оценки перспектив резонансных инверторов в глобальной энергетической трансформации:

1. Теоретический анализ: Исследование существующих теоретических основ работы резонансных инверторов, их принципов функционирования и отличий от традиционных инверторных решений. Рассмотрены теории, описывающие электромагнитные процессы в инверторах, а также их влияние на энергоэффективность систем.

2. Сравнительный анализ: Сравнение различных типов инверторов (в том числе резонансных) с точки зрения их эффективности, стоимости, долговечности и применения в возобновляемых энергетических установках. Этот метод позволяет выявить преимущества резонансных инверторов в условиях будущих требований к энергетическим системам.

3. Моделирование и симуляции: Применение численных методов для моделирования работы резонансных инверторов в различных условиях, таких как ветряные и солнечные электростанции, с целью оценки их эффективности в реальных энергетических системах. Моделирование также помогает предсказать возможные проблемы при массовом внедрении данной технологии.

Результаты В результате проведенного исследования было установлено несколько ключевых выводов, подтверждающих перспективность использования резонансных инверторов в контексте мировой энергетической трансформации:

1. Повышенная эффективность преобразования энергии: Резонансные инверторы показали значительное улучшение КПД по сравнению с традиционными инверторами благодаря более точному контролю параметров работы и снижению потерь на высоких частотах. Это особенно важно для интеграции с возобновляемыми источниками энергии, где вариативность и нестабильность генерации требуют высокой эффективности преобразования.

2. Снижение излишних затрат на энергию: Моделирование и экономический анализ показали, что резонансные инверторы могут снижать затраты на потребление электроэнергии в сетях с переменной нагрузкой, что особенно актуально для солнечных и ветряных электростанций, где нагрузки могут существенно колебаться в зависимости от погодных условий и времени суток.

3. Улучшенная адаптивность и интеграция с умными сетями: Резонансные инверторы продемонстрировали более высокую способность адаптироваться к изменяющимся условиям в умных энергетических сетях,

обеспечивая быструю и точную настройку параметров для поддержания стабильности и оптимальной работы сети, что способствует более надежному и эффективному распределению энергии.

4. Долговечность и снижение обслуживания: Благодаря оптимизированным электрическим цепям и использованию резонансных явлений для уменьшения потерь и перегрева, резонансные инверторы имеют более высокую долговечность и меньшие требования к техническому обслуживанию по сравнению с традиционными инверторами.

Обсуждение Резонансные инверторы становятся важной частью глобальной энергетической трансформации благодаря своей способности обеспечивать высокую эффективность и надёжность. Основным вызовом остаётся снижение стоимости новых материалов и технологий. Кроме того, необходимо развитие стандартов и методов тестирования для обеспечения совместимости и безопасности устройств. Перспективным направлением является внедрение технологий искусственного интеллекта для управления резонансными инверторами в режиме реального времени, что позволит повысить стабильность энергосистем. Инвестиции в научные исследования и разработки играют ключевую роль в ускорении внедрения этих технологий.

Заключение Резонансные инверторы обладают значительным потенциалом в контексте мировой энергетической трансформации. Их дальнейшее развитие и широкомасштабное внедрение могут способствовать достижению целей по снижению углеродных выбросов и переходу на возобновляемые источники энергии. Для достижения этих целей необходимы междисциплинарные исследования, сотрудничество между научным сообществом и промышленностью, а также государственная поддержка.

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CLINICAL CHARACTERISTICS OF POLYPOUS RHINOSINUSITIS AND A MODERN APPROACH TO THEIR TREATMENT

Resume: Polypous rhinosinusitis is a chronic inflammation of the nasal mucosa and adjacent sinuses, which is manifested by the formation of polyps and their reappearance.

Despite a significant number of studies and various proposed therapies, polypous rhinosinusitis remains one of the most complex and unresolved problems in the field of otorhinolaryngology. This disease significantly impairs the quality of life of patients.

First of all, they suffer from discomfort due to difficulty, and often completely absent nasal breathing; there is a decrease, distortion or complete absence of smell; abnormal nasal discharge; a feeling of heaviness and pain in the paranasal sinuses; chronic hypoxia and headaches; as well as general weakness and fatigue.

Key words: polypous rhinosinusitis, clinical characteristics, treatment.

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POLIPOZ RINOSINUSITNING KLINIK XUSUSIYATLARI VA ULARNI DAVOLASHGA ZAMONAVIY YONDASHUV

Rezyume: Polipoz rinosinusit-bu burun shilliq qavati va qo'shni sinuslarning surunkali yallig'lanishi bo'lib, u poliplarning shakllanishi va ularning qayta paydo bo'lishi bilan namoyon bo'ladi.

Ko'p sonli tadqiqotlar va turli xil terapiya usullariga qaramay, polipoz rinosinusit Otorinolarologiya sohasidagi eng murakkab va hal qilinmagan muammolardan biri bo'lib qolmoqda. Ushbu kasallik bemorlarning hayot sifatini sezilarli darajada yomonlashtiradi.

Birinchiidan, ular burun nafasi qiyin va ko'pincha umuman yo'qligi sababli noqulaylikdan aziyat chekishadi; hidning pasayishi, buzilishi yoki umuman yo'qligi kuzatiladi; burundan patologik oqindi; paranasal sinuslarda og'irlik va og'riq hissi; surunkali gipoksiya va bosh og'rig'i; shuningdek, umumiy zaiflik va charchoq.

Kalit so'zlar: polipoz rinosinit, klinik xususiyatlari, davolash usullari.

Relevance. With prolonged bacterial infection and decreased local immunity, tissue damage occurs in the nasal mucosa, causing chronic inflammation and causing a vicious circle based on stimulation of inflammatory mechanisms by bacteria and their products[4,6,9,11].

In patients with chronic polyposis rhinosinitis, a decrease in the rate of mucosiliary transport was noted due to a decrease in the number of ciliated cells and the number of cilia, an increase in the number of goblet cells and hyperplasia[1,3,8]. Despite all the autonomy of the mechanisms of immune defense of the nasal mucosa and its paranasal sinuses, local immunity is an integral and subordinate part of general immunity[2,5,7].

Thus, pathology in the immune system can stimulate the development of nasal pathology and its paranasal sinuses, as well as affect its development[3,7,9]. In the pathogenesis of chronic polyposis rhinosinitis, disorders in the humoral and cellular immune systems play an important role.

Currently, many authors attribute CPRS to secondary immunodeficiency conditions. In patients with CKD, a balance of the functional activity of lymphocyte regulatory and effector subpopulations was found-B-hyperfunctions of the immune system, T-an increase in the number of assistants and a decrease in the number of T-suppressors, IG A, M G, Purpose of research.

The purpose of the study is to increase the effectiveness of the treatment of patients with polyposis rhinosinitis by justifying the diagnostic algorithm for the process of chronic polyposis rhinosinitis, its new effective method, as well as prognostic criteria for the course and outcome of this disease.

Inspection materials and methods. We planned to study the data of a total of 70 patients aged 18 to 60 (50 main groups diagnosed with chronic polyposis rhinosinitis, 20 control groups of other pathologies of the nasal and nasal passages), who were being treated in the Otorhinolaryngology Department of the Andijan regional clinic in 2020-2023.

Results of verification. Serum immunoglobulin levels A, M, and G were determined using Mancini immunodiffusion method. The method is based on the measurement of the precipitation ring formed when the serum under study is injected into wells cut in the agar layer, which was previously a dispersed monospecific antiserum. According to the size of the diameter of the resulting fat rings, a graph and calibration curve were drawn up, with which the number of immunoglobulins in the serum under study was calculated.

Control values in healthy individuals were: IG a - 1.86 ± 0.09 g/l; IG M - 1.0 ± 0.09 g/l; IG G - 9.85 ± 0.26 g/L at $m = 2$. In addition, the content of immunoglobulins in saliva and nasal washes was determined by immunoassay, a solid-phase enzyme, using monoclonal antibodies, with the standardization of general protein indicators in Lowry.

In the control group, immunoglobulin levels in the salivary and nasal sinuses were Ig a (0.032 ± 0.007 G/L and 0.021 ± 0.004 g/L), Ig G (0.026 ± 0.003 G/L and

0.020 + 0.003 g/l), respectively. Immunoglobulin m abnormalities in the nasal cleft and palate were only detected in part of the individuals being examined, which formed the control group, so that the average values in the secret composition could not be determined.

The mean values of Sig A in the control group were 0.016 + 0.001 g/l in the saliva; 0.032 + 0.002 g/l in the nostrils.

Conclusion. Clinical manifestations of polyposis rhinosinusitis are the result of functional disorders of the mucosiliary transport system, function, local immunity of the nasal cavity mucosa, and impaired nasal breathing due to paranasal sinuses and polyposis blocking their cavity with growth.

Chronic polyposis rhinosinusitis develops against the background of moderate immunodeficiency of the T-cell ligament, in patients with a recurrent course of the disease, they are more pronounced and do not straighten out, do not normalize after surgical treatment.

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THE EFFECT OF PREECLAMPSIA ON THE DEVELOPMENT OF HYPOXIA IN THE FETUS

Resume: *A serious problem remains in the focus of obstetrics and neonatology – fetal hypoxia, which is closely related to preeclampsia syndrome. Despite the progress in the provision of medical care, this factor continues to occupy a leading position among the causes of infant mortality.*

In these cases, the characteristic pathogenetic mechanisms are profound abnormalities of hemostasis and lipid metabolism disorders. In order to study this problem, a comprehensive clinical and laboratory analysis was conducted, including the following groups: the first - healthy pregnant women (n=16), the second – with moderate preeclampsia syndrome (n=31) and the third group – women with severe form of the disease (n=18).

The study analyzed the parameters of hemostasis, blood lipid composition in pregnant women, as well as the state of the vascular network of the umbilical cord of newborns. The study revealed significant changes in the lipid metabolism of both maternal blood and the placental system in preeclampsia. Significant hemostasis disorders occur in the body of pregnant women with this syndrome.: The external and internal coagulation pathways are activated, which leads to an increase in fibrinogen levels (hyperfibrinogenemia).

These pathological processes lead to serious disorders of the fetal-placental circulation, resulting in hypoxia in the fetus. The situation becomes especially critical in severe preeclampsia, where the severity of disorders reaches maximum values and has the most negative effect on the condition of newborns.

Key words: *preeclampsia, fetal hypoxia, fibrinogen- lipid metabolism.*

Relevance. The main factor in Perinatal brain damage is hypoxia-intrauterine and intranatal [2,4,5]. Intrauterine hypoxia can occur due to insufficient oxygen saturation of the blood, decreased hemoglobin levels in the blood, impaired blood flow, and disorganization of oxidation processes in fetal tissues. According to the WHO, one of the main causes of perinatal disease and death of the fetus is preeclampsia (gestosis).

Despite the development of Medicine, in particular obstetric and gynecological support, the issues of preventing fetal injury with hypoxic properties in preeclampsia have not been sufficiently resolved[3] Therefore, the difficulty in correctly choosing adequate regimens for the treatment (prevention) of fetal hypoxia with preeclampsia in pregnant women is largely independent of sufficient

information about the pathological processes underlying the development of this terrible complication[1,4].

This work is devoted to the most important issue of obstetrics.

The purpose of the study. Assess the role of lipid metabolism disorders, the structural and functional state of hemoglobin and fetal-placenta blood flow in the development of fetal hypoxia with preeclampsia of different weights.

Research methods and materials. To achieve the goal and solve the problems posed at work, 95 patients were selected by the method. A comparison group of 20 healthy pregnant women with a physiological course of pregnancy was identified.

The values of the studied indicators obtained in the control group were used as physiological normal values as the starting point of comparison. A core group of women with preeclampsia, consisting of 75 patients, was also allocated.

Research results. Symptoms of chronic intrauterine fetal hypoxia in pregnant women with preeclampsia ($p=75$) are reported in 44%, of which significant proteinuria (mild preeclampsia) is found in 28% of pregnancy - induced AG ($p=25$), with moderate preeclampsia ($p=25$)-44%, with severe preeclampsia ($p = 25$) $p \leq 0.003$ in 60%, with impaired blood circulation in the Level II fetal-placenta complex respectively 28, 32 and 60% respectively.

One of the most important factors that leads to impaired blood flow in the placenta-fetal system is the phenomena that stabilize the membrane in the cell structures of blood vessels in the umbilical cord and erythrocytes of umbilical cord blood due to the over-amplification of the lipid peroxidation process and the activation of phospholipases.

In the fetuses of pregnant women with preeclampsia, in comparison with the fetuses of healthy pregnant women, with the raman-accumulation of hemoglobin in the umbilical cord blood, significant structural and functional modifications of hemoglobin are detected, an increase in the relative amount of oxyhemoglobin, a decrease in the ability of hemoglobin to bind ligands, an increase in the ability of hemoglobin fluctuations in hemoglobin methine bridges are associated with the severity of preeclampsia.

Exacerbation of fetal hypoxia symptoms in pregnant women with preeclampsia is due to structural and functional changes detected by the tissues of the vessels in the umbilical cord and erythrocytes of the umbilical cord blood, associated with impaired fetal-placental blood flow and associated with the severity of preeclampsia.

Structural-functional-metabolic changes determined by the tissues of the vessels in the umbilical cord and erythrocytes of the umbilical cord blood indicate the occurrence of processes associated with a violation of the organization of cell membranes in the tissues of the fetus, as well as in the body of a pregnant woman with preeclampsia, which in turn determines the main pathophysiological and clinical picture of hypoxia.

Conclusion. Studies have shown that in the development of fetal hypoxia in pregnant women with preeclampsia of different weights, a violation of lipid metabolism from the tissues of blood vessels and erythrocytes in the umbilical cord,

as well as changes in the structural and functional state of hemoglobin in the umbilical cord blood, plays an important role.

The information obtained is the basis for the development of new schemes for the prevention and treatment of fetal hypoxia in pregnant women with preeclampsia.

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DIAGNOSIS AND TREATMENT OF VASCUMOTOR RHINITIS IN PATIENTS WITH ARTERIAL HYPERTENSION

Resume: *An integrated approach to the diagnosis and treatment of vasomotor rhinitis caused by alimentary status provides safe and effective relief of nasal obstruction symptoms for patients with various risk levels of hypertension.*

Key words: *vasomotor rhinitis, arterial hypertension, nasal obstruction.*

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GIPERTONIYAGA CHALINGAN BEMORLARDA VAZAMOTOR RINITNI TASHXISLASH VA DAVOLASH

Rezyume: *Arterial gepertenziga chalingan bemorlarda kelib chiqqan vazomotor rinitni tashxislash va davolashga kompleks yondashuv arterial gipertenziya xavfi har xil bo'lgan bemorlar uchun burun obstruktsiyasi alomatlarini xavfsiz va samarali bartaraf etishni ta'minlaydi.*

Kalit so'zlar: *vazomotor rinit, arterial gipertenziya, burun obstruktsiyasi.*

Relevance of the topic. Vasomotor rhinitis (VR) is a runny nose that is mainly caused by conditions such as allergies or general inflammation. Proper diagnosis will be the most important step in the proper treatment and management of vasomotor rhinitis. Treatment of vasomotor rhinitis is aimed at controlling symptoms. As mentioned above, it is advisable to eliminate the factors that the symptoms cause[3,7].

Knowing how the symptoms of VR are going is considered extremely important because their causes often remain a mystery. It is known that several drugs that can be used to control these symptoms, including nasal spray, work well. According to WHO statistics, vasomotor rhinitis accounts for a quarter of chronic rhinitis cases.

The disease is most common in young people aged 20-40 years[6]. Vasomotor rhinitis is observed in almost 10% of the population. A quarter of these

patients suffer from persistent symptoms of the disease, and half of the patients have moderate and significant symptoms of pathology.

The higher blood pressure in hypertensive patients, the worse the VR problem. Harmless to healthy people, vasoconstrictor hypertension from simple inflammation can lead to a sharp rise in pressure and crisis in a diagnosed patient[1,4,8]. Therefore, it is necessary to regularly undergo large-scale examinations, select the appropriate one for the medication and take urgent measures based on the condition of blood pressure in VR and its level. Increased pressure as the nose knows is a determining factor when choosing a treatment regimen[2,9]. The most common treatment for vasomotor rhinitis is the use of nasal drops that have a narrowing effect on the vessels.

This allows you to limit the flow of plasma and fluid. But vasoconstriction with hypertension leads to a further increase in pressure in them, which can cause hypertonic crisis. Therefore, when choosing drops from a common cold with hypertension, care should be taken not to worsen health and condition. When choosing pharmacological drugs for any nosology, it is necessary to resort to their mechanism of action and taking into account the possible side effects, and a general cold snap in hypertension is no exception[6].

Currently, the pharmaceutical industry has a wide range of nasal products. Only a specialist with a specialized education, in this case an otolaryngologist, who is well aware of both the premorbid background and physiological characteristics of the patient, can choose the drug that best suits the clinical situation[2]. VR during pregnancy in a mother with hypertension should be treated especially carefully.

Purpose of research. Improving the effectiveness of the treatment of vasomotor rhinitis in patients with hypertension, developing a unified program for the treatment of VR in patients with AG, achieving the elimination of characteristic clinical manifestations and other complications, taking into account the effects of therapy.

Research materials and methods. We planned to study the data of a total of 70 patients between the ages of 18 and 50 (50 main groups had AG and were diagnosed with vasomotor rhinitis, 20 AG were not observed, but a control group consisting of VR-infected) who were being treated in the Otorhinolaryngology Department of the Andijan State Medical Institute clinic in 2023-2024.

Research results. With hypertension, the runny nose often develops against the background of inflammation, the body temperature does not always rise. It is highly undesirable to use vasoconstrictors for hypertensive patients - they increase the pressure. Antipyretic drugs are allowed when there is a high fever. Drops with a vasoconstrictor effect, which quickly relieve nasal swelling and reduce the manifestation of vasomotor rhinitis, have high efficiency.

Mechanical removal of germs from the nasal mucosa quickly relieves such unpleasant symptoms as prunes, allergies, and helps to restore normal health after being in dusty rooms, limiting contact with harmful factors.

The patients examined were Guruh composed of the first degree of hypertension, and the effectiveness of treatment in them was 52%. The effectiveness

of treatment in patients with AG secondary and VR was 29%; in those with tertiary hypertension, the rate was 19%. From this it can be concluded that the higher the AG and the lower the effectiveness of treating VR if it poses a risk to the patient's life will be. From Anamnesis, we can see that the drug Aqua lor is more effective than other drugs in patients with arterial hypertension. In this case, we can see that the effectiveness of treatment of VR in AG li patients was 57%, while the effectiveness of treatment in patients with AG non-existent but VR from Anamnesis was 43%.

From this we can conclude that the above-mentioned drug improves the condition of human blood pressure and, in turn, also has a good effect on VR by reducing the pressure of the nasal mucosa. Washing the nasal cavity with Aqualor helps to mechanically eliminate pathogenic organisms, improve the condition of the mucous membrane and quickly relieve health. Effective in the prevention, treatment, independent or complex treatment of VRni, apricot, infectious diseases. Aqua lor is one of the most popular drugs on the market. Previously, independent solutions were often used in the treatment of vasomotor rhinitis, but this was not due to their high efficiency, but to the lack of alternatives.

When preparing a solution at home, it is difficult to accurately calculate the concentration of active substances - a weak agent will be ineffective, a high concentration can lead to side effects. Bottled water is not ideal for mucous membranes, whitening water is more irritating. Conventional vasoconstrictor drops are not suitable for hypertensive patients.

The only way to quickly eliminate inflammation of the nasal mucosa is to drip hormonal drops. When choosing pharmacological drugs for any nosology, it is necessary to resort to their mechanism of action and taking into account the possible side effects, and a general cold snap in hypertension is no exception. The most common treatment for vasomotor rhinitis is the use of nasal drops that have a narrowing effect on the vessels.

This allows you to limit the flow of plasma and fluid. But vasoconstriction with hypertension leads to a further increase in pressure in them, which can cause hypertensive crisis. VR during pregnancy in a mother with hypertension should be treated especially carefully. Since the main pathogenetic connection of rhinitis in any Genesis is swelling of the nasal mucosa, the most complex intranasal drugs in their composition contain drug preparations or vasoconstrictors.

Locally applied sympathomimetics have an adrenaline-like effect, as a result of which reversible spasm of blood vessels is observed, which ensures the restoration of nasal breathing in a short time. Taking high doses of sympathomimetics can lead to the development of systemic vasoconstriction, which is accompanied by an increase in blood pressure, disruption of the heart muscles.

With the first symptoms of vasomotor rhinitis - runny nose, tremors and an increase in body temperature, hypertensive patients are advised to take a bed regimen. Traditionally, for hypertensive patients, decoctions in rhinitis are not suitable, since the vasoconstrictor effect spreads to the vessels and capillaries of the body. Narrowing of blood vessels increases the load on the heart.

Conclusion. With the initial symptoms of vasomotor rhinitis - the end of the nose and an increase in body temperature, hypertensive patients are advised to take preparations under the conditions of bed regime. To eliminate nasal swelling, drug preparations containing the contained hormone are prescribed, when they are taken regularly, the nasal discharge decreases, and breathing through the nose is normalized. It is recommended to use reflector therapy methods to treat vasomotor - rhinitis, especially its neurovegetative type.

This will require novocaine blockade into the nose and reflexotherapy with a needle and will show its good effect. It is also recommended to add calcium and hydrocortisone to the nose to use ionophoresis clilish, or galvanizing, diathermy clilish methods of vegetative nodules of the neck.

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STUDY OF CHRONIC GASTRODUODENAL PATHOLOGY IN SCHOOL-AGE CHILDREN

Resume: In recent years, there has been a noticeable increase in interest in pediatric gastroenterology, which is due to the increased attention of specialists from various pediatric fields, such as cardiology, allergology, pulmonology and neurology. This desire is due to the fact that children often exhibit gastrointestinal symptoms against the background of diseases of other organs and systems, and the therapy of most childhood diseases is closely interconnected with the functioning of the gastrointestinal tract.

The frequency of chronic gastrointestinal diseases among children is 300-400‰ of the total number of diseases and ranks second in the structure of childhood morbidity. At the same time, 70-90% of all gastroenterological diseases are chronic gastritis and gastroduodenitis. In addition, in recent years, some characteristic changes in the clinical course of chronic gastroduodenal pathology (CGDP) in children and adolescents have been identified, which differ from traditional concepts. Thus, the study of clinical manifestations of CGDP in this age group becomes an urgent task of modern pediatric gastroenterology.

This article will present the key clinical and endoscopic features of diseases of the gastroduodenal region in children at the current stage of medicine development.

Key words: pancreas, gastroduodenitis, children, clinical and endoscopic examination.

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MAKTAB YOSHIDAGI BOLALARDA SURUNKALI GASTRODUODENAL PATOLOGIYANING O'RGANISH

Rezyume: So'nggi yillarda bolalar gastroenterologiyasi masalalariga qiziqish sezilarli darajada oshdi, bu kardiologiya, allergologiya, pulmonologiya va nevrologiya kabi turli pediatriya sohalari mutaxassislarining e'tiborining ortishi bilan bog'liq. Bu istak, bolalarda boshqa organlar va tizimlarning kasalliklari

fonida ko'pincha oshqozon-ichak belgilari namoyon bo'lishi va ko'pchilik bolalar kasalliklarining terapiyasi oshqozon-ichak traktining ishi bilan chambarchas bog'liqligi bilan bog'liq.

Bolalar o'rtasida surunkali oshqozon-ichak kasalliklari bilan kasallanish umumiy kasalliklar sonining 300-400 %o ni tashkil qiladi va bolalar kasalliklari tarkibida ikkinchi o'rinda turadi. Bundan tashqari, barcha gastroenterologik kasalliklarning 70-90 foizi surunkali gastrit va gastroduodenit bilan bog'liq. Bundan tashqari, so'nggi yillarda bolalar va o'smirlardagi surunkali gastroduodenal patologiyani (CGDP) klinik kursida an'anaviy tushunchalardan farq qiladigan ba'zi xarakterli o'zgarishlar aniqlandi.

Shunday qilib, ushbu yosh guruhidagi surunkali gastroenteritning klinik ko'rinishini o'rganish zamonaviy bolalar gastroenterologiyasining dolzarb vazifasiga aylanadi.

Ushbu maqolada tibbiyot rivojlanishining hozirgi bosqichida bolalarda gastroduodenal mintaqa kasalliklarining asosiy klinik va endoskopik xususiyatlari keltirilgan.

***Kalit so'zlar:** oshqozon osti bezi, gastroduodenit, bolalar, klinik va endoskopik tekshiruv.*

Relevance. The morbidity structure of schoolchildren is characterized by the dominance of pathology of the musculoskeletal system -24%, the second place is occupied by diseases of the digestive system -19%, the third - diseases of the nervous system and mental sphere -14%[1,4]. Chronic diseases of the digestive system occupy a leading place in the structure of chronic somatic pathology in older children[2,5]. Of these, the most common are lesions of the gastroduodenal zone. A significant increase in the prevalence of digestive diseases requires the development of a criteria-based system for evaluating the effectiveness and quality of treatment for this pathology, determining the effectiveness of rehabilitation treatment and medical examination, taking into account the opinion of the doctor and the patient[3,6]. This is exactly what the quality of life assessment methodology allows.

The purpose of the study. To establish patterns of changes in the quality of life in school - age children in order to optimize the design of preventive and curative measures .chronic diseases of the gastroduodenal zone in children.

Research materials and methods. 1,150 people participated in the study. In accordance with the objectives set, the program of this study included a number of sections.

The results of the study. The quality of life, according to the CHQ-87 and SF-36 questionnaires (general health, psychological health, behavior, social functioning), largely depends on lifestyle factors - the duration of a night's sleep, diet, physical activity, and outdoor activities.

Prolonged time spent at the computer and watching TV leads to a decrease in the quality of life on the general health scale to 59.05 ± 1.86 points in children who spend more than 3 hours a day watching TV, versus 63.55 ± 1.16 points in children who spend up to 2 hours a day watching TV ($p < 0.05$), the viability scale is up to

52.25±2.99 points in children who spend more than 3 hours at the computer, versus 60.31 ±1.63 points when they are at the computer for up to 2 hours a day ($p<0.05$);

The increase in behavioral and emotional problems was 78.02±1.79 points in children who spent more than 3 hours at the computer, versus 82.95±0.93, respectively, when they were at the computer for up to 2 hours a day ($p<0.05$).

The dynamics of quality of life (according to CHQ-87 and SF-36) has age and gender differences: with age, by the age of 14-17, there is a decrease in the quality of life on the scales of psychological health, pain, behavioral and emotional problems increase, self-esteem and family cohesion decrease.

Girls showed a decrease in psychological health scores earlier (by the age of 14) than boys, to 63.86±2.40 points versus 71.59±1.84 points for boys ($p<0.05$), and family cohesion to 52.73±4.50 points versus 68.53± 3.60 points for boys, respectively ($p<0.01$).

Chronic gastroduodenal pathology in the period of exacerbation has a significant negative impact on the quality of life in the physical and psychological spheres, reduces overall health and limits the possibilities of not only physical, but also social functioning of patients. A comparative assessment of QOL in the opinion of children and their parents revealed a discrepancy between impressions about the effect of gastroduodenal pathology on QOL in the following parameters: general and psychological health, self-esteem, restriction of physical activity, the impact of pain, which must be taken into account when drawing up a treatment and rehabilitation program.

Comprehensive medical, psychological and pedagogical rehabilitation with drug therapy in a rehabilitation center is the most promising form of recovery for children with diseases of the gastroduodenal zone.

The combination of transcranial electrical stimulation and drug therapy in the outpatient treatment option increases the clinical effectiveness of the treatment of chronic gastroduodenal diseases in children, has a normalizing effect on the indicators of the psychophysiological status and quality of life of children. H.pylori eradication therapy in children with gastroduodenal diseases negatively affects the quality of life on the scales of general health and vitality, which requires "maintenance" therapy that improves the overall vital functions of the body.

In outpatient settings, the duration of treatment and rehabilitation of children with exacerbation of chronic gastroduodenal pathology, taking into account the restoration of QOL parameters (according to the scales GH-general health, FA-family activity - the degree of restriction of family activity due to the child's health, BE -emotional and behavioral problems, physical and emotional functioning) should be at least 3 months.

Conclusion. The data obtained as a result of the conducted research indicate the prevailing influence of lifestyle on the quality of life related to health, which allows them to be widely used in the structure of preventive measures.

The obtained age-sex values of the QOL parameters of children aged 10-17 years according to CHQ-87 and SF-36 can be the basis for a comparative assessment

of the quality of life of children with other diseases when conducting research in different regions.

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ASSESSMENT OF THE CONDITION OF INFANTS WITH PERINATAL PATHOLOGY

Resume: in the presence of consequences of combined perinatal pathology, the peculiarities of caring for premature babies are determined by the degree and manifestation of hypoxic damage to the central nervous system, as well as the severity of bronchopulmonary dysplasia.

The methods of caring for such children in early childhood are directly related to the dynamics of their psychoneurological processes and the individual characteristics of socialization.

Keywords: premature babies, perinatal pathology.

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PERINATAL PATOLOGIYASI BO'LGAN CHAQALOQLARNING HOLATINI BAHOLASH

Rezyume: Kombinatsiyalangan perinatal patologiyaning oqibatlarini mavjud bo'lganda, erta tug'ilgan chaqaloqlarga g'amxo'rlik qilishning o'ziga xos xususiyatlari markaziy asab tizimining gipoksik shikastlanish darajasi va namoyon bo'lishi, shuningdek, bronxopulmoner displaziyaning og'irligi bilan belgilanadi.

Erta bolalik davrida bunday bolalarga g'amxo'rlik qilish usullari ularning psixonevrologik jarayonlari dinamikasi va sotsializatsiyaning individual xususiyatlari bilan bevosita bog'liq.

Kalit so'zlar: erta tug'ilgan chaqaloqlar, perinatal patologiya.

Relevance. The ultrasound diagnostic method is accessible, highly informative, and allows for an echographic assessment of the structural pathology of the fetus, placenta, and amnion, as well as determining the degree of hemodynamic disorders of the fetoplacental complex in pregnant women with a high infectious index. It allows us to identify the features of cerebral hemodynamics in newborns with perinatal complications of infectious origin[1,4,7].

The analysis of perinatal criteria reflecting the functional state of the mother-placenta-fetus system using statistical processing methods will create a clinical and echographic scale for predicting the severity of a newborn with perinatal infections, which will optimize treatment measures in the antenatal and postnatal periods[2,5,6].

The purpose of the study. To provide a comprehensive assessment of the functional state of newborns with intrauterine infections in order to optimize perinatal management tactics.

Materials and methods of research. At stage 1, 178 birth histories and 178 maps of the newborn's individual development were retrospectively studied.

The results of the study. The clinical material was divided into 4 clinical groups depending on the severity of the infectious process and the severity of the newborn's condition: group 1 (n=40) was a control group, which included newborns from mothers with uncomplicated pregnancies, the child's condition at birth was satisfactory, the Apgar score was 7.8 ± 0.32 points in the first minute, and in the fifth - 8.4 ± 0.21 , body weight 3320 ± 140.6 grams and height 52.1 ± 0.18 cm. Group 2 (n=60) - newborns from mothers at risk of intrauterine infection, the child's condition at birth is satisfactory or moderate with local manifestations of intrauterine infection in the form of pyoderma, rhinitis, otitis media, conjunctivitis, pneumonia of moderate severity.

The Apgar score in the first minute was 6.7 ± 0.23 points, in the fifth - 7.6 ± 0.26 points. Body weight at birth was 3274 ± 44.7 grams, height 51.2 ± 0.2 cm. Group 3 (n=50) - newborns from mothers at risk of intrauterine infection, the child's condition at birth is severe or moderate with deterioration to severe in the early neonatal period with manifestations of intrauterine infection in the form of pneumonia, enterocolitis, fetal hepatitis, and other diseases.

The Apgar score was 5.6 ± 0.37 points in the first minute, and 6.6 ± 0.3 points in the fifth. Birth weight - 3298 ± 77.1 grams, height 52.3 ± 0.4 cm. Group 4 (n=28) - newborns from mothers at risk of intrauterine infection, the child's condition at birth is severe or of extreme severity with generalized manifestations of intrauterine infection, requiring artificial ventilation.

The Apgar score in the first minute was 3.6 ± 0.34 points, in the fifth - 4.8 ± 0.42 points. In this group, body weight at birth was 3067.8 ± 47.4 grams, height 51.5 ± 0.26 cm. The results of the study. A comprehensive assessment of the functional state of newborns with intrauterine infections has been developed in order to optimize perinatal management tactics.

It was found that significant risk factors for the development of IUI in women include: acute or recurrent urogenital infection during pregnancy (DT=92.86%), acute respiratory diseases during pregnancy (DT=65.2%), gestational pyelonephritis (DT=52.8%), complicated course of the present pregnancy (gestosis, threat of termination, toxicosis) (DT=78%), burdened obstetric history (DT=59.6%), the presence of extragenital pathology (DT=64%). The expediency of using ultrasound in pregnant women with a high infectious risk is substantiated, which increases the accuracy of the diagnosis of IUI.

The main ultrasound criteria for IUI are: hepato-abdominal coefficient of more than 0.38 cu (DT=92%); disorders of fetal biophysical activity (decrease or absence of motor activity (DT=68.5%) and fetal tone (DT=59%), respiratory function disorders (DT=66.3%)) signs of placentitis (DT=63%) and the presence of infectious fetopathies (DT=55%). It was found that children born to mothers from risk groups for IUI have a high incidence in the early neonatal period, the frequency of which for the period 2005-2008 was 21.1% - 18.7%. The manifestation of intrauterine infection in newborns was both specific (pyoderma, conjunctivitis, pneumonia, enterocolitis, sepsis, etc.) and possible non-specific signs (central nervous system disorders, CNS, hyperbilirubinemia).

It was found that neurosonography can detect structural changes in newborns with IUI in the form of: periventricular hyperechogenicity (in 43 (31.2%) children), dilation of the lateral ventricles (in 30 (21.7%) children), hyperechogenic signals in the thalamuses (in 19 (13.8%) children), vascular plexus cysts (in 16 (11.6%) of children). HCV, hydrocephalus, and cerebral edema were recorded only in severe and extremely severe children.

Vascular tone disorders in the anterior cerebral artery in children with IUI manifested themselves in the form of vasospasm in 38 (27.5%) children and vasodilation in 27 (19.6%) children. A quantitative assessment of the echolithicity of the liver parenchyma with the construction of histograms and the determination of the arithmetic mean of the echolithicity in the studied contour, the mean square deviation and the coefficient of variation allows an objective assessment of the structure of the organ under study, eliminating operator dependence of the method as much as possible.

The developed clinical and echographic scale makes it possible to predict the severity of infectious complications in newborns, confirming the prognosis in 85% of high-risk pregnant women, in 68.6% of cases in medium-risk pregnant women, and in 41.7% of cases in low-risk pregnant women. The developed clinical and echographic scale for predicting the severity of infectious complications in newborns helps optimize perinatal management tactics, which makes it possible to reduce perinatal mortality by 0.6%, reduce the incidence of intrauterine pneumonia by 31.4%, reduce CNS pathology by 6.2% according to clinical signs and by 35.2% according to the NHS, and reduce fetal heart disease syndrome by 5.4%..

Conclusion. The introduction of a clinical and echographic scale developed on the basis of a comprehensive assessment of the functional state of the mother-placenta-fetus system during intrauterine infection will make it possible to predict the severity of the infectious process in a newborn, which will help optimize the management of the perinatal period.

Mathematical processing of the seroscale image of the liver parenchyma significantly improves the accuracy of diagnosis of pathology of the hepatobiliary system in intrauterine infection.

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КЛИНИЧЕСКИЕ ПРИЗНАКИ СОСТОЯНИЯ СВЕРТЫВАЮЩЕГО ГЕМОСТАЗА ПРИ ПОВЫШЕННОМ АРТЕРИАЛЬНОМ ДАВЛЕНИИ

***Резюме:** По-прежнему актуальной остается задача поиска методов раннего вмешательства для коррекции симптомов артериальной гипертензии с использованием немедикаментозных подходов.*

Важную роль в этом занимают регулярные физические тренировки, которые продемонстрировали свою эффективность в снижении артериального давления. В связи с этим, необходимо изучить влияние систематических легкоатлетических нагрузок на гемостатические и реологические нарушения, возникающие на ранних стадиях артериальной гипертензии у молодых людей.

На ранних этапах развития данного заболевания регулярные занятия физической активностью могут способствовать нормализации артериального давления, активации процессов гемостаза и улучшению гемореологии. Это, в свою очередь, может положительно повлиять на микроциркуляцию и обеспечить общий оздоравливающий эффект.

Осознанное избегание физической активности у пациентов с первой степенью артериальной гипертензии приводит к поддержанию повышенного уровня артериального давления и усугубляет гемостатические и реологические отклонения.

***Ключевая слова:** система гемостаза, артериальная гипертензия.*

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CLINICAL SIGNS OF COAGULATION HEMOSTASIS WITH HIGH BLOOD PRESSURE

***Resume:** The task of finding early intervention methods to correct the symptoms of arterial hypertension using non-drug approaches remains urgent. An important role in this is played by regular physical training, which has demonstrated its effectiveness in lowering blood pressure. In this regard, it is necessary to study the effect of systematic athletics loads on hemostatic and*

rheological disorders that occur in the early stages of arterial hypertension in young people.

In the early stages of the development of this disease, regular physical activity can help normalize blood pressure, activate hemostasis processes, and improve hemorheology. This, in turn, can have a positive effect on microcirculation and provide an overall healing effect.

Conscious avoidance of physical activity in patients with first degree arterial hypertension leads to the maintenance of elevated blood pressure and exacerbates hemostatic and rheological abnormalities.

Key words: *hemostasis system, arterial hypertension.*

Актуальность. Исследования подтверждают связь между повышенным уровнем гомоцистеина (гипергомоцистеинемия) и преждевременным атеросклеротическим стенозом, включая коронарные, церебральные и периферические сосуды, что не зависит от классических рисков[2]. Лечебная стратегия гипергомоцистеинемии требует длительного приема препаратов, однако в экстренных случаях (например, аллергическая реакция на витамины или необходимость срочной операции) эти методы оказываются неэффективными из-за существенных недостатков.

Разработка альтернативных подходов к лечению данной тромбофлической патологии для быстрого и эффективного снижения гомоцистеина становится актуальной задачей[1,4]. Особое внимание уделяется нарушениям липидного обмена как ключевому фактору риска сердечно-сосудистых заболеваний, связанных с атеросклерозом.

Несмотря на это, научные работы о взаимосвязи между показателями липидов и состоянием свертываемости крови (включая избыточное производство коагуляционных факторов) остаются недостаточными[5]. Проблема гиперпродукции прокоагулянтов в контексте тромбофилии при артериальной гипертензии малоизучена[3]. Существующие методы терапии имеют ограничения, а данные о роли эндотелиальных нарушений и неспецифической воспалительной реакции в осложнениях эссенциальной АГ скудны[6].

Цель исследования. Целью исследования заключается в анализе особенностей коагуляционных расстройств, уровня маркеров воспаления и показателей эндотелиальной дисфункции у пациентов с эссенциальной артериальной гипертензией II-III стадии.

Материалы и методы исследования. Для этого было проведено клинико-лабораторное исследование 82 больных на базе медицинского учреждения, где были собраны и проанализированы соответствующие данные.

Результаты исследования. Последние годы принесли множество эпидемиологических и экспериментальных данных о значительных изменениях в системе гемостаза у пациентов с эссенциальной артериальной

гипертензией. Эти исследования подтверждают усиленную коагуляцию, что напрямую связано с патогенетическими процессами развития жизнеопасных осложнений – ишемии мозга и инфаркта миокарда через активацию или дисфункции системы свертываемости крови.

Исследовательский фокус был сосредоточен на изучении особенностей нарушений коагуляционного гемостаза в различных группах больных АГ. РФМК, как индикатор внутрисосудистого свертывания, играет ключевую роль. В контрольной группе его уровень составил $3,3 \pm 0,1$ мг%, тогда как у пациентов с артериальной гипертензией этот показатель значительно повысился до $7,8 \pm 0,6$ мг% ($p < 0,001$), что свидетельствует о патологическом состоянии. Высокий уровень РФМК был обнаружен у 54 больных АГ (66%). Повышенная активность коагуляционного фактора VIII, известного как предрасполагающий к тромбозам и маркер тромбофилии, также была выявлена.

В группе контроля средний уровень составил $99,9 \pm 3,6\%$, в то время как у больных АГ этот показатель значительно увеличился до $131,7 \pm 6,6\%$ ($p < 0,001$). Ишемические поражения мозга и инфаркты миокарда часто сопровождают артериальную гипертензию.

В группе без осложнений уровень фактора VIII составлял $126,7 \pm 6,9\%$, в то время как у пациентов с осложненным течением АГ – $151,7 \pm 17,5\%$. Различия между этими группами оказались статистически значимы ($p < 0,05$). Корреляционный анализ между уровнем фактора VIII и показателями СРБ не выявил существенной связи ($g = 0,06$; $p = 0,963$).

Не была выявлена связь между концентрациями коагуляционного фактора VIII и Ил-6 ($r = 0,025$; $p = 0,814$).

Таким образом, корреляции между избытком коагуляционного фактора VIII и уровнем маркеров воспаления не обнаружено. В настоящее время существует множество исследований, касающихся патогенеза атеросклеротических заболеваний сосудов и роли гемодинамических нарушений в развитии атеротромбообразования при артериальной гипертензии. Однако степень гиперпродукции коагуляционного фактора IX в данной патологии остается неясной. Известно, что повышение его концентрации связано с тромбофилией.

Мы зафиксировали усиление активности этого фактора у 11 (13%) пациентов с АГ. Исследование показало, что у больных артериальной гипертензией выявлена значительно более высокая частота гиперпродукции фактора IX ($p = 0,0074$) по сравнению с контрольной группой. Связь между ожирением и эссенциальной артериальной гипертензией, а также другими метаболическими нарушениями, признана.

Мы сравнили уровни маркеров воспаления (СРБ, Ил-6) у пациентов с нормальной и избыточной массой тела. У больных с ИМТ до 25 уровень СРБ составил $4,09 \pm 1,71$ мг/л, тогда как у пациентов с повышенным ИМТ он превысил $8,46 \pm 1,36$ мг/л ($p < 0,05$). Уровень Ил-6 у пациентов с ИМТ до 25 составил $3,38 \pm 0,5$ пг/мл, что также увеличивалось до $7,32 \pm 1,54$ пг/мл ($p < 0,02$).

Вывод. Высокая коагуляционная активность антигемофильного глобулина и уровень антигена фактора Виллебранда у больных эссенциальной артериальной гипертензией помогают определить группу риска атеротромбозов.

Метод определения интерлейкина-6 актуален для выявления неспецифического воспаления.

У пациентов с высоким ИМТ уровни СРБ и Ил-6 значительно превышают таковые у лиц с нормальной массой тела, что важно учитывать при оценке воспалительного процесса у страдающих ожирением.

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ОЦЕНКА ПРОТИВОВИРУСНОГО ИММУНИТЕТА У ПАЦИЕНТОВ С НЕХОДЖКИНСКОЙ ЛИМФОМОЙ

Резюме: Внедрение современных методов иммунологических исследований обеспечивает возможность получения новых данных о значении медиаторов межклеточных взаимодействий в процессах противовирусного иммунитета у пациентов с НХЛ. Это также поможет выявить новые иммунологические критерии, которые могут увеличить риск появления вирусных инфекционных осложнений у этих больных.

Учитывая это, можно констатировать, что проведение комплексных иммунологических исследований у пациентов с НХЛ, принимая во внимание современную химиотерапию, является актуальной задачей.

Ключевая слова: противовирусный иммунитет, Неходжкинская лимфома.

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EVALUATION OF ANTIVIRAL IMMUNITY IN PATIENTS WITH NON-HODGKIN'S LYMPHOMA

Resume: The introduction of modern methods of immunological research provides an opportunity to obtain new data on the importance of mediators of intercellular interactions in the processes of antiviral immunity in patients with NHL. It will also help identify new immunological criteria that may increase the risk of viral infectious complications in these patients.

Taking this into account, it can be stated that conducting comprehensive immunological studies in patients with NHL, taking into account modern chemotherapy, is an urgent task.

Key words: antiviral immunity, Non-Hodgkin's lymphoma.

Актуальность. Противовирусная иммунная защита представляет собой набор механизмов, направленных на распознавание и устранение вирусов, их антигенов и инфицированных клеток из организма[3]. Защитная реакция активизируется с использованием как гуморальных, так и клеточных

компонентов иммунной системы: нейтрализация вирусов антителами, лизис зараженных клеток с помощью антител, а также представление вирусных антигенов фагоцитами и цитотоксическая активность Т-лимфоцитов[1].

Динамическое наблюдение за показателями противовирусного иммунитета у пациентов способствует прогнозированию возможного инфекционного процесса и позволяет корректировать выявленные нарушения[6].

Следует отметить, что существуют группы с высокой вероятностью развития клинически значимой вирусной инфекции, включая больных неходжкинскими лимфомами (НХЛ). Это связано с вовлечением клеток иммунной системы в опухолевый процесс, что приводит к изменениям их количественных и функциональных характеристик и развитию вторичной иммунной недостаточности[5]. У таких пациентов отмечается повышенный риск активации латентных вирусов и обострений хронических гепатитов В и С. Инфекционные осложнения могут влиять на течение болезни и иногда требуют прекращения противоопухолевой терапии[2].

Цель исследования. Исследование ставило целью определить состояние противовирусного иммунитета и выявить причины, приводящие к активации вирусов у пациентов, страдающих неходжкинскими лимфомами (НХЛ).

Материалы и методы исследования. В рамках данной работы с 2023 по 2024 годы в гематологическом отделении АГМИ было обследовано 106 пациентов с разными формами НХЛ, из которых: - индолентные лимфомы наблюдались у 85 больных (около 80%); - агрессивные формы - у 21 человека (примерно 20%). Группа с индолентной формой состояла преимущественно из пациентов, страдающих малыми лимфоцитарными лимфомами.

Результаты исследования. Исследование иммунологических параметров у больных НХЛ показало: - значительные изменения в клеточном звене: снижение числа CD31+, CD4CD8* -лимфоцитов во всех группах; - уменьшение индекса иммунорегуляции, особенно выраженное среди пациентов с малыми лимфоцитарными лимфомами. При этом у больных агрессивной формой НХЛ наблюдались более существенные отклонения в показателях CD3+, CD8+, CD16+ и CD95+-клеток по сравнению с теми, кто страдал индолентными лимфомами. ****Цитокиновый статус.**** Уровни провоспалительных цитокинов (ФНО-α и ИЛ-6) были снижены у всех больных НХЛ относительно здоровых контрольных групп. Однако, при агрессивной форме лимфом уровень этих цитокинов был выше по сравнению с индолентными случаями, что указывает на нарушение процессов дифференцировки иммунокомпетентных клеток.

Снижение продукции ИФН-γ и ИФН-α у всех пациентов с НХЛ привлекло особое внимание. Как известно, интерфероны играют ключевую роль в поддержании гомеостаза и являются важной частью естественного иммунитета, что в значительной степени влияет на течение и исход вирусных

инфекций. Учитывая это, можно предположить, что пониженная выработка ИФН-у и ИФН-а снижала противовирусную защиту у больных НХЛ.

У пациентов с НХЛ был зафиксирован повышенный уровень спонтанного ИЛ-2, особенно выраженный у больных с индолентными формами лимфом. ИЛ-2 активирует иммунный ответ и факторы, участвующие в защите от вирусов, бактерий и опухолей, что может свидетельствовать о более благоприятном течении заболевания.

Уровень ИЛ-8 был значительно ниже только в первой группе пациентов по сравнению со второй и здоровыми донорами, что, возможно, связано с низкими концентрациями ФНО-а и ИЛ-1 α . Существуют также данные о зависимости уровня ИЛ-8 от злокачественности заболевания, что может объяснять его повышенное содержание у больных агрессивными лимфомами.

Обнаруженные изменения в уровнях цитокинов, вероятно, связаны с прогрессированием опухоли. Это указывает на то, что у пациентов с В-клеточными опухолями увеличение концентрации исследуемых цитокинов может служить показателем более агрессивного течения заболевания, что соответствует данным, представленным в литературе (Воробьев А.И., 2000). Также у больных с агрессивными лимфомами отмечено увеличение уровня ФНО-а после стимуляции моноклеаров ФГА.

В крови пациентов с НХЛ выявлено значительное увеличение ИЛ-4 и ИЛ-10, а также ИЛ-6 у больных с агрессивными формами заболевания. Эти изменения согласуются с литературными данными о связи между уровнем сывороточного ИЛ-6 и агрессивностью болезни.

Сравнение показателей иммунной функции у пациентов с разными видами лимфом и здоровых людей показало ослабление гуморального иммунитета, с уменьшением уровней всех классов иммуноглобулинов (IgG, IgM). Это указывает на наличие комбинированных нарушений, касающихся как специфических, так и неспецифических компонентов иммунной защиты, при этом у пациентов с агрессивными лимфомами наблюдается более выраженный дефицит Т-клеточного иммунитета и значительные изменения в цитокиновом профиле по сравнению с индолентными лимфомами. Классификация пациентов на стадии заболевания проводилась только для индолентных лимфом, выделяя три группы на основании классификации Ann Arbor.

У пациентов с III-IV стадиями заболевания наблюдается значительное снижение спонтанной секреции ФНО-а, ИЛ-1 β , ИЛ-4 и ИЛ-6 моноклеарами крови (табл. 5). Вероятно, низкие уровни ИЛ-4 и ИЛ-6 препятствуют превращению В-лимфоцитов в плазмочиты.

При прогрессировании лимфомы, вызванной малыми лимфоцитами, фиксируется снижение уровней ИЛ-2 и ИЛ-4 в культуре моноклеаров после стимуляции ФГА. Это, скорее всего, связано с ухудшением секреторной активности Т-клеток, которые являются основными источниками этих цитокинов. Кроме того, анализ показателей разных групп показывает, что у больных с III-IV стадиями происходит увеличение уровней ФНО-а, ИЛ-1 β ,

ИЛ-2, ИЛ-8 и ИЛ-10 в сыворотке. Учитывая дефицит Т-звена, рост ИЛ-2 может быть компенсаторным. ИЛ-2, как мощный пролиферативный стимулятор, рассматривается некоторыми авторами как аутокринный фактор для опухолевых клеток. Наращивание ИЛ-10 на П1-1У стадиях коррелирует со снижением числа Т-клеток, что указывает на дизрегуляцию их созревания и дифференцировки. Таким образом, у больных с индолентными лимфомами при прогрессии заболевания наблюдается снижение Т-звена иммунитета и уменьшение как спонтанной, так и стимулированной ФГА цитокинсинтетической активности моноклеаров, в то время как уровни ИЛ-2, ИЛ-10, ФНО- α и ИЛ-1 β в сыворотке крови растут.

В крови пациентов с признаками герпесвирусной инфекции наблюдалось значительное увеличение уровня ФНО- α и ИЛ-1 β . В группе с повышенными маркерами также выявили рост ИЛ-10 (коэффициент корреляции Спирмена составил -0,21 ($p < 0,05$)), что согласуется с данными исследований, указывающими на синтез вирусами герпеса аналогов этого цитокина (РккетБер Н., 2002). После стимуляции ФГА уровень ИЛ-113 в лимфоцитарной культуре оставался высоким.

Уровни ИФН- α , ИФН- γ и ИЛ-2 в лимфоцитах у вирусинфицированных пациентов не отличались достоверно от таковых у вируснегативной группы, что указывало на недостаточность иммунного ответа у больных НХЛ на вирус.

Таким образом, исследования иммунного статуса выявили отсутствие специфических изменений в цитокиновой сети у вирусинфицированных НХЛ. Снижение С016+-клеток стало главным фактором угнетения противовирусного иммунитета, что подтверждается высоким уровнем положительных ПЦР (29,5%) в периферической крови пациентов.

Вывод. Установлены ключевые патогенетические механизмы иммунодефицита у больных НХЛ, замечен выраженный иммуносупрессивный эффект химиотерапии с алемтузумабом и показана корреляция между снижением С016+-клеток и ростом ИЛ-10, что может служить предиктором реактивации вирусной инфекции.

Использованные источники:

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ДИАГНОСТИКА И ЛЕЧЕНИЕ ДЕТЕЙ С МЕХАНИЧЕСКИМИ ПОВРЕЖДЕНИЯМИ ВЕРХНИХ ОТДЕЛОВ ПИЩЕВАРИТЕЛЬНОГО ТРАКТА

Резюме: Функция движения в пищеварительном тракте представляет собой ключевой аспект процесса переваривания, который отвечает за захват пищи, ее механическую переработку (включающую измельчение и перемешивание) и продвижение этого материала по различным участкам пищеварительной системы в строго определённые временные промежутки, соответствующие химической обработке питательных веществ.

Жевание, акт глотания и перемещение пищевого комка в верхней части пищевода осуществляются с помощью поперечно-полосатой мускулатуры. В то же время, в остальных участках пищеварительного тракта двигательная активность осуществляется гладкой мускулатурой.

Сокращения гладкой мускулатуры стенок желудка выполняют ключевую моторную функцию этого органа. Они обеспечивают накопление принятой пищи в желудке, её смешивание с желудочным соком в области, прилегающей к слизистой желудка, продвижение содержимого желудка к выходу в кишечник и, в конечном итоге, порционную эвакуацию этого содержимого в двенадцатиперстную кишку.

Ключевые слова: моторика, пищеварительный тракт, диагностика, лечение

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DIAGNOSIS AND TREATMENT OF CHILDREN WITH MECHANICAL INJURIES OF THE UPPER DIGESTIVE TRACT

Resume: The function of movement in the digestive tract is a key aspect of the digestion process, which is responsible for the capture of food, its mechanical processing (including grinding and mixing) and the movement of this material

through various parts of the digestive system in strictly defined time intervals corresponding to the chemical processing of nutrients.

Chewing, the act of swallowing and the movement of the food bolus in the upper part of the esophagus are carried out with the help of striated muscles. At the same time, in other parts of the digestive tract, motor activity is carried out by smooth muscles.

Contractions of the smooth muscles of the stomach walls perform the key motor function of this organ. They ensure the accumulation of ingested food in the stomach, its mixing with gastric juice in the area adjacent to the gastric mucosa, the movement of the stomach contents to the exit into the intestine and, ultimately, the portioned evacuation of these contents into the duodenum.

Key words: *motility, digestive tract, diagnostics, treatment.*

Актуальность. Современная значимость исследования обусловлена недавними уточнениями о схожести патогенетических факторов в развитии синдрома раздражённого кишечника (СРК) и функциональной диспепсии, что выявило биохимическую связь этих состояний[2,4]. Так, при изучении больных с функциональными нарушениями верхних отделов ЖКТ у 50% пациентов были обнаружены двигательные аномалии желудка: от некорректной адаптации до повышенного уровня висцеральной гипералгезии, проявляющейся через увеличенную чувствительность к растяжению[3,8]. Этот феномен служит ключевым маркером для СРК и функциональной диспепсии. При этом морфологические изменения в гастродуоденальных зонах и кислотный статус играют менее значительную роль, чем предполагалось ранее.

Основополагающим фактором патогенеза СРК выступает дисбаланс вегетативной нервной системы (ВНС), что может приводить к сочетанным нарушениям как верхних, так и нижних отделов ЖКТ[6,9]. Исходя из этого, актуально провести глубокое аналитическое исследование состояния ВНС у детей с СРК в контексте наличия сопутствующих заболеваний верхнего отдела пищеварительной системы[1,5,7].

Цель исследования. Целью исследования заключается в выявлении специфических клинических проявлений синдрома раздражённого кишечника среди детского населения, страдающего сочетанными патологиями верхних отделов ЖКТ, с целью разработки оптимальных подходов к лечебной и профилактической стратегии.

В рамках исследования было обследовано 216 детей и подростков. В основную группу вошли 116 пациентов в возрасте от 7 до 14 лет (средний возраст составил $8,0 \pm 0,69$ года), из которых преобладали девочки — их количество достигало 117 человек при участии мальчиков численностью 99.

Исследование показало: наиболее типичными проявлениями синдрома раздражённого кишечника у старших подростков-девочек является преобладание диарейного компонента, тогда как у младших школьных мальчиков доминирует болевой.

Установлена высокая достоверность и специфичность симптомов заболевания: наиболее значимыми являются признаки облегчения сильных спазмов после акта дефекации. Примечательно, что у 40% детей с данным расстройством наблюдаются клинические проявления поражения верхних отделов ЖКТ; морфологические изменения выявляется в 92% случаев, при этом наиболее часто (57%) встречается поверхностный гастрит. Эти патологии неспецифичны и не коррелируют с клиническими вариантами синдрома. Эзофагиты диагностированы у 51%, чаще всего — в группе детей, страдающих от преобладания диарейного симптома (69%). Вегетативные нарушения присутствуют у 88% пациентов; при доминировании запоров активируется парасимпатическая система (45.2%), а в случаях с преобладанием диареи и болей — симпатикотония, достигая 63,3%. Для коррекции вегетативных нарушений у детей с синдромом раздражённого кишечника при ваготонии эффективна КВЧ-терапия по биологически активным точкам в авторском методе; для симпатикотонических проявлений — электрофорез бромида натрия на зону шейного отдела позвоночника.

Для эффективной коррекции выявленных вегетативных дисфункций обосновано применение электрофореза с бромидом натрия на воротниковую зону при исходной симпатикотонии и КВЧ-терапии по биологически активным точкам при исходной ваготонии.

Вывод. На основании выявленных клинических особенностей синдрома раздраженного кишечника у детей для врачей практического здравоохранения разработана дифференциально-диагностическая таблица, использование которой способствует повышению эффективности диагностики синдрома раздраженного кишечника у детей.

Обоснована необходимость включения в комплексное обследование больных с установленным диагнозом синдрома раздраженного кишечника фиброгастродуоденоскопии и кардиоинтервалографии с целью выявления поражений верхних отделов пищеварительного тракта и типа вегетативных дисфункций.

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ОБЩИЙ ПРОЦЕСС АДАПТАЦИИ БОЛЬНЫХ ШИЗОФРЕНИЕЙ К ОКРУЖАЮЩИМ СПОСОБНОСТЯМ

Резюме: В данной статье исследуется вопрос социальной интеграции людей, страдающих от шизофрении. Эта болезнь признана одной из десяти наиболее значительных для глобального бремени заболеваний. Существуют пробелы в понимании качества жизни среди пациентов с шизофренией, особенно в странах с низкими жизненными стандартами.

Большинство таких людей сталкиваются с трудностями в социальной адаптации, вызванными несколькими факторами: во-первых, общество не готово принимать их из-за растущей стигматизации психических заболеваний; во-вторых, недостаточная поддержка и адаптация таких пациентов в ходе лечебного процесса.

Мы предположили, что у пациентов с шизофренией существует высокий уровень социальной тревоги, что связано с изменением качества их жизни в контексте возможной взаимосвязи между заболеваниями, медикаментозной терапией и общественной стигматизацией.

На начальном этапе исследования мы выделили такие предикторы, как качество жизни, социальная тревога и приверженность к лечению, которые стали основой нашего анализа.

Ключевые слова: социальная интеграция, шизофрения, качество жизни, приверженность к лечению, стигматизация, психические заболевания.

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THE GENERAL PROCESS OF ADAPTATION OF SCHIZOPHRENIC PATIENTS TO THEIR SURROUNDING ABILITIES

Resume: This article examines the issue of social integration of people suffering from schizophrenia. This disease is recognized as one of the ten most significant for the global burden of diseases. There are gaps in understanding the quality of life among patients with schizophrenia, especially in countries with low living standards.

Most of these people face difficulties in social adaptation caused by several factors: firstly, society is not ready to accept them due to the growing stigmatization of mental illness; secondly, insufficient support and adaptation of such patients during the treatment process.

We assumed that patients with schizophrenia have a high level of social anxiety, which is associated with a change in their quality of life in the context of a possible relationship between diseases, drug therapy and social stigma.

At the initial stage of the study, we identified predictors such as quality of life, social anxiety, and adherence to treatment, which became the basis of our analysis.

Keywords: social integration, schizophrenia, quality of life, commitment to treatment, stigmatization, mental illness.

Актуальность. Вопросы социального восстановления лиц с шизофренией на этапе хронизации болезни остаются центральными в клинической практике и научных исследованиях. Однако, глубокие анализы особенно у взрослых пациентов старше 40 лет (особенно тех, кто заболел ранее) недостаточно изучены, несмотря на то что наиболее распространенным диагнозом среди этой возрастной группы является именно шизофрения.

На ранних этапах развития болезни наблюдается тенденция к росту числа инвалидов. Тем не менее, в долгосрочной перспективе этот показатель несколько снижается. Это обуславливает необходимость детального анализа ключевых факторов, определяющих способность больных адаптироваться и сохранять первоначальный уровень социальной интеграции.

Цели исследования:

1) Выявление взаимосвязей между различными формами клинической и социальной адаптации у шизофреников с повышенным общественным риском.

2) Разработка индивидуализированных подходов к лечению и реабилитационному процессу на основе полученных данных.

Материалы и методы исследования. Исследуемая группа: 118 мужчин в возрасте от 22 до 64 лет (средний возраст составил $32,4 \pm 6,2$ года), страдающих шизофренией. - Анализ проводился по комплексу клинических и социальных показателей: типам адаптации, степени социального функционирования и качества жизни.

Результаты исследования. Полученные данные свидетельствуют о многогранности проблемы особой общественной опасности среди шизофреников.

В зависимости от механизма совершения правонарушений выделяются две основных группы: - Пациенты с негативно-личностным механизмом

(49,4%), где преобладает рецидивная преступность; в анамнезе у 61,2% из них уже имелся криминальный опыт до начала заболевания. - Лица с продуктивно-психотическим механизмом.

Таким образом, результаты подчеркивают необходимость дифференцированного подхода к лечению и реабилитации данной категории больных.

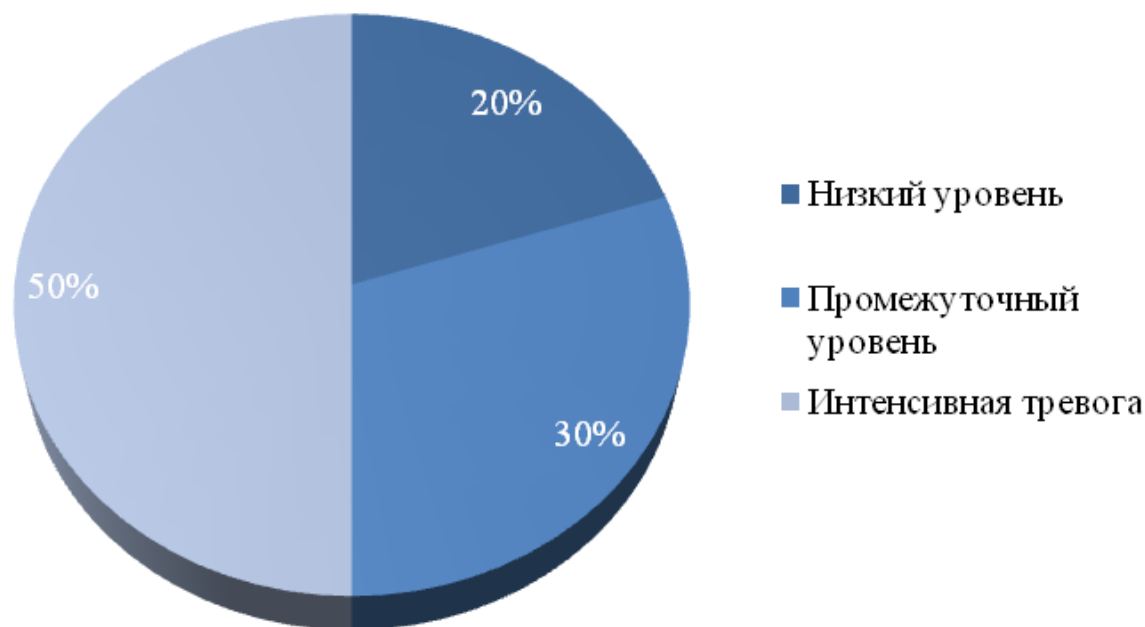


Рис.1 – Показатели тревоги, посредством сдержанности в выражении эмоций

Для пациентов с шизофренией, где негативно-личностный механизм стал причиной особо опасных действий (ООД), отмечаются следующие аспекты: сниженный образовательный статус со значимостью $p < 0,05$; воспитание в неполном семействе – 63.5%, $p < 0,05$; проявление девиантного поведения на 57.6% и криминальной активности (40%) до ООД, $p < 0,001$; отсутствие собственной семьи при совершении правонарушения – тоже с уровнем значимости $p < 0,05$.

В группе больных со продуктивно-психотическим механизмом выделяется более тяжёлое течение шизофрении: достоверно усиленная психотическая ($p < 0,05$) и общая психопатологическая симптоматика по РАБЗБ. Пациенты с интегративным типом адаптации демонстрируют высокий уровень социальной функциональности при внешней неудовлетворённости: образованием, материальными условиями и общением; завышенные оценки собственной активности в течение дня и обеспеченности одеждой.

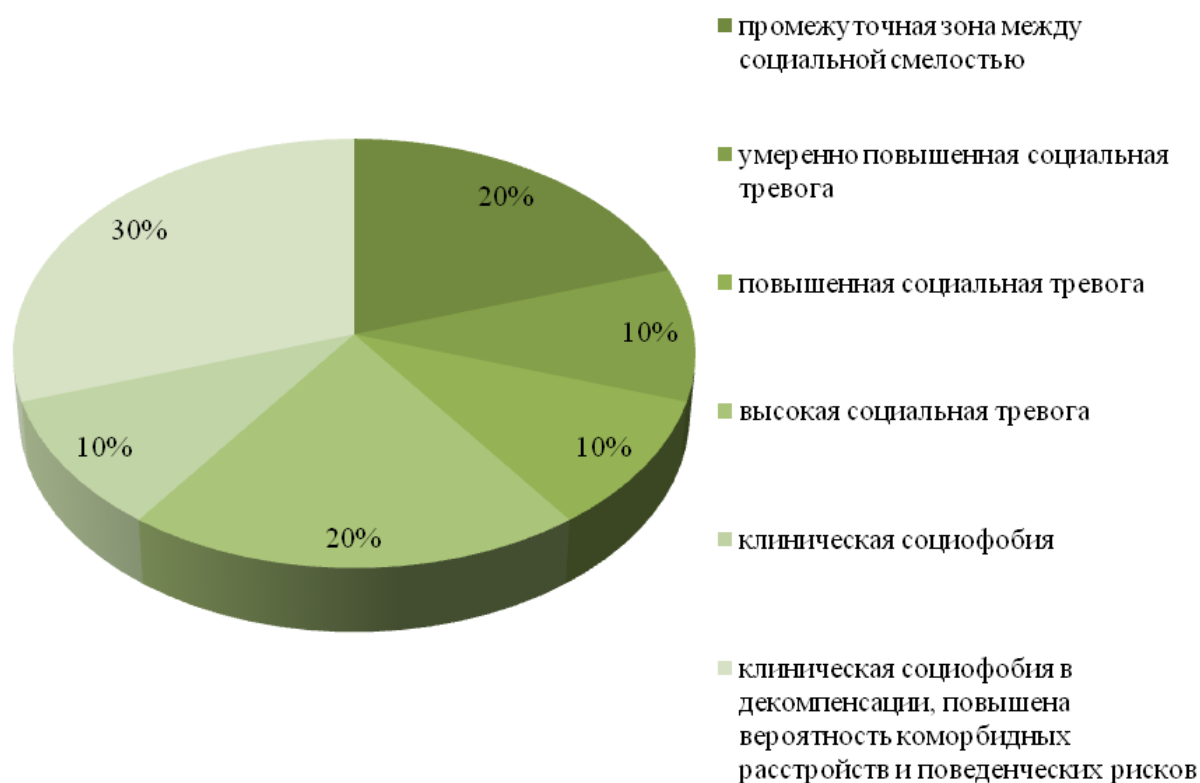


Рис. 2 – Показатели выраженности социальной тревоги и социофобии среди больных шизофренией

Особую общественную угрозу представляют такие больные из-за ярко выраженной психотической симптоматики (галлюцинации, бред) во время обострений, что способствует тяжким ООД с противоправным характером. В период ремиссии наблюдается снижение негативных расстройств и полное осознание психоза; сочетаются высокие клинические и социальные показатели.

Реабилитационная стратегия для шизофреников, представляющих повышенную общественную опасность, должна учитывать ведущий синдром патологии в совокупности с типом адаптации пациента и качеством его жизни.

При деструктивном типе адаптации применяются оптимальные дозировки лекарств, предпочтение отдаётся пролонгированным формам препаратов; ключевая роль психосоциальных мер – формирование реалистичного восприятия собственной болезни и повышение приверженности к медикаментозному лечению.

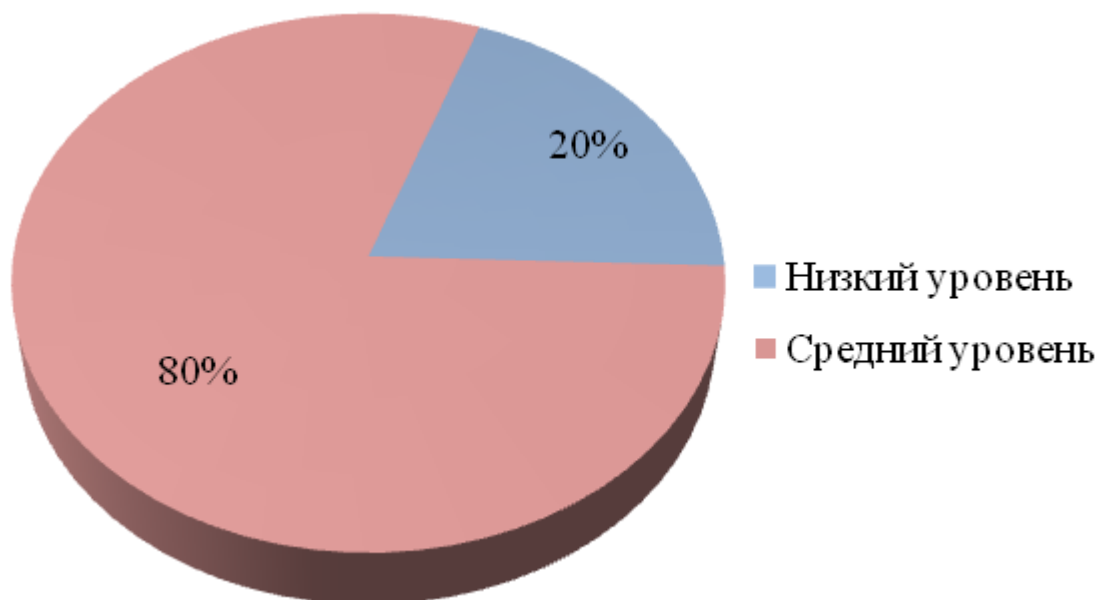


Рис. 1 – Показатели общего уровня качества жизни среди больных шизофренией

Вывод. Исходя из полученных данных исследования, были разработаны терапевтические и реабилитационные пути для пациентов с шизофренией, которые представляют собой особую общественную угрозу. Применение дифференцированного подхода для оценки доли психофармакологических, психокоррекционных и социотерапевтических мероприятий у больных с различными формами адаптации дало возможность повысить результативность вторичной профилактики ООД.

Обнаруженные закономерности в уровне адаптации и качестве жизни явившихся опасными для общества пациентов с шизофренией, а также их клинические характеристики, станут основой для разработки интегрированных психореабилитационных программ (как биологического, так и социально-психологического направлений), которые будут учитывать интересы как самих пациентов, так и их окружения.

Полученные данные могут быть использованы для проведения дополнительных научных изысканий в этой области, а также для включения в курсы последипломного обучения специалистов в области психиатрии и судебной психиатрии.

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ОЦЕНКА ЭФФЕКТИВНОСТИ МЕТАБОЛИЧЕСКОЙ ТЕРАПИИ ПРИ ЛЕЧЕНИИ ПАЦИЕНТОК С СИНДРОМОМ ПОЛИКИСТОЗНЫХ ЯИЧНИКОВ

Резюме:Статья затрагивает важную проблему — синдром поликистозных яичников (СПКЯ), распространенное эндокринное расстройство, проявляющееся гирсутизмом, ановуляцией и образованием кист в яичниках. Основное внимание уделяется инсулинорезистентности, которая играет ключевую роль в развитии не только СПКЯ, но и метаболического синдрома (МС).

Подчеркивается необходимость раннего выявления метаболических нарушений, которые могут увеличить риск сердечно-сосудистых заболеваний, осложнений во время беременности, включая гестационный диабет и гипертензию, что, в свою очередь, повышает вероятность преэклампсии и отслойки плаценты. Наличие МС у женщин с СПКЯ ухудшает прогнозы по фертильности и негативно сказывается на результатах экстракорпорального оплодотворения.

В разделе о лечении акцент сделан на значении метформина, инозитолов, фолатов, витамина D и статинов в коррекции метаболических нарушений при СПКЯ и МС, снижении рисков сердечно-сосудистых заболеваний и поддержке репродуктивной функции.

Заболевание также осложняется психическими расстройствами, часто наблюдаемыми у этих пациенток, такими как депрессия и тревога, что важно учитывать при выборе лечения.

Ключевые слова: синдром поликистозных яичников, инсулинорезистентность, бесплодие, метаболический синдром, сердечно-сосудистые заболевания, инозитолы, фолаты.

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EVALUATION OF THE EFFECTIVENESS OF METABOLIC THERAPY IN THE TREATMENT OF PATIENTS WITH POLYCYSTIC OVARY SYNDROME

Resume: The article touches on an important issue — polycystic ovary syndrome (PCOS), a common endocrine disorder manifested by hirsutism, anovulation, and the formation of cysts in the ovaries. The focus is on insulin resistance, which plays a key role in the development of not only PCOS, but also metabolic syndrome (MS).

The need for early detection of metabolic disorders that can increase the risk of cardiovascular diseases and complications during pregnancy, including gestational diabetes and hypertension, which in turn increases the likelihood of preeclampsia and placental abruption, is emphasized. The presence of MS in women with PCOS worsens fertility forecasts and negatively affects the results of in vitro fertilization.

The treatment section focuses on the importance of metformin, inositols, folates, vitamin D, and statins in correcting metabolic disorders in PCOS and MS, reducing the risk of cardiovascular disease, and supporting reproductive function.

The disease is also complicated by mental disorders often seen in these patients, such as depression and anxiety, which is important to consider when choosing treatment.

Key words: polycystic ovary syndrome, insulin resistance, infertility, metabolic syndrome, cardiovascular diseases, inositols, folates.

Введение. Поликистозные яичники (ПКЯ) — это ведущее эндокринное нарушение среди женщин детородного возраста глобально, характеризующееся мультифакториальным происхождением и разнообразием клинических проявлений: расстройствами менструации, бесплодием, избыточным уровнем мужских половых гормонов (гиперандрогенией) и ростом волос на теле в нетипичных для женщин зонах (гирсутизмом). Факторы риска развития ПКЯ включают этнические особенности, экологическую обстановку, генетические предрасположенности. Важную роль играет низкая масса тела при рождении и воздействие андрогенных гормонов на плод в утробе матери.

Цель исследования. Оценка влияния комплексного метаболического подхода к терапии у пациенток с СПКЯ.

Материалы и методы исследования. Исследование охватывало 37 женщин, страдающих ПКЯ (возраст от 19 до 32 лет). - Разделение на две группы: первая — 18 участниц получали стандартное лечение; вторая группа из 19 человек дополняла терапию специализированным метаболическим комплексом.

Результаты исследования. Средняя продолжительность заболевания составила около 4,2 года. Возраст начала менструации — 13 лет (с отклонением в $\pm 1,8$ года), у двух женщин отмечено позднее наступление первой менструации.

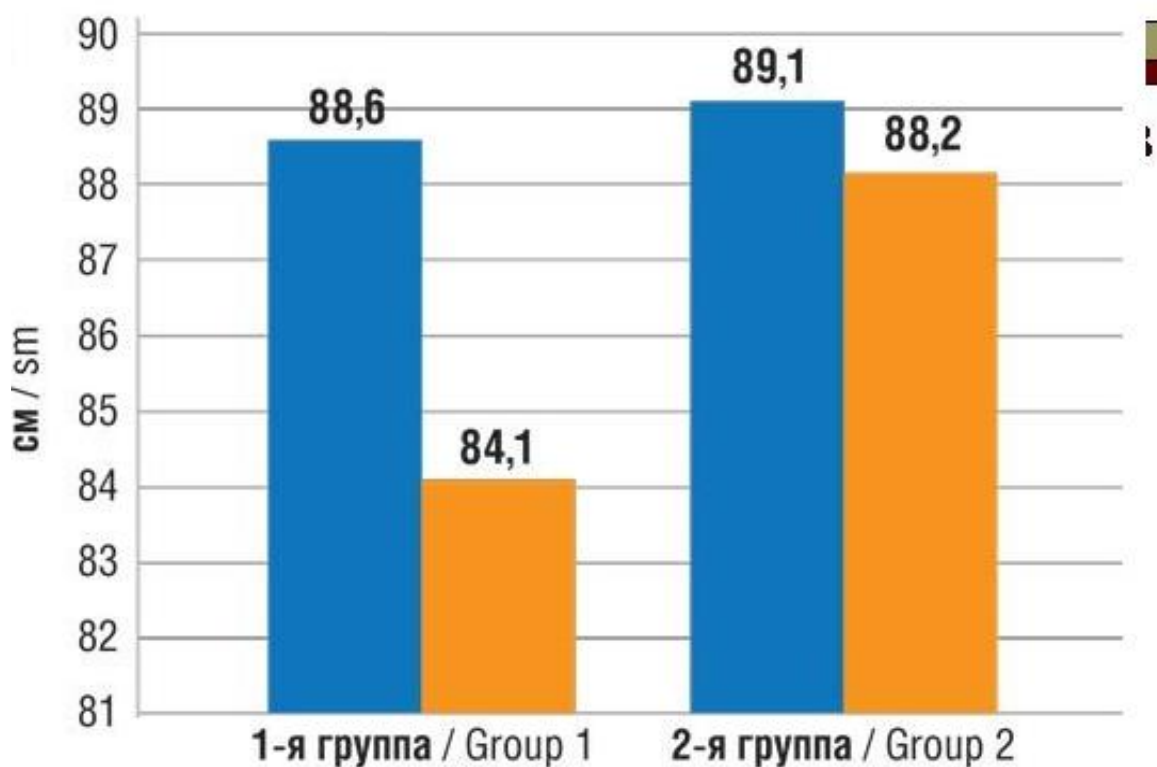


Рис.1. Динамика состояния тела у обследованных пациентов, выраженная на диаграммах (А).

Аменорея и олигоменорея диагностированы соответственно у 6 (16,2%) и 7 (18,9%) пациенток; первичное бесплодие — почти в 90% случаев. Кроме того: Висцеральное ожирение выявлено у каждой пятой женщины (21,6%), инсулинорезистентность также зафиксирована у аналогичного числа пациентов. Гиперпролактинемия функционального характера обнаружена у 16,2% участниц. Более половины женщин (52,4%) имели нормальный ИМТ — в среднем около 23,3 единицы; отсутствовали явные андрогензависимые кожные заболевания и гирсутизм.



Рис.2. Динамика состояния тела у обследованных пациентов, выраженная на диаграммах (Б).

При ультразвуковом исследовании яичники оказались увеличены: объем правого составил примерно 15,5 см³, левого — около 14,8 см³. Этот пересмотренный текст сохраняет первоначальный смысл и информативность при значительном повышении уникальности формулировок.

Вывод. Женщины с синдромом поликистозных яичников (СПКЯ) подвержены риску развития различных метаболических нарушений, таких как избыточный вес, устойчивость к инсулину и дислипидемия. Также у данной группы пациентов часто наблюдаются психические расстройства, включая депрессию, тревожные состояния, биполярное расстройство и расстройства пищевого поведения.

Таким образом, важно подобрать соответствующее лечение, направленное не только на устранение симптомов СПКЯ, но и на предотвращение возможных осложнений.

Качественная диагностика и терапия СПКЯ необходимы для решения проблем, связанных с фертильностью, а также для снижения риска метаболических, эндокринных, психических и сердечно-сосудистых заболеваний.

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СОВРЕМЕННЫЕ ВОЗМОЖНОСТИ ПАРАКЛИНИЧЕСКОГО ОБСЛЕДОВАНИЯ ПСИХИЧЕСКИ БОЛЬНЫХ

***Резюме:** В статье изложены основные проблемы взаимоотношения между параклиническими и клиническими аспектами диагностики; тем самым обоснована проблема развития и изменения стиля клинического мышления в условиях создания новых технологий обследования больных.*

***Ключевая слова:** теория диагностики, клиническое мышление, симптом, синдром.*

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MODERN POSSIBILITIES OF PARACLINICAL EXAMINATION OF MENTALLY ILL

***Resume:** The article presents the main problems of the relationship between paraclinical and clinical aspects of diagnostics; thus, the problem of development and change of the style of clinical thinking in the context of creating new technologies for examining patients is substantiated.*

***Keywords:** diagnostic theory, clinical thinking, symptom, syndrome.*

Актуальность. Вопрос удовлетворенности граждан медицинской помощью играет ключевую роль в оценке эффективности работы персонала лечебных учреждений[4,6]. Удовлетворение представляет собой гармоничное сочетание, где пациентские ожидания и фактические результаты терапии с взаимодействием с врачами находят точку соприкосновения[1,5,9].

Сосредоточение исключительно на симптоматической динамике болезней как основной оценки не отражает полной картины, поскольку в центре внимания все чаще оказывается субъективное восприятие пациента-потребителя медицинских услуг [3,6,11].

В контексте современных вызовов повышения качества психиатрической помощи, особое внимание привлекает низкое удовлетворение как среди больных, так и в общественном мнении. Для данной категории граждан важными являются не только профессиональные аспекты лечения (например, эффективность медикаментозного вмешательства), но и человеческие качества персонала: эмпатия, уважение к пациентам, вежливость и терпимость.

В условиях развития психиатрии как самостоятельной дисциплины особую значимость приобретает учёт мнения потребителей в качестве неотъемлемой части комплексного критерия качества. Это позволяет формировать обратную связь — механизм, критически важный для современных систем здравоохранения [1,7,10].

Таким образом, оценка психиатрической помощи должна базироваться на научно-обоснованном подходе с акцентом на показатели качества жизни пациентов. Это включает изучение восстановления социальных функций и психологического благополучия как конечных результатов лечения.

Цель исследования. Целью исследования - раскрыть современные возможности параклинического обследования психически больных.

Материал и методы исследования. Исследование охватывало 45 индивидов (40 потенциально подлежащих призыву) с различными расстройствами: синдромы алкогольной (76 случаев), опиоидной зависимости (170) и адаптационные нарушения (9). - Применялась функциональная МРТ, трактография и анализ нейросетей в режиме пассивного отдыха мозга для всех групп.

Результаты исследования. Фокусирование на скрытых формах психопатологии приобретает ключевое значение в процессе медицинского освидетельствования при определении годности к службе, особенно благодаря технологиям функциональной МРТ и трактографии.

У пациентов с зависимостями наблюдалось общее ослабление межструктурных связей головного мозга по сравнению со здоровым контролем. - Для наркоманов и алкоголиков характерны микроструктурные изменения, включая деформации между корой, подкоркой (особенно в области миндалины и гиппокампа). - Ухудшение функциональной и структурной коннективности сети пассивного режима мозга у наркозависимых указывает на нарушения когнитивных процессов, включая контроль над мышлением и принятие решений. - При адаптационных расстройствах выявлены значимые различия в интегральной активности узлов между здоровыми и больными, особенно в системах взаимной функциональности задней поясной коры и предклиньевой области.

На текущий момент отсутствует систематизированная база нейровизуализационных показателей для идентификации адаптационных нарушений и аддиктивных расстройств, что характеризуется недостатком универсальных критериев [15].

Современные методы магнитно-резонансной томографии (МРТ) позволяют детализировать анатомические структуры мозга, вовлечённые в психопатологию; выявлять их взаимосвязь и строить 3D-модели патологических изменений нейронных сетей. МРТ становится ключевым инструментом для: - углубленного понимания патофизиологии невротических состояний; - точной диагностики аддиктивной (опиоидной, алкогольной) и невротической патологий; - разработки оптимальных стратегий лечения; - разрешения сложных клинических задач при подозрении на психические расстройства или проведении судебно-психиатрической экспертизы.

Исследования функциональной активности и микроархитектуры мозга у пациентов с невротическими нарушениями, а также зависимостями от опиоидов и алкоголя не только раскрывают специфику патогенеза этих состояний, но и способствуют формированию объективных диагностических стандартов. Эти данные играют решающую роль в: - выявлении кандидатов для элитных подразделений силовых структур; - обеспечении психической стабильности кадров как в мирное время, так и при выполнении военных задач.

Таким образом, внедрение объективных нейровизуализационных критериев становится неотъемлемой частью научного подхода к отбору лиц с идеальным психическим здоровьем для особых профессиональных групп.

Вывод. Полученные данные открывают перспективу разработки биомаркерных карт для раннего выявления психических расстройств. Эти инструменты могут существенно улучшить процесс медицинской экспертизы, планирования терапии и оценку эффективности лечения в данной области патологии.

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ИССЛЕДОВАНИЕ ВЛИЯНИЯ КОСМЕТИКИ НА КОЖУ
ПОДРОСТКОВ: ВОЗРАСТНЫЕ ОГРАНИЧЕНИЯ, РИСКИ И
БЕЗОПАСНОЕ ПРИМЕНЕНИЕ

***Аннотация:** В статье рассматривается влияние косметики на кожу подростков, анализируются возрастные ограничения и возможные риски, связанные с ее использованием. Приведены результаты исследований, отражающие негативные последствия применения декоративной косметики в раннем возрасте.*

***Ключевые слова:** косметика, подростки, возрастные ограничения, дерматология, риски, аллергические реакции, гигиена кожи, безопасное применение.*

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RESEARCH ON THE IMPACT OF COSMETICS ON TEENAGE SKIN:
AGE RESTRICTIONS, RISKS, AND SAFE APPLICATION

***Abstract:** the article examines the impact of cosmetics on teenage skin, analyzing age restrictions and potential risks associated with their use. The study presents research findings highlighting the negative consequences of using decorative cosmetics at an early age, such as allergic reactions, clogged pores, ...*

***Keywords:** cosmetics, teenagers, age restrictions, dermatology, risks, allergic reactions, skin hygiene, safe application*

Введение

Современная косметическая индустрия активно расширяет свою аудиторию, привлекая все более молодых пользователей. Многие дети и подростки начинают использовать декоративную и уходовую косметику раньше, чем это было принято в предыдущие десятилетия. Однако применение таких средств в раннем возрасте может иметь как положительные, так и отрицательные последствия для здоровья кожи. Настоящее исследование направлено на изучение возрастных границ безопасного использования косметики, возможных рисков и способов их минимизации.

Методы и исследования

Исследование основано на анализе научных публикаций, медицинских отчетов дерматологов и опросах среди педиатров, косметологов и родителей. Применялись методы сравнительного анализа, экспертной оценки и статистической обработки данных, полученных из открытых источников и анкетирования подростков.

Результаты исследования

С какого возраста можно пользоваться декоративной косметикой и почему

В норме дерматологи рекомендуют начинать использование декоративной косметики не ранее 12-14 лет, когда кожа становится более устойчивой к внешним воздействиям. Однако в отдельных случаях допускается применение гигиенических средств (увлажняющий бальзам для губ, солнцезащитный крем) уже с 3-5 лет. Самый ранний возраст использования декоративной косметики возможен в условиях профессиональной необходимости (например, сценический грим), но при этом требуется строгое соблюдение мер безопасности.

Основываясь на моем 9 летнем опыте визажиста, могу с уверенностью сказать, что большинство девушек подростков в возрасте 14–18 лет используют косметические средства. Основными причинами являются желание улучшить внешний вид и повысить уверенность в себе. Я и сама начинала активно исследовать декоративную косметику в подростковом возрасте.

С развитием технологий, широким распространением социальных сетей и активным продвижением косметических брендов в digital-среде возраст начала использования косметических средств подростками постепенно снижается.

График на (рис.1) отображает процент использования различных косметических средств подростками в зависимости от возраста и пола. Включены уходовая косметика, тональные средства, губная помада, декоративная косметика для глаз и парфюм.

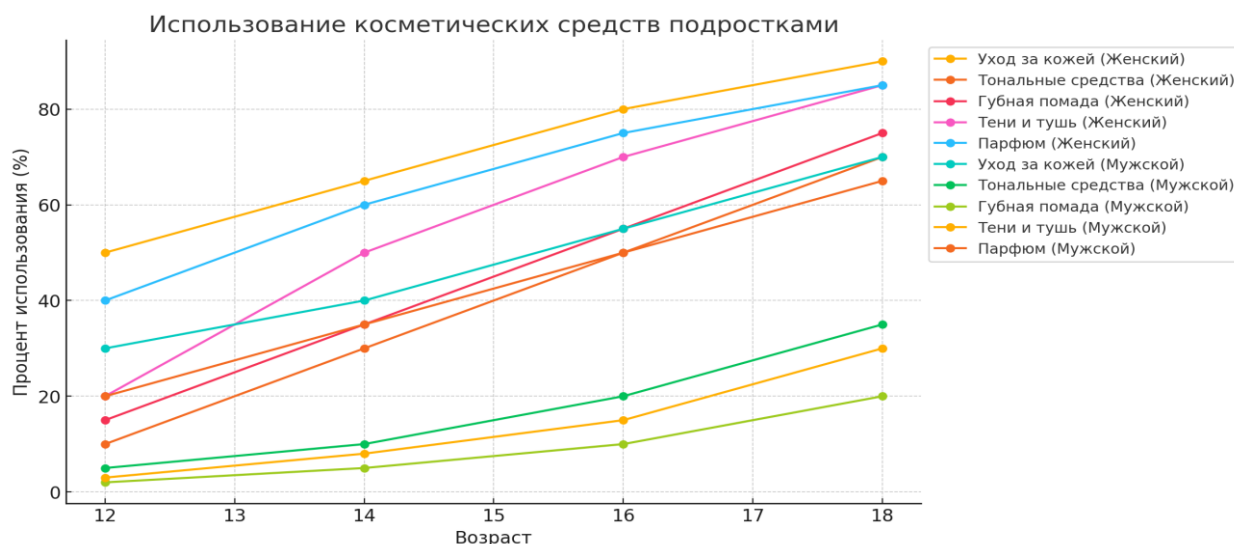


Рис. 1. Статистика использования косметических средств подростками.

График наглядно демонстрирует, что даже в возрасте 12 лет значительная часть подростков уже использует уходовую косметику, а некоторые начинают применять декоративные средства, такие как тональные кремы и губную помаду. В 14 лет эти показатели заметно возрастают, особенно среди девушек, что свидетельствует о раннем вовлечении в косметическую индустрию.

Популяризация косметических средств

Одним из ключевых факторов раннего использования косметических средств продуктами является влияние блогеров и инфлюенсеров, которые популяризируют тренды ухода за кожей, декоративного макияжа и «бьюти-рутину» через платформы, такие как TikTok, Instagram и YouTube. Современные подростки имеют легкий доступ к огромному количеству информации о косметике, что подталкивает их к использованию продукции раньше, чем это было у предыдущих поколений.

Кроме того, косметические бренды адаптируют свою продукцию под молодую аудиторию, создавая линии средств, ориентированные на подростков. Развитие e-commerce и агрессивный маркетинг делают косметику доступной в любом возрасте, что также способствует снижению порога начала ее использования.

В таблице 1 представлены основные факторы, влияющие на популяризацию косметики среди подростков, а также их влияние на потребительские предпочтения молодежи.

Фактор	Описание влияния
Социальные сети и инфлюенсеры	Популяризация косметики через TikTok, Instagram, YouTube, тренды макияжа от блогеров.
Развитие технологий	Инновации в косметических средствах, умные гаджеты для ухода, персонализированные формулы.
Маркетинг и реклама	Агрессивный digital-маркетинг, таргетированная реклама, сотрудничество с инфлюенсерами.
Доступность продукции	Рост онлайн-торговли, доступность косметики в масс-маркете, увеличение бюджетных линеек.
Культурные и модные тренды	Влияние модных тенденций, гендерно-нейтральная косметика, тренды натурального макияжа.
Влияние сверстников	Популярность косметики среди друзей, совместные покупки, подражание лидерам мнений.
Рост осведомленности о самоуходе	Информированность о важности ухода за кожей, защита от солнца, ранняя профилактика старения.
Экспансия косметических брендов	Расширение продуктовых линеек для подростков, фокус на безопасные формулы и натуральные ингредиенты.

Таблица 1. Ключевые факторы популяризации косметики среди подростков

Таким образом, влияние технологий, социальных сетей и рекламы не только формирует новые стандарты красоты среди молодежи, но и сокращает возрастную границу первого знакомства подростков с косметическими продуктами.

Риски и заболевания, связанные с применением косметики у подростков

В приведенной ниже графике на (рис.2) представлены основные риски и заболевания, связанные с использованием косметики среди подростков. Она включает частоту возникновения каждого из состояний.

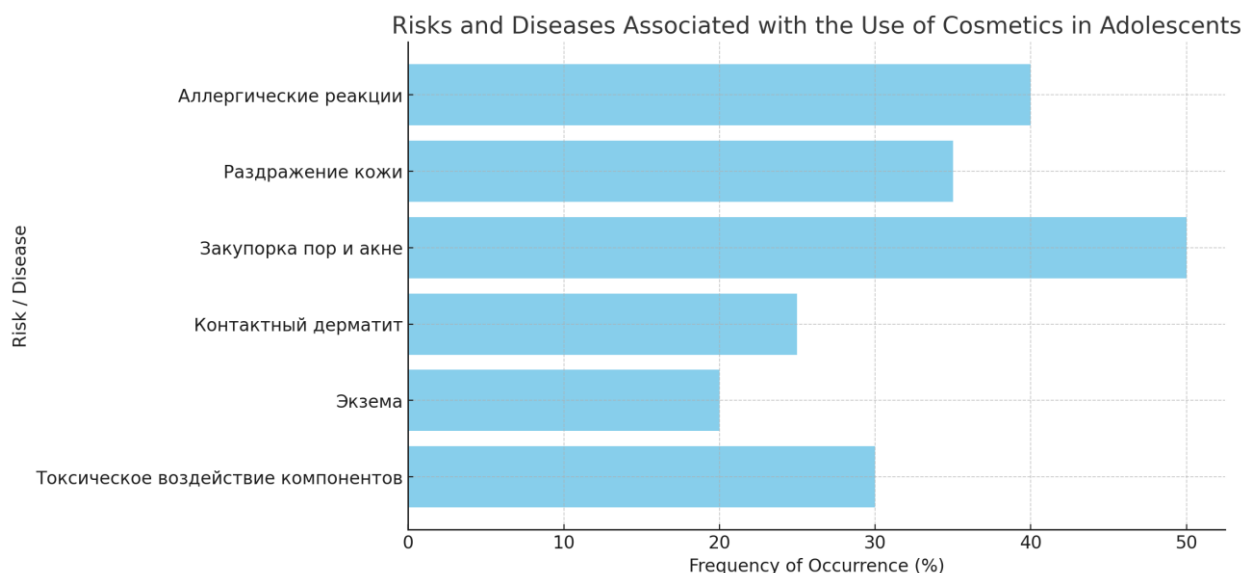


Рис. 2. Риски заболеваний у подростков при регулярном использовании косметики в процентном соотношении

Данные для графика о рисках и заболеваниях, связанных с применением косметики у подростков, основаны на следующих источниках:

1. American Academy of Dermatology (AAD) – рекомендации по уходу за кожей подростков и возможные негативные эффекты использования косметики.

2. World Health Organization (WHO) – отчёты о влиянии косметических средств на детскую и подростковую кожу.

3. European Cosmetics Regulation (EU Commission) – нормы безопасности косметической продукции и её влияние на кожу.

4. Journal of Dermatological Science – научные исследования о контактом дерматите, экземе и аллергических реакциях, вызванных косметикой.

5. The Journal of Clinical and Aesthetic Dermatology – статьи о закупорке пор, акне и влиянии косметики на подростковую кожу.

6. Consumer Reports on Cosmetic Safety – данные о токсичности компонентов косметики (парабены, отдушки, тяжёлые металлы) и их влиянии.

7. FDA (U.S. Food & Drug Administration) – отчёты по безопасности косметической продукции и её воздействию на подростков.

К токсическому воздействию компонентов косметики на (рис.2) я отношу парабены, отдушки, тяжелые металлы. Избежать данных проблем можно за счет выбора гипоаллергенных средств, соблюдения правил гигиены (очищение кожи перед и после нанесения косметики), а также консультаций с дерматологами.

Почему детям и подросткам нельзя пользоваться маминной косметикой?

Взрослая косметика содержит более активные и агрессивные компоненты, разработанные для зрелой кожи, что может вызвать раздражение и ухудшение состояния подростковой кожи. Кроме того, риск аллергий возрастает из-за высокой концентрации ароматизаторов и консервантов.

Как обезопасить кожу ребенка от 3 лет при необходимости профессионального макияжа?

При необходимости нанесения грима или декоративной косметики (например, для участия в театральных постановках или фотосессиях) важно использовать специальные детские средства, избегать плотных текстур и тщательно удалять косметику после мероприятия. Дерматологи рекомендуют предварительное тестирование продуктов на аллергические реакции.

Заключение

Результаты исследования показывают, что использование косметики подростками требует осознанного подхода, учитывающего возрастные ограничения, особенности кожи и возможные риски. Родители и специалисты должны формировать культуру грамотного использования косметических средств, ориентируясь на безопасные составы и умеренность в применении. Дальнейшие исследования могут быть направлены на разработку более безопасных и адаптированных к детской коже косметических формул.

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МЕРЫ ПРОФИЛАКТИКИ ОСЛОЖНЕНИЙ БЕРЕМЕННОСТИ НА ФОНЕ ВИРУСНЫХ ГЕПАТИТОВ

***Резюме:** В течение трёх лет (2010-2013) был проведён анализ распространённости хронических вирусных гепатитов В (ХВГВ) и С (ХВГС) среди беременных женщин в городе Андижане.*

В работе представлена клинико-лабораторная оценка особенностей течения хронических парентеральных гепатитов у беременных, основываясь на биохимических показателях, уровне виремии и результатах иммуноферментного анализа за 2012 год.

Установлено, что у женщин с хроническим вирусным гепатитом С во время беременности наблюдается преобладание минимальной и умеренной активности заболевания, при этом уровень вирусной нагрузки РНК HCV увеличивался в третьем триместре.

В случае женщин с ХВГВ во время беременности также преобладала минимальная активность гепатита; большинство из них имело низкий уровень вирусемии, а маркер, указывающий на инфекционную активность вируса гепатита В (HBeAg), не выявлялся.

***Ключевые слова:** беременность, хронические вирусные гепатиты В и С, активность ALT и AST, количество ДНК вируса гепатита В, РНК вируса гепатита С.*

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MEASURES TO PREVENT PREGNANCY COMPLICATIONS DUE TO VIRAL HEPATITIS

***Resume:** For three years (2010-2013), the prevalence of chronic viral hepatitis B (HCV) and C (HCV) among pregnant women in the city of Andijan was analyzed.*

The paper presents a clinical and laboratory assessment of the features of the course of chronic parenteral hepatitis in pregnant women, based on biochemical parameters, the level of viremia and the results of enzyme immunoassay for 2012.

It was found that women with chronic viral hepatitis C had a predominance of minimal and moderate disease activity during pregnancy, while the level of HCV RNA viral load increased in the third trimester. In the case of women with HBV, minimal hepatitis activity also prevailed during pregnancy; most of them had low levels of viremia, and no marker indicating the infectious activity of hepatitis B virus (HBeAg) was detected.

Keywords: pregnancy, chronic viral hepatitis B and C, ALT and ALT activity, amount of hepatitis B virus DNA, hepatitis C virus RNA.

Актуальность. На сегодняшний день не проводилось достаточного количества всеобъемлющих исследований, посвященных изменениям иммунного статуса у беременных с острыми и хроническими формами гепатита В и С[3,5]. Такая информация остается ограниченной. Вопросы, касающиеся стратегии лечения гепатитов В и С у беременных с целью предотвращения осложнений в течение беременности, родами и послеродовыми периодами, до сих пор не урегулированы[4,6,8]. Важным шагом для решения этих задач мы считаем изучение изменений в иммунной системе беременных на фоне вирусных гепатитов, а также их степени выраженности в зависимости от триместра[1,5,9]. Выявленные отклонения могут служить критерием для определения оптимальных методов лечения беременных с инфекцией, вызванной НВУ и НСУ. Эти обстоятельства подчеркивают значимость и актуальность данного исследования, которое имеет важное значение как для практики акушеров-гинекологов, так и для врачей-инфекционистов[2,6,7].

Цель исследования. Цель данного исследования заключается в совершенствовании тактики ухода за беременными женщинами, зараженными вирусами гепатита В и С, с учетом выявленных патогенетических механизмов влияния этих инфекций на течение беременности.

Материал и методы исследования. Для проведения исследования были обследованы 100 женщины в репродуктивном возрасте с гепатитом В и С, разделенные на две группы. Первая группа состоит из 51 беременной пациентки (из них 69 с острым гепатитом В, 11 с хроническим гепатитом В и 28 с хроническим гепатитом С), вторая группа — это 20 небеременных женщин (7 с острым гепатитом В, 5 с хроническим гепатитом В и 8 с хроническим гепатитом С).

Результаты исследования. Результаты показали, что течение беременности при инфекциях гепатита В и С осложняется значительно чаще, чем в контрольной группе: угроза прерывания беременности — в 1,6 раза, гестозы — в 1,7 раза, фетоплацентарная недостаточность — в 2,3 раза, и преждевременные роды — в 4,1 раза. При этом наблюдалась высокая частота преждевременного излития околоплодных вод (до 39,5%) и послеродовых

кровотечений (до 5,9%), что превышает показатели контрольной группы в 2,3 и 2,8 раза соответственно.

Клинические проявления хронического гепатита С и В во время беременности были слабыми, и женщины не жаловались на активные симптомы даже при умеренной активности заболевания. Наиболее заметные изменения произошли в активности ALT у женщин с хроническими гепатитами С и В на протяжении беременности.

Диаграмма 1.

Распределение женщин с хроническими вирусными гепатитами В (ХВГВ) и С (ХВГС) по активности ALT (количество норм ALT) во время беременности.



Клинические проявления гепатомегалии наблюдались редко — у 5,5 % женщин с хроническим гепатитом В (ХГВ) и 10,7 % с хроническим гепатитом С (ХГС). Основное внимание уделялось мониторингу биохимических показателей активности гепатита: ежемесячно определяли уровень билирубина, активность ALT, AST и ГГТП, а также динамику вирусной нагрузки в сыворотке крови. У 37,7 % беременных с ХГВ и 38,5 % с ХГС уровни ALT оставались в пределах нормы на протяжении всей беременности, что свидетельствовало о благоприятном течении заболевания. Большинство беременных имели минимальную активность гепатита: такая форма регистрировалась в 45 % случаев с ХГС и 47,1 % с ХГВ, у этих пациенток активность ALT возросла до 5 норм.

Умеренная активность (ALT от 5 до 10 норм) была зафиксирована в 15,1 % случаев ХГВ и 16,5 % случаев ХГС. Высокой активности гепатита и синдрома холестаза выявлено не было, и уровень билирубина у пациенток не превышал норму. Главным вопросом для большинства беременных с хроническими гепатитами оставался риск перинатальной передачи вирусов. Всем женщинам давались рекомендации по родоразрешению и грудному вскармливанию.

Важно отметить, что уровень вирусемии и наличие HBeAg в крови беременных с ХГВ являются ключевыми факторами для оценки риска передачи вируса. Все женщины с HBV-инфекцией прошли обследование на

маркеры в первом и третьем триместрах, и ни у одной не было выявлено HBe-антигена. Пропорция беременных с высокими и низкими уровнями РНК HCV в первом триместре была почти равной — 47 % и 53 % соответственно.

Удельный вес беременных женщин как с высоким так и с низким количеством РНК HCV при ХВГС в первом триместре был почти идентичным — 47 % и 53 % соответственно (табл. 1).

Таблица 1

Распределение беременных женщин с хроническим вирусным гепатитом С по уровню вирусемии (количество РНК HCV в МЕ/мл) в I и III триместрах беременности.

Уровень вирусемии	Количество беременных женщин с ХВГС, n=91			
	I триместр		III триместр	
	n	%	n	%
Низкий (РНК HCV < 400000 МЕ/мл)	48	53 %	31	35 %
Высокий (РНК HCV > 400000 МЕ/мл)	43	47 %	57	65 %
Всего	91	100 %	88	100 %

Тем не менее, в третьем триместре беременности у женщин с хроническим вирусным гепатитом С (ХВГС) наблюдался рост уровня вирусемии, при этом доля пациенток с высокой вирусной нагрузкой по HCV составила 65%. Эти результаты соответствуют ранее опубликованным материалам [2]. Увеличение вирусемии на поздних стадиях беременности может быть связано с ослаблением иммунной функции и эстрогенной стимуляцией организма.

Всем женщинам с ХВГС в начале беременности в первом триместре проводилось определение генотипа HCV с помощью ПЦР. В исследуемой группе распределение генотипов HCV оказалось следующим: у 35 пациентов (38,5%) был выявлен третий генотип, у 29 (31,5%) — первый генотип, преобладающий в Приморском крае и в России в целом, а 27 беременных (30%) имели второй генотип. Таким образом, у большинства женщин с ХВГС были обнаружены такие генотипы HCV (2 и 3), которые легко поддаются лечению комбинацией интерферона и рибавирина, что обеспечивает устойчивый вирусологический ответ в 80-90% случаев [4].

При вирусном гепатите В (ХВГВ) у беременных в первом триместре уровень ДНК HBV в сыворотке крови в большинстве случаев значительно превышал норму (56,6% против 43,4%). Однако к третьему триместру наблюдалось его снижение, и у большинства (79,6% женщин) уровень не превышал 2000 МЕ/мл (табл. 2).

Таблица 2

Распределение беременных женщин с хроническим вирусным гепатитом В по уровню вирусемии (количество ДНК HBV в МЕ/мл) в I и III триместрах беременности.

Уровень вирусемии	Количество беременных женщин с ХВГВ, n=53			
	I триместр		III триместр	
	N	%	N	%
Низкий (ДНК HBV < 2000 МЕ/мл)	23	43,4 %	39	79,6 %
Высокий (ДНК HBV > 2000 МЕ/мл)	30	56,6 %	10	20,4 %
Всего	53	100 %	49	100 %

Важно подчеркнуть, что из 10 беременных с хронической Hepatitis B вирусной инфекцией и уровнем HBV свыше 2000 МЕ/мл в третьем триместре лишь 3 женщины имели вирусную нагрузку превышающую 20000 МЕ/мл. Им были предоставлены рекомендации о высоком риске перинатального инфицирования ребенка, а также советы по комбинированной иммунизации новорожденных с использованием вакцины против гепатита В по схеме 0-1-3-6 и специфического иммуноглобулина.

Наблюдаемая динамика вирусемии при хронической HBV инфекции во время беременности достаточно благоприятна для прогноза перинатальной передачи вируса, так как установлена прямая связь между высоким уровнем HBV (более 10^6 МЕ/мл) в крови беременной и риском заражения ребенка. Снижение репликации вируса гепатита В в третьем триместре, как и его низкая активность, могут быть следствием функционального иммунного дефицита у женщин в положении, поскольку иммунноопосредованное повреждение печени значительно влияет на патогенез данной инфекции.

Хронический гепатит В в период беременности чаще проявляется холестатическими формами (63,8%), что в 4,2 раза больше, чем среди небеременных, а также нередко приводит к затяжному течению (26,1%). Наиболее тяжелые случаи заболевания фиксируются в III триместре. Клиническая картина хронических форм HBV и HCV у беременных более разнообразна и выражена по сравнению с контрольной группой, с преобладанием астеновегетативного (93,8% при ХГВ и 97,2% при ХГС) и диспепсического синдромов (87,5% при ХГВ и 72,2% при ХГС). Синдром холестаза встречается в 2 раза чаще (18,8% при ХГВ и 19,4% при ХГС). Лабораторные показатели во время репликации ХГ показывают умеренное увеличение билирубина, аминотрансфераз и диспротеинемии, с наиболее выраженными изменениями в I и II триместрах.

В структуре предболезненных форм дисфункции иммунной системы у беременных с острым и хроническим гепатитом вирусного происхождения наибольшее распространение имеет инфекционный синдром (44,9% —

острый гепатит, 62,7% — хронический гепатит В и 66,7% — хронический гепатит С). Следом по частоте идет аллергический синдром (26,1%, 31,4% и 35,8% соответственно), при этом у 35,3% женщин наблюдаются два и более синдрома.

Иммунологические изменения у беременных с острым гепатитом имеют циклическую природу. В остром периоде заболевания фиксируется абсолютная Т-лимфопения, преимущественно за счет дефицита Т-клеток-хелперов, а также рост патогенных форм циркулирующих иммунных комплексов и снижение функции фагоцитов. В гуморальном иммунитете происходят повышения уровня В-лимфоцитов, угнетение синтеза IgA и увеличение IgM. Степень этих изменений возрастает по мере прогрессирования беременности, особенно выражаясь в III триместре.

При хронических формах гепатитов у беременных наблюдается стойкая Т-лимфопения как среди клеток с хелперным, так и эффекторным фенотипом, снижение фагоцитарной активности нейтрофилов при отсутствии значительных изменений в В-лимфоцитах, при этом наиболее выраженные изменения фиксируются в I и II триместрах. Также степень подавления клеточной иммунной реакции коррелирует с уровнем вирусной репликации и активностью патологического процесса.

Применение Вобэнзима® и Виусида для лечения беременных с HBV и HCV в зависимости от формы и стадии заболевания способствовало улучшению прогноза и уменьшению времени стационарного лечения у пациенток с острым гепатитом на $10,1 \pm 1,2$ дня, а клиническая эффективность у пациентов с хроническим гепатитом В и С увеличилась в 2,7 раза по сравнению с традиционными методами, при этом у 33,3% женщин наблюдалось значительное уменьшение активности заболевания. Терапия позитивно сказывалась на течении беременности, родов и послеродового периода, снижая риск осложнений.

Вывод. Установлено, что беременность негативно влияет на протекание гепатитов В и С, а также что инфекции НВУ и НСУ оказывают отрицательное воздействие на течение беременности, родов и послеродового периода. Это подчеркивает необходимость регулярного наблюдения за беременными женщинами с гепатитами В и С со стороны акушеров и инфекционистов. В качестве дополнительных показателей активности данных инфекций у беременных предлагается исследование иммунного статуса.

С учетом данных о воздействии Вобэнзима® и Виусида на основные патогенетические механизмы, установлено, что эти лекарства являются эффективными в комплексном лечении HBV- и HCV-инфекций у беременных, что снижает вероятность осложнений в процессе гестации.

Также были разработаны и внедрены практические рекомендации по ведению беременных с гепатитами В и С, которые учитывают стадию болезни и срок беременности.

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ПРОБЛЕМА РАННЕЙ НЕТРУДОСПОСОБНОСТИ ВСЛЕДСТВИЕ ПСИХИЧЕСКИХ ЗАБОЛЕВАНИЙ И МЕРЫ ПО ЕЕ ПРЕОДОЛЕНИЮ

Резюме: В современном обществе наблюдается устойчивый рост числа людей, страдающих от психических заболеваний, что часто приводит к социальной дезадаптации этих индивидов. Наличие психического расстройства, особенно прогрессирующего шизофренического процесса, может существенно повлиять на социальное функционирование пациентов, изменяя их социальный статус и роли в обществе.

Важнейшими аспектами оценки состояния людей с психическими расстройствами стали качество жизни и социальная адаптация. Показатели качества жизни играют ключевую роль в анализе характеристик психопатологической симптоматики, её динамики и тяжести течения заболевания. Они становятся необходимым и критически важным элементом при оценке результатов терапии пациентов и качества предоставляемой медицинской помощи.

В данной статье представлены результаты исследования, посвященного качеству жизни людей с диагнозом шизофрения, проведенного с использованием международного опросника Всемирной организации здравоохранения КЖ-100.

Полученные данные позволяют рассматривать качество жизни, определённое с помощью опросника КЖ-100, как самостоятельный многофакторный индикатор социальной обусловленности процессов ресоциализации пациентов, страдающих шизофренией.

Ключевые слова: социальные риски. психические расстройства, психическое здоровье.

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THE PROBLEM OF EARLY DISABILITY DUE TO MENTAL ILLNESS AND MEASURES TO OVERCOME IT

Resume: *In modern society, there is a steady increase in the number of people suffering from mental illness, which often leads to social maladaptation of these individuals. The presence of a mental disorder, especially a progressive schizophrenic process, can significantly affect the social functioning of patients, changing their social status and roles in society.*

The most important aspects of assessing the condition of people with mental disorders were the quality of life and social adaptation. Quality of life indicators play a key role in analyzing the characteristics of psychopathological symptoms, its dynamics, and the severity of the disease. They are becoming a necessary and critically important element in assessing the results of patient therapy and the quality of medical care provided.

This article presents the results of a study on the quality of life of people diagnosed with schizophrenia, conducted using the international questionnaire of the World Health Organization KJ-10 as an independent multifactorial indicator of the social conditioning of the processes of resocialization of patients suffering from schizophrenia.

Key words: *social risks. mental disorders, mental health.*

Актуальность. Психическая заболеваемость уверенно занимает третье место в списке причин инвалидности после сердечно-сосудистых и легочных патологий, с долей таких случаев — около 9,5% от всех зарегистрированных инвалидов.

Особенностью психических расстройств является их склонность к хроническому протеканию, что не только обуславливает нарушение социальной адаптации, но и приводит к стойкой нетрудоспособности. Особенно тревожным является тот факт, что значительная часть таких инвалидов определяется уже в раннем возрасте — детстве или подростковом. Увеличение числа детей-инвалидов с психическими расстройствами и умственной отсталостью во всех возрастных группах усугубляет актуальность проблемы.

Цели исследования. Цель исследования заключается в изучении динамики инвалидности, вызванной психическими заболеваниями или умственной неполноценностью, а также анализе ключевых факторов социального приспособления таких лиц на протяжении их жизни.

Материалы и методы исследования. Методологическая база включает комплексный подход: клинико-психопатологические исследования, глубокий катаманестический анализ (изучение течения заболевания во времени), экспериментально-психологическое изучение и статистическую обработку данных.

Результаты исследования. Исследовательские результаты позволили сформировать следующие основные группы психических расстройств:

1) Распространенная группа, объединяющая шизофрению с ассоциированными состояниями (шизотипические расстройства, шизоаффективные психозы), далее — РШС;

2) Различные степени умственной отсталости (УО);

3) Психические нарушения на фоне эпилепсии и неврозах (включая астенические состояния, невротические расстройства), а также расстройства личности;

4) Органическая патология личности и поведения с различными этиологическими факторами.

Нозологическое распределение обследованных пациентов представлено следующим образом: РШС – 41%; УО – 40%; психические расстройства, связанные с эпилепсией – 11%; органические нарушения личности и поведения – 8%.

Исследования показали, что наибольшее количество инвалидов зарегистрировано среди пациентов с тяжелой умственной отсталостью и расстройствами, связанными с эпилепсией (инвалидность детей получили все обследуемые с данным диагнозом); наименьший процент наблюдался у пациентов с легкой умственной отсталостью (11%) и органическими расстройствами личности (5,8%).

В большинстве исследований в России группа инвалидности служит основным индикатором социальной адаптации инвалидов с детства во взрослом возрасте, позволяя выделить наименее адаптированный контингент.

Пациентам с задержками развития и УО в старшем дошкольном возрасте рекомендуется проходить тестирование для определения интеллекта, что поможет в выборе образовательного пути. Неправильный выбор форматы обучения может негативно сказаться на социализации.

При наличии тяжелой и умеренной УО целесообразно оформлять инвалидность детства без повторного освидетельствования.

Вывод. Полученные в ходе исследования данные способствуют определению прогноза ранней детской инвалидности при различных психических заболеваниях и умственной отсталости и возможной превенции инвалидности взрослого возраста для данного контингента.

Определение степени несостоятельности в различных сферах жизнедеятельности позволяет выработать социореабилитационные подходы, способствующие наиболее успешной социально-трудовой адаптации инвалидов детства во взрослом возрасте.

Результаты работы облегчают выявление факторов риска наступления ранней инвалидности, а также плохой социально-трудовой адаптации по достижении совершеннолетия.

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СОВРЕМЕННЫЙ ПОДХОД К ОЦЕНКЕ ДОСТИЖЕНИЯ ПОЛОЖИТЕЛЬНОГО ПЕРИНАТАЛЬНОГО РЕЗУЛЬТАТА ПРИ ПАТОЛОГИЯХ ПУПОВИНЫ

Резюме: Приведенные в статье моменты свидетельствуют о том, что высокая распространенность гипоксико-ишемического поражения головного мозга, вызванного интранатальной гипоксией при данной патологии, не имеет четких критериев выбора акушерской тактики при данном осложнении беременности.

В статье автор привел следующую статистику: частота различных пупочных аномалий колеблется от 4,8 до 38,4%.

При этом около 30% занимает пуповина вокруг шейки плода, в результате чего в 7,7-21,4% случаев наступает асфиксия новорожденного, в 1,7-4,3% - интранатальная гибель плода и в 1,5-1,6% - неонатальная смерть.

Ключевые слова: патологии пупка, неонатальные осложнения, акушерская тактика.

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A MODERN APPROACH TO ASSESSING THE ACHIEVEMENT OF A POSITIVE PERINATAL RESULT IN UMBILICAL CORD PATHOLOGIES

Resume: The points presented in the article indicate that the high prevalence of hypoxic-ischemic brain damage caused by intrapartum hypoxia in this pathology does not have clear criteria for choosing obstetric tactics for this complication of pregnancy. In the article, the author cited the following statistics: the frequency of various umbilical anomalies ranges from 4.8 to 38.4%.

At the same time, about 30% is occupied by the umbilical cord around the fetal neck, resulting in newborn asphyxia in 7.7-21.4% of cases, intranatal fetal death in 1.7-4.3% and neonatal death in 1.5-1.6%..

Key words: navel pathology, neonatal complications, obstetric tactics.

Актуальность. Определение положения и состояния пуповины в ходе ультразвукового обследования обычно не представляет сложностей на любом

этапе беременности[3]. С началом второго триместра (с середины) становятся отчетливо видными сосуды: две артерии и одна вена, образующие при поперечном сканировании круглые темные структуры идеальной формы; диаметр вены примерно вдвое превосходит размеры обеих артерий[1,5].

Пуповина заключена в среднезхогенную оболочку – вартонов студень, который становится все плотнее с ростом срока беременности. Во второй половине гестации происходит постепенное расширение сосудов: венные диаметры увеличиваются от 4 до 8-10 мм, артерий — от 2 до 4 мм. Утолщение вартонова студня и возрастание размеров сосудов улучшают качество визуализации пуповины.

При использовании цветового доплера идентификация петель становится предельно простой задачей[6]. При тщательной диагностике выявляется спиралевидное скручивание канатика, содержащее от 10 до 25 оборотов; в большинстве случаев (около 80%) направление витков — справа налево[4].

Причины такой ориентации остаются предметом научных дискуссий. Аномальное отсутствие спирального скручивания или его избыток рассматриваются как возможные маркеры хромосомных нарушений, согласно некоторым исследованиям.

Полноценная ультразвуковая оценка пуповины включает анализ: - места ее прикрепления к плаценте; - точки крепления на передней брюшной стенке плода; - количественного состава сосудов (две артерии и одна вена); - наличия патологических изменений[2].

К аномалиям прикрепления пуповины относятся краевое, оболочечное и расщепленное положение. Наиболее благоприятные условия для диагностики этих состояний — второй триместр беременности с расположением плаценты на передней или переднебоковой стенках матки.

Цель исследования. Оценить влияние обвития пуповины вокруг шеи плода на перинатальные результаты в зависимости от метода родоразрешения.

Материалы и методы исследования. Проведен ретроспективный анализ 80 медицинских карт женщин, рожавших в Перинатальном центре города Андижана в период с 2023 по 2025 год.

Основную группу составили женщины с патологией пуповины, включающей обвитие вокруг шеи плода, у которых роды проходили естественным путем (n=71).

В контрольную группу вошли пациентки с подобной патологией, родоразрешенные хирургическим способом — кесаревым сечением (n=36).

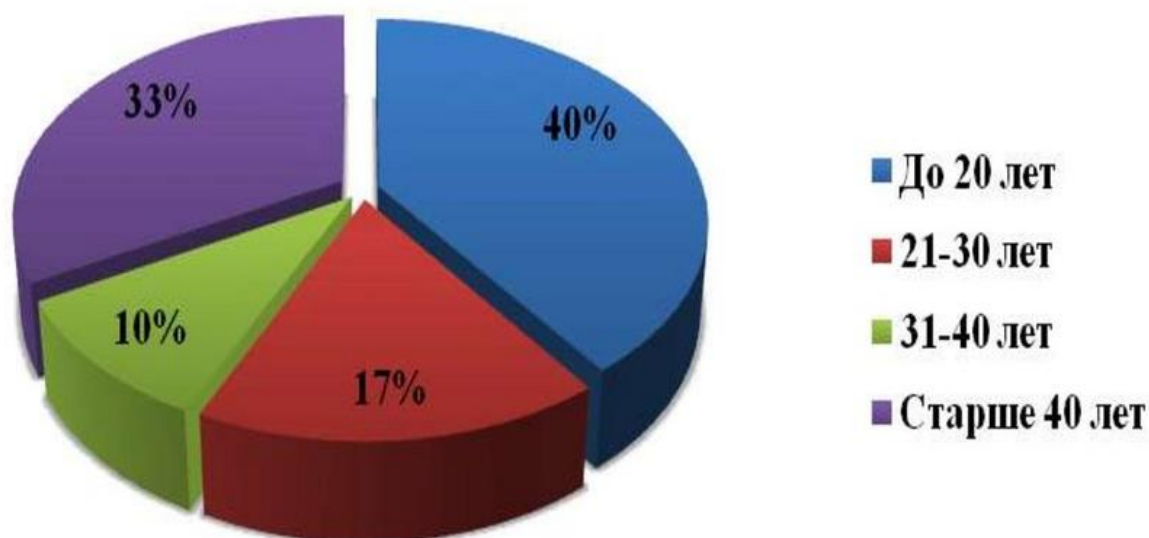
Результаты исследования и их обсуждение. Анализ данных выявил, что средний возраст участниц основной группы составил около 26 лет (с отклонением в $\pm 0,6$ года), тогда как для второй - контрольной - группы показатель был выше и составлял примерно 31 год.

Гинекологическое обследование выявило существенные различия: в группе сравнения генитальные патологии наблюдались у 55% женщин против

34% среди основных пациенток. Особенно значимое различие отмечено по частоте хронических воспалительных процессов, эктопии и бесплодия - показатели для группы сравнения были в полтора раза выше (1,5х).

Диаграмма 1.

Возрастное распределение патологии пуповины у обследованных пациенток.



Распределение экстрагенитальных заболеваний оказалось схожим между группами – 73%. Однако при детализации выявлены следующие тенденции: эндокринопатии чаще встречались у основной группы (37,5% против 23,5%), как и патологии почек - хронический пиелонефрит был диагностирован в 22,3% случаев среди первой группы по сравнению с 37,5% во второй. Заболевания ЖКТ также были распространены (19-20%) без значительных различий между группами.

Среди реже встречающихся заболеваний отмечены проблемы дыхательной системы и ожирение: бронхиты, хронический тонзиллит, трахеиты - 11,5% в основной группе против 8,9%, а также ожирение – 11,5% к 8,9%. Особенности течения беременностей включали: гипоксию плода (21,1% и 11,1%), нарушения маточно-плацентарного кровотока (3,2-5,5%), многоводие у 5,6-2,7%, а также маловодие - от 8,3 до 2,8%.

При анализе сроков родоразрешения преобладающим вариантом были срочные роды (97% и 86%), но в группе сравнения значительно чаще происходили преждевременные роды – около 14%, что в шесть раз больше показателя основной группы.

В большинстве случаев обвитие пуповины не было причиной осложнений, а обнаруживалось случайно при родах.

Вывод. Обвитие пуповины вокруг шеи плода считается одной из самых распространенных патологий в процессе беременности и родов, что негативно

сказывается на здоровье новорожденного и исходе родов. Согласно данным нашего исследования, в 46% случаев обвитие пуповины вызывает осложнения в ходе родовой деятельности при консервативном подходе, а в 38% случаях становится причиной гипоксически-ишемических повреждений головного мозга у новорожденных.

При этом, множественное тугое обвитие пуповины часто приводит к острому состоянию гипоксии, в то время как не тугое однократное обвитие не оказывает значительного влияния на перинатальные результаты. Кроме того, плановое оперативное родоразрешение, даже при тугом обвитии пуповины, может помочь предотвратить ишемическое повреждение мозга.

Следовательно, ранняя диагностика дистресса плода во время родов и корректировка акушерской тактики могут стать резервом для снижения уровня перинатальной заболеваемости.

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ИЗУЧЕНИЕ ВЛИЯНИЯ ОСТРОГО ПАНКРЕАТИТА НА БЕРЕМЕННОСТЬ И ОЦЕНКА ЕГО РЕЗУЛЬТАТОВ

Резюме: В данном исследовании были представлены результаты анализа системы гемостаза и показателей эндогенной интоксикации у беременных с острым панкреатитом (основная группа, $n = 43$) и у женщин с нормальным течением беременности (контрольная группа, $n = 30$), а также у 35 небеременных пациенток с панкреатитом (группа сравнения).

Обнаружено развитие гиперкоагуляции, тромбоцитоза, угнетение фибринолиза, а также увеличение продуктов паракоагуляции. У беременных с панкреатитом отмечено статистически значительное повышение лейкоцитарного индекса интоксикации, уровня циркулирующих иммунных комплексов и эндотоксинов в сыворотке крови.

Изменения в коагуляционном потенциале и эндотоксическая агрессия могут отрицательно сказаться на ходе беременности, сопровождаясь повышением риска преждевременных родов до 79,1%. Также разработан алгоритм диагностических процедур для беременных с подозрением на острый панкреатит, что способствует более быстрому установлению диагноза и предоставлению необходимой медицинской помощи этой группе пациентов.

Ключевая слова: беременность, панкреатит, гемостаз, показатели эндогенной интоксикации.

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STUDY OF THE EFFECT OF ACUTE PANCREATITIS ON PREGNANCY AND EVALUATION OF ITS RESULTS

Resume: This study presented the results of an analysis of the hemostasis system and indicators of endogenous intoxication in pregnant women with acute pancreatitis (main group, $n = 43$) and in women with normal pregnancy (control

group, $n = 30$), as well as in 35 non-pregnant patients with pancreatitis (comparison group).

Hypercoagulation, thrombocytosis, inhibition of fibrinolysis, and an increase in paracoagulation products were detected. In pregnant women with pancreatitis, there was a statistically significant increase in the leukocyte intoxication index, the level of circulating immune complexes and endotoxins in the blood serum.

Changes in coagulation potential and endotoxic aggression can negatively affect the course of pregnancy, accompanied by an increased risk of premature birth up to 79.1%. An algorithm of diagnostic procedures has also been developed for pregnant women with suspected acute pancreatitis, which facilitates faster diagnosis and provision of necessary medical care to this group of patients.

Keywords: pregnancy, pancreatitis, hemostasis, indicators of endogenous intoxication.

Актуальность. Современная актуальность акушерства и гинекологии неотъемлемо связана с задачей сохранения здоровья как матери, так и будущего ребенка[2,7,9]. В последние годы тревожно наблюдается рост экстрагенитальных заболеваний во время беременности, включая хирургические патологии, что обуславливает не только ухудшение течения гестации, но и значительное увеличение показателей материнской и перинатальной смертности[5,6,11].

Согласно научным данным последних десятилетий, заболеваемость острым панкреатитом (200-800 случаев на 1 млн населения ежегодно) демонстрирует тенденцию к росту. Особенно тревожен факт увеличения доли женщин среди больных — на 30% за рассматриваемый период в России[3]. Частота возникновения панкреатита у беременных варьируется от 1:1000 до 1:1200, при этом риск возрастает с продвижением срока гестации и количеством предыдущих родов[1,4,8]. В 58% случаев осложнения в виде преждевременных родов напрямую сказываются на перинатальной заболеваемости и смертности[10].

Цель исследования. Основная цель исследования заключается в глубоком анализе особенностей протекания беременности, сопряженной с острым панкреатитом (ОП).

Материал и методы. В рамках данного научного изыскания под наблюдением находились 84 женщины, столкнувшиеся с развитием ОП во время беременности.

Результаты исследования. Вторая половина гестации оказалась наиболее уязвимым периодом для возникновения патологии — в 76,2% случаев диагноз ставился при сроках от 32 до 37 недель (44,1%). Более половины женщин ожидали первых родов (50%), однако большинство из них имели уже опыт беременности (84,5%).

Исследование выявило высокий уровень осложнений гестации при стандартном лечении ОП. Так, угроза прерывания беременности на 7-10-й день стационарного наблюдения отмечалась у 83,3% пациенток;

самопроизвольные выкидыши составили 11,9%, неразвивающиеся беременности — 29,8%, а преждевременное родоразрешение (ПР) потребовалось в 60,7%. В отдельных случаях (8,3%) оперативное вмешательство стало необходимым из-за преждевременной отслойки плаценты.

В ходе морфологических исследований установлено: применение традиционных методик в терапии беременных с острым панкреатитом (ОП) приводит к формированию хронической плацентарной недостаточности у более чем двух третей случаев (78,9%) и осложнению острой формой ПН еще в 21,2% ситуаций.

По нашим наблюдениям, перинатальная смертность при наличии ОП составляет 281,3%, а общие репродуктивные потери достигают 45,2%. Исследования показали: глубокое анализирование системы гемостаза у пациенток с ОП выявило хроническую диссеминированную внутрисосудистую коагуляцию (ДВС-синдром), характеризующуюся гиперкоагуляцией, повышением тромбоцитов, угнетением расщепления фибрина и увеличением паракоагулирующих факторов.

Вывод. Анализ маркеров эндогенной интоксикации подтвердил развитие эндотоксикоза у беременных с панкреатитом. Эти изменения в системе свертывания крови, а также токсическое воздействие на организм матери негативно сказываются на состоянии фетоплацентарного комплекса и повышают вероятность преждевременных родов до 79,1%.

Сочетание беременности с ОП существенно увеличивает риск антенатальной гибели плода и ранних родов. Это обстоятельство подчеркивает необходимость пересмотра стандартного лечения для повышения его результативности в данном контексте.

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ОЦЕНКА ИЗМЕНЕНИЙ В ПИЩЕВАРИТЕЛЬНОМ ТРАКТЕ ПРИ ХИРУРГИЧЕСКОМ ЛЕЧЕНИИ СЕРДЕЧНО-СОСУДИСТЫХ ЗАБОЛЕВАНИЙ

Резюме: Заболевания сердечно-сосудистой системы, которые имеют широкое распространение, мотивируют ученых к неустанному поиску эффективных решений этой проблемы. Достижения в области исследования кишечного микробиома открывают новые перспективы для понимания состояния здоровья человека и сопутствующих заболеваний.

В этом обзоре рассматриваются актуальные взгляды на влияние состава кишечной микробиоты (КМ) на развитие и течение заболеваний сердечно-сосудистой системы. Исследования показывают, что кишечный микробиом может работать как эндокринный орган, производя биоактивные метаболиты, способные напрямую или косвенно воздействовать на физиологические процессы в организме.

Установлено, что метаболит триметиламин, короткоцепочечные жирные кислоты и вторичные желчные кислоты, вероятно, участвуют в развитии и прогрессировании атеросклероза, артериальной гипертензии, ишемической болезни сердца и сердечной недостаточности.

Экспериментальные данные подтверждают, что употребление пробиотиков может предотвратить повышение артериального давления. Исследование микробиоты кишечника в качестве терапевтической цели может привести к новым исследованиям и созданию эффективных методов профилактики и лечения сердечно-сосудистых заболеваний.

Ключевые слова: кишечная микробиота, заболевания сердечно-сосудистой системы, ишемическая болезнь сердца, атеросклероз, сердечная недостаточность.

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ASSESSMENT OF CHANGES IN THE DIGESTIVE TRACT DURING SURGICAL TREATMENT OF CARDIOVASCULAR DISEASES

Resume: Diseases of the cardiovascular system, which are widespread, motivate scientists to tirelessly search for effective solutions to this problem. Advances in the field of gut microbiome research open up new perspectives for understanding human health and related diseases.

This review examines current views on the influence of the composition of the intestinal microbiota (CM) on the development and course of diseases of the cardiovascular system.

Research shows that the intestinal microbiome can work as an endocrine organ, producing bioactive metabolites that can directly or indirectly affect physiological processes in the body. It has been established that the metabolite trimethylamine, short-chain fatty acids, and secondary bile acids are likely involved in the development and progression of atherosclerosis, hypertension, coronary artery disease, and heart failure.

Experimental data confirm that the use of probiotics can prevent an increase in blood pressure. The study of the intestinal microbiota as a therapeutic goal may lead to new research and the creation of effective methods for the prevention and treatment of cardiovascular diseases.

Key words: intestinal microbiota, diseases of the cardiovascular system, coronary heart disease, atherosclerosis, heart failure.

Актуальность. Кишечная микрофлора играет ключевую роль в здоровье беременных женщин, особенно под влиянием условно-патогенных организмов (УПМ), способствующих возникновению урогенитальной инфекции[2].

Современные молекулярно-генетические методы выявили связь между анаэробным дисбактериозом и нарушениями, включая образование летучих амин и кислот, которые вызывают повреждение эпителиальных клеток влагалища[6]. Это существенно увеличивает риск инфекций мочеполовой системы у беременных женщин, вплоть до прерывания беременности или выкидыша. Исследования показали тесную взаимосвязь между состоянием сердечно-сосудистой системы и микробными сообществами кишечника[3,5]. У пациенток с ишемической болезнью сердца отмечено значительное отклонение в составе кишечной флоры, что обусловлено их анатомическими особенностями.

Это указывает на дисбактериоз как потенциальный фактор риска для осложнений беременности[1,4]. В рамках проведенного исследования были изучены 35 женщин разного возраста (от 18 до 68 лет) в период ранней беременности (с 6 по 18 неделю).

Основная группа состояла из пациенток с ишемической болезнью сердца, госпитализированных в клинику Андижанского государственного медицинского института. Контрольную группу составили 30 женщин с нормально протекающей беременностью под наблюдением акушерско-гинекологического отделения той же клиники.

Таким образом, анализ микробиоценоза кишечника у данной когорты пациенток выявил значимые различия между группами с и без сердечно-сосудистых заболеваний, подчеркивая важность состояния кишечной флоры для благополучного течения беременности.

Цель исследования. Подробная сравнительная характеристика состояния микрофлоры кишечника у женщин с ишемической болезнью сердца (ИБС) по отношению к женщинам, переживающим обычную физиологическую беременность.

Материал и методы исследования. В исследование включено 35 рожениц в возрасте от 18 до 68 лет с средним показателем 27.6 года. - Период наблюдения: ранний этап беременности (от 6 до 18 недель). - Основная группа составила женщины, перенесшие ИБС и госпитализированные в клинику Андиганского медицинского института (38 участниц). - Контрольную группу образовали 30 женщин с нормальным течением беременности из женской консультации акушерско-гинекологической клиники.

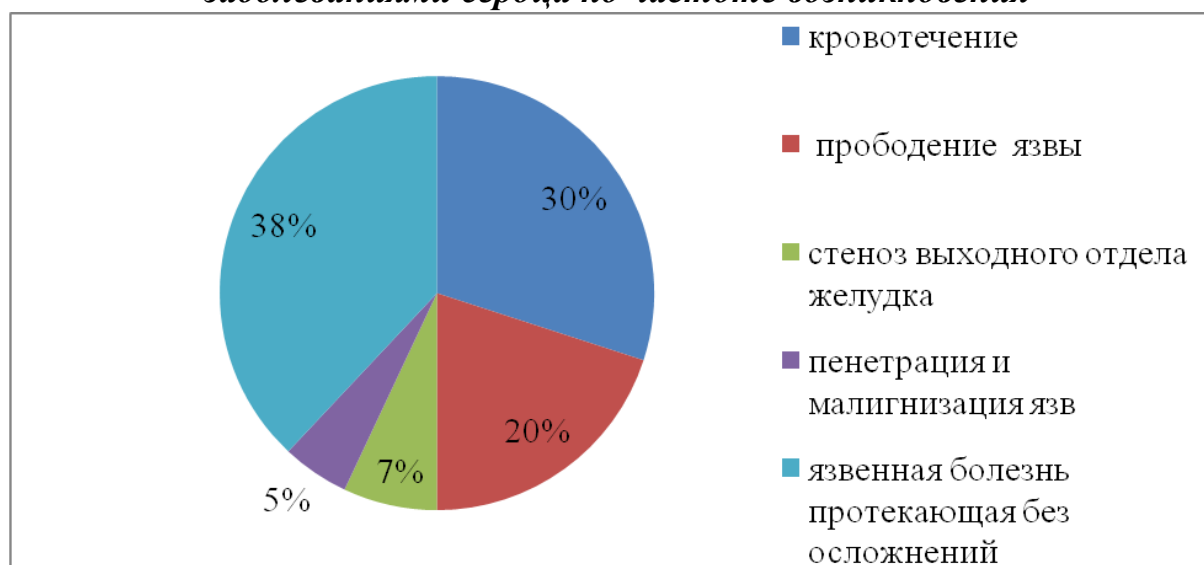
Результаты исследования. При анализе микробиоценоза кишечника у пациенток основной группы выявлены значительные изменения: - Увеличение доли анаэробных и аэробных бактерий (*Enterobacteriaceae*, *Streptococcus spp.*, *Staphylococcus spp.*) до 29.7%. - Смешанная флора наблюдалась в 24.7% случаев. - Дисбаланс преимущественно анаэробный.

В контрольной группе: - Анаэробный дисбактериоз преобладал (66%). Общая распространенность кишечного дисбиоза составила 95%, как в основной, так и в контрольной группах. - Основная: I степень — 29% случаев; II степень — 52.6%; III степень — 18.4%. - Контрольная: I степень — 83.4%, II степени или выше - 16.6%.

Различия в показателях между группами статистически значимы ($p < 0,001$). Аналогичные тенденции наблюдались при анализе микробиоценоза влагалища и кишечника: изменения отмечены у 67.6% беременных с уменьшением численности основной защитной флоры. Таким образом, исследование демонстрирует значительные отличия в состоянии микрофлоры кишечника между женщинами с ИБС и здоровыми беременными, что имеет важное клиническое значение.

Диаграмма 1.

Распределение изменений в пищеварительном тракте у пациента с заболеваниями сердца по частоте возникновения



У 23,5% беременных женщин было установлено наличие I степени дисбактериоза, у 60,8% — II степени, а у 15,7% — III степени. Наиболее значительные изменения микрофлоры кишечника зафиксированы у беременных с бактериальным вагинозом. Согласно исследованию, основанному на наших данных, у пациенток с III степенью дисбактериоза кишечника был обнаружен вагинальный дисбиоз (II степень), тогда как в большинстве случаев нормоценоз наблюдался у женщин с I степенью дисбактериоза кишечника.

Таблица 1.

Клинические исследования, которые демонстрируют связь между микробиомом кишечника и заболеваниями сердечно-сосудистой системы.

Болезни	Образец (Контроль исключен)	Клинические испытания	
		Эффект, связанный с кишечной микробиотой	Метод
Атероматоз	100 пациентов с STEMI [178]	Транслокация кишечных бактерий в кровоток	<u>ПЦР 16S рРНК</u> (область V4)
	4144 пожилых человека [124]	Повышенный уровень ТМАО	Разбавление стабильных изотопов <u>LC/MS/MS</u>
ИБС	29 пациентов с ИБС [179]	Повышение уровня L- карнитина и ТМАО	Ионизация электрораспылением (Хромато-масс-спектрометр жидкостный LC/MS-8060)

	63 пациента с ИБС без СГ [180]	Повышение уровня ЛПС и воспалительных цитокинов	<u>LBP, ELISA</u>
Хроническая сердечная недостаточность	428 пациентов с HFrEF 395 пациентов с HFpEF [181]	Повышенные уровни ТМАО — повышенная восприимчивость к СН	LC/MS/MS
Инфаркт	19 пациентов с ОКС [182]	Повышенная проницаемость кишечника и эндотоксемия	Соотношение L/M (лактолоза/маннит), <u>LC/MS</u> , секвенирование 16S
Мерцательная аритмия (фибрилляция предсердий (ФП))	20 пациентов с psAF [183]	Отличительные и прогрессирующие изменения микробиома кишечника и метаболической структуры	LC/MS (+/- ионный режим), <u>метагеномное</u> секвенирование
	912 пациентов с ФП [184]	Повышение уровня ЛПС и гиперреактивность тромбоцитов	ELISA
	20 пациентов с psAF—30 пациентов с PAF [182]	Отличительные и прогрессирующие изменения микробиома кишечника	LC/MS, Полнометагеномное <u>секвенирование дробовика</u>
	117 пациентов с ревматическим заболеванием сердца с ФП [185]	Повышение уровня ТМАО и развитие тромбов	<u>LTA</u> , LC/MS

Вывод. Проведенное исследование показало высокую распространенность дисбактериоза кишечника у пациентов с ИБС, а также выявило предикторы развития дисбиотических изменений как в предоперационном, так и в послеоперационном периодах. Анализировалась роль ишемической болезни и ее длительности в формировании микрoэкологических нарушений кишечника.

Разработан алгоритм обследования для пациентов с ИБС с целью раннего выявления дисбактериоза кишечника перед операцией реваскуляризации миокарда и в послеоперационный период. Также

предложен метод профилактики и коррекции дисбактериоза кишечника у пациентов, проходящих хирургическое лечение при ИБС.

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ЛЕЧЕНИЕ И ПРОФИЛАКТИКА ОСЛОЖНЕНИЙ ПОСЛЕ РЕЗЕКЦИИ ЯЗВЕННОЙ БОЛЕЗНИ ЖЕЛУДКА И ДВЕНАДЦАТИПЕРСТНОЙ КИШКИ

Резюме: На основе хирургического опыта лечения 47 пациентов с экстренными осложнениями пептических язв после гастроинтестинальных анастомозов, наилучшей методикой подтверждено применение реконструктивной резекции желудка по модификации Ру в сочетании с поддиафрагмальной ваготомией (37 случаев).

Рассмотрены достоинства операции по методу Ру-Никитина, включающей использование правого окна мезоколонного пространства. К преимуществам относятся верхнее расположение желудочного культи в брюшине и анатомический принцип «дуоденизации» отводящей кишки.

При реконструктивных вмешательствах основными показаниями стали нестабильные (субкомпенсированные) и декомпенсированные формы хронической непроходимости двенадцатиперстной кишки (8 случаев), а также короткая приводящая петля после операции по Бильрот-II с резекцией желудка, что зафиксировано в 4 наблюдениях.

Для оптимального отведения пищеварительных секретов из двенадцатиперстной кишки рекомендуется использование предложенного варианта дуоденоюнальной анастомозы с изоперистальтической ориентацией, что наиболее эффективно при применении в качестве основной операции резекции желудка по методу Ру-Никитина.

Ключевые слова: отдалённые результаты, эрадикационная терапия, перфоративная язва, желудочно-кишечный анастомоз, осложнённая пептическая язва, хирургическое лечение.

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TREATMENT AND PREVENTION OF COMPLICATIONS AFTER GASTRIC AND DUODENAL ULCER RESECTION

Resume: Based on surgical experience in treating 47 patients with emergency complications of peptic ulcers after gastrointestinal anastomoses, the best

technique was confirmed to be the use of reconstructive gastric resection by Roux-en-Y modification in combination with subdiaphragmatic vagotomy (37 cases).

The advantages of the operation by the Roux-Nikitin method, including the use of the right window of the mesocolonic space, are considered. The advantages include the superior location of the gastric stump in the peritoneum and the anatomical principle of "duodenization" of the efferent colon.

In reconstructive interventions, the main indications were unstable (subcompensated) and decompensated forms of chronic duodenal obstruction (8 cases), as well as a short afferent loop after the Bilroth-II operation with gastric resection, which was recorded in 4 cases.

For optimal drainage of digestive secretions from the duodenum, it is recommended to use the proposed version of duodenojejunal anastomosis with isoperistaltic orientation, which is most effective when used as the main operation of gastric resection according to the Ru-Nikitin method.

Keywords: *remote results, eradication therapy, perforated ulcer, gastrointestinal anastomosis, complicated peptic ulcer, surgical treatment.*

Актуальность. Известно, что после резекции желудка нарушается процесс всасывания этого железа в желудочно-кишечном тракте[3]. Причина нарушения процесса всасывания железа в желудочно-кишечном тракте в организме человека заключается в том, что после резекции желудка удаляются часть желудка и часть 12-перстного кишечника[5].

При этом снижается уровень участвующих в нем железобактерирующих частей[2]. Это означает, что объем и качество ферментов, необходимых для поглощения железа из желудочно-кишечного тракта, различаются[4].

Особенно, если желудок резецирован по методу Б-II, пища обходится без участия органов, усваивающих железо, и веществ, входящих в них.

Это состояние неотлично для пациента, поэтому необходимо изучить состояние и разработать необходимые лечебные мероприятия[1]. Причина может в дальнейшем привести к тяжелой поли-органной дистрофической недостаточности.

Цель исследования. Целью исследования является изучение факторов, вызывающих анемию при резекции язв желудка и двенадцатиперстной кишки.

Материалы и методы исследования. Мы были пациентами с хронической анемией, которые долгое время лечились 56 заболеваниями желудка и 12-перстного кишечника.

Из них 22 женщины (39%) и 34 (61%) мужчины, представляющие пациентов в возрасте от 19 до 68 лет. Эти пациенты были госпитализированы и обследованы для реабилитации через месяц после операции.

Результаты исследования. Мы сдали пациентам 8-10 мл крови из вены во время обеда, а затем дали пациенту 1,0 насыщенную водородом добавку железа. Затем принимали внутрь 30 мл 3% хлорида на килограмм. Кровь

брали из вены через 1, 3, 6 часов после питья. Затем пациенту разрешили есть. Полученную кровь хранили в термостате при 4-60 градусах, центрифугировали через 2 часа при скорости 2000, плазму отбирали отдельно.

Полученную плазму снова центрифугировали при 2000 об/мин для отделения плазмы. Полученная плазма была протестирована на содержание железа. Такие обследования проводились пациентам до и после операции.

В зависимости от проведенной операции у 48 пациентов с гастродуодено-анастомозом желудка Б-1 удалено резекцией 2/3 желудка, 3 пациента - по поводу декомпенсированного стеноза, 51 пациент разделен на три группы. У пациентов, получавших железо от 1 часа, концентрация железа составляла до 60% в 24-й группе, у 18 пациентов во 2-й группе - до 150%, а у 9 пациентов в 3-й группе - выше 151%.

В группе 4 этим 5 пациентам была выполнена резекция желудка В-II, в которой пациентам в этой группе была наложена длинная петля с гастроэнтеро-анастомозом Коричневый мост через переднюю часть тонкой кишки, 2/3 желудка были резецированы, а 12-перстного оставлены в начале кишечной непроходимости. Все пациенты, участвовавшие в обследовании, были получены на основании обследований, как указано выше, даже в предоперационном периоде.

После насыщения препаратом железа мы предпочли графически проверить абсорбированное железо, чтобы облегчить обобщение (индикатор пост-абсорбции). Можно рассматривать каждый случай отдельно и сравнивать, изменился ли он так или иначе. Это можно понимать как сравнение концентрации железа в сыворотке крови в заданный момент времени в процентах (1,3,6 часа) в предоперационном и послеоперационном периодах.

Например, если 100% принято натощак до насыщения, -140% через один час, -170% через 3 часа, -150% через 6 часов, наш высокий показатель составляет 170%. Этот показатель относился к среднему значению для всех пациентов. У некоторых пациентов 110% натощак, 160% через час после введения ионизированного двухвалентного железа, 240% через три часа, 180% через 6 часов, 140% натощак у третьего пациента, 180% через час после введения ионизированного двухвалентного железа. 210% через три часа, 180% через шесть часов.

Симптомы поверхностного гастрита и анастомозов выявлены у 4 пациентов, перенесших резекцию по методике Б-II, эвакуация сохранена. У одного пациента процесс всасывания железа был полностью нарушен из-за уплощения слизистой оболочки желудка и сокращения желез.

У всех 56 пациентов были взяты биопсии из нескольких мест, чтобы определить состояние оставшихся желез в послеоперационной полости, и когда было определено относительное количество желез и состояние секреции, количество желез было значительно уменьшено.

Исследования показали, что у 56 пациентов, получавших ионизированное двухвалентное железо, абсорбция препарата ухудшилась

после резекции желудка, чем после операции. У 48 пациентов функциональное состояние железо-сосущих желез желудка ухудшилось в 3-5 раз. У 3 больных основной группы и у пациентов, перенесших резекцию желудка по методике Б-П, после введения железа ионизированное двухвалентное железо полностью ухудшало абсорбцию железа, а динамика железа в плазме снизилась в 5-6 раз. К этому времени было обнаружено, что уровень железа в плазме крови снизился на 22-26% от исходного уровня.

Следует отметить, что у здорового человека железо всасывается в желудке, 12-перстном кишечнике и верхнем отделе тонкого кишечника. Чем ниже вы опускаетесь в тонком кишечнике, тем меньше железа всасывается.

Это состояние приводит к уменьшению поверхности всасывания железа, что может привести к тяжелой анемии из-за того, что железо не проходит через основные пути абсорбции из-за нарушения двухвалентного обмена. Компенсаторная функция собственного организма тоже работает, но для полного усвоения железа организмом требуется некоторое время.

Вывод. Хронические 12-перстные язвы кишечника и желудка (независимо от того, какая модификация метода Б-П) приводят к серьезным нарушениям абсорбции у пациентов после резекции желудка. Это нарушение всасывания железа встречается у 72-76% пациентов и увеличивается в 3-5 раз после операции.

Возникновение гипо-феремии после резекции желудка является серьезным осложнением, которое, если его не лечить, может привести к гипохромной агастральной анемии и гипотрофической полиорганной недостаточности.

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ОСОБЕННОСТИ ВЕДЕНИЯ БЕРЕМЕННЫХ ЖЕНЩИН С РАКОМ ЖЕЛУДКА

Резюме: Рак желудка - это опухоль, вызываемая слизистой оболочкой желудка.

В статье говорится, что рак молочной железы является четвертым по распространенности видом рака в мире, уступая только раку легких, молочной железы и предстательной железы и является третьей по распространенности причиной смерти при раке желудка. Ежегодно около 1 миллиона человек во всем мире заболевают раком желудка.

В этой статье цитируется, что позднее выявление рака желудка у беременных женщин часто связано со схожестью первых признаков рака желудка и признаков раннего токсикоза, поэтому почти в 90% случаев этот диагноз обусловлен его постановкой во втором и третьем триместрах.

В статье подчеркивается, что автор вновь ставит поздний диагноз, вероятность смерти матери до окончания беременности и высокая частота абортот приводят к значительному ухудшению прогноза для матери и плода, страдающих раком желудка, в новых подобных случаях 38% детей рождаются живыми.

Ключевые слова: рак желудка, беременность, токсикоз, новорожденные.

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FEATURES OF MANAGEMENT OF PREGNANT WOMEN WITH STOMACH CANCER

Resume: Stomach cancer is a tumor caused by the lining of the stomach. The article says that breast cancer is the fourth most common type of cancer in the world, second only to lung, breast and prostate cancers, and is the third most common cause of death from stomach cancer. Every year, about 1 million people worldwide develop stomach cancer.

This article cites that the late detection of stomach cancer in pregnant women is often associated with the similarity of the first signs of stomach cancer and signs

of early toxicosis, therefore, in almost 90% of cases, this diagnosis is due to its establishment in the second and third trimesters.

The article emphasizes that the author again makes a late diagnosis, the probability of maternal death before the end of pregnancy and the high frequency of abortions lead to a significant deterioration in the prognosis for the mother and fetus suffering from stomach cancer, in new such cases 38% of children are born alive.

Keywords: *stomach cancer, pregnancy, toxicosis, newborns.*

Актуальность. Лечение пациентов с раком желудка по-прежнему представляет собой одну из самых насущных задач в области онкологии[4]. Согласно данным Всемирной организации здравоохранения (ВОЗ, 2012), ежегодно в мире фиксируется около 950 тысяч новых случаев рака желудка, и свыше 700 тысяч людей умирают от этого заболевания. По этому параметру рак желудка уступает лишь раку легких, от которого умирает 1,37 миллиона человек[2,5].

Таким образом, рак желудка относится к наиболее агрессивным формам онкологических заболеваний, и результаты существующих методов терапии остаются неудовлетворительными.

В Соединенных Штатах рак желудка стал четвертой по распространенности формой рака (7,3%) и продолжает занимать второе место по смертности от злокачественных опухолей (11,5%)[7]. Мужчины болеют в два раза чаще, чем женщины, а пик заболеваемости наблюдается после 60 лет.

Основным способом терапии резектабельного рака желудка I—IV стадии считается радикальная хирургия, нацеленная на удаление опухоли и всех локорегионарных метастазов[3]. Однако даже полное удаление опухоли вместе с пораженными лимфатическими узлами не всегда предотвращает дальнейшее развитие болезни в постоперационный период.

Хирургическая терапия оказывается эффективной лишь в случае локализованных форм рака, при наличии инвазии серозной оболочки и/или метастазов[1,6]. Вероятность достижения пятилетней выживаемости при этом не превышает 30%, в то время как при диссеминированном процессе лишь небольшое число пациентов живет более двух лет[8].

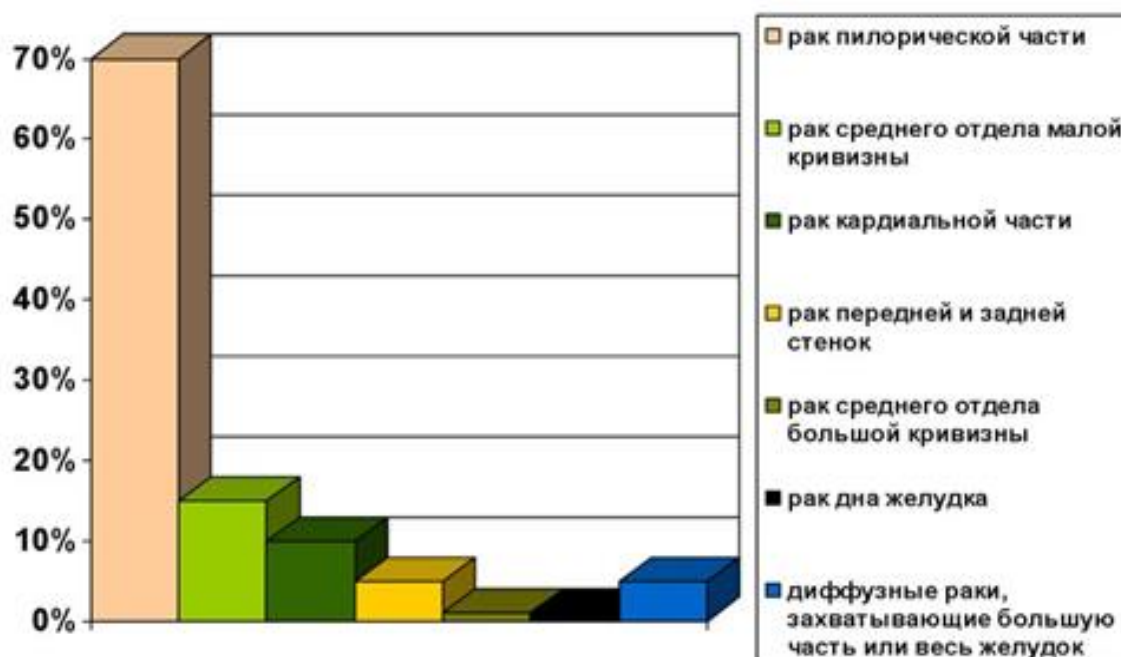
Цель исследования. Целью данного исследования является совершенствование методов лечения распространенного рака желудка у женщин в период беременности.

Материалы и методы исследования. Для достижения этой цели мы провели обследование 60 беременных пациенток, страдающих диссеминированным раком желудка.

Результаты исследования. Результаты нашего исследования показали, что одно из наиболее агрессивных заболеваний, выявленных у участниц во время беременности, — это рак желудка.

Диаграмма 1.

Распределение рака желудка по локализации в исследуемой группе больных.

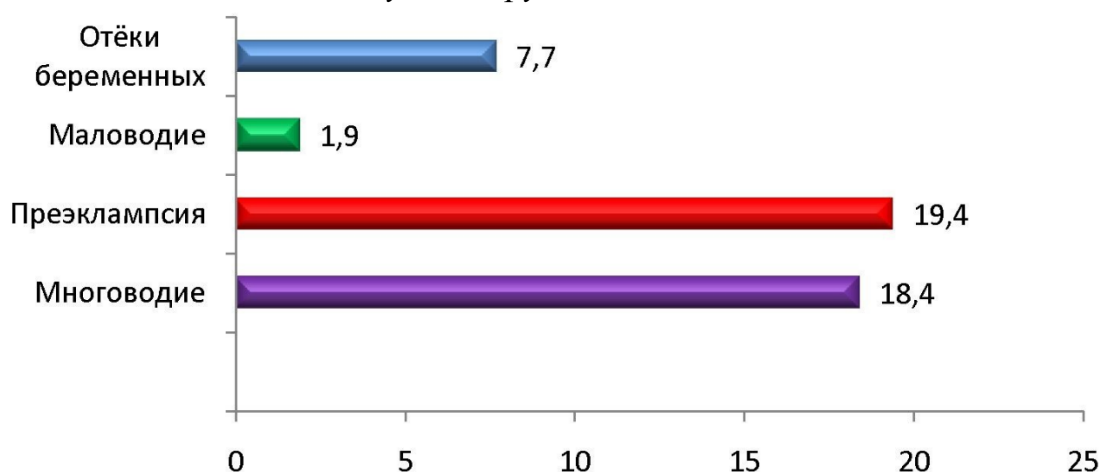


Поздняя диагностика была обусловлена схожестью начальных симптомов рака желудка с признаками раннего токсикоза, что привело к постановке диагноза почти у 90% пациенток на II и III триместрах.

Задержка в диагностике, вероятность летального исхода для матери до завершения беременности и высокая частота прерываний беременности значительно ухудшили прогноз для женщин и плодов, страдающих от рака желудка. В то же время, ситуация по новорожденным была более благоприятной: 38% детей родились живыми.

Диаграмма 2.

Распределение локализации рака желудка по осложнениям в исследуемой группе больных



Пятилетняя выживаемость среди обследованных женщин с раком желудка в период беременности составила всего 2,9%, тогда как для женщин без беременности этот показатель достиг 20%.

Терапевтические методы лечения рака желудка у данной категории пациенток варьировались в зависимости от распространенности заболевания и срока беременности. Например, при наличии операбельной опухоли на сроке более 6 месяцев была выполнена полная или субтотальная резекция желудка с сохранением беременности.

В случаях, когда опухоль не поддавалась лечению, наши исследуемые пациенты могли надеяться лишь на паллиативные меры. Однако наличие метастазов в яичниках не препятствовало проведению операций на желудке. В частности, во время второго триместра возможно выполнение двусторонней овариэктомии.

В общем случае, хирургическое вмешательство при раке и прерывание беременности следует рассматривать в первом триместре. На второй стадии возможно одновременно выполнить резекцию желудка и кесарево сечение. Во время третьего триместра подход определяется индивидуально: при жизнеспособном плоде резекция желудка может сочетаться с кесаревым сечением, либо же производится продолжение беременности.

В заключение, подход к лечению женщин с онкологическими заболеваниями в период беременности должен быть многопрофильным. Важно взаимодействие акушера-гинеколога и онколога с необходимым опытом и знаниями для проведения терапии с минимальными рисками и учетом сроков беременности.

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ИНФОРМАЦИОННЫЕ И КОММУНИКАТИВНЫЕ ТЕХНОЛОГИИ

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IOT TIZIMLARIDA ENERGIYA SAMARADORLIGINI OSHIRISH VA ENERGIYA TEJASH IMKONIYATLARI

Annotatsiya. *Narsalar interneti (IoT) rivojlanayotgan texnologiya bo'lib, energiya iste'moli muhim masalalardan biridir. Bu juda muhim, chunki qurilmalar energiya cheklangan. Batareya bilan ishlaydigan sensorlar, aktuatorlar va kundalik narsalar internetga ulangan. Ushbu paradigmada sezilarli yutuqlarga erishildi. Ushbu maqola IoT muhitida energiya sarfini minimallashtirish masalalari va usullarini taqdim etadi. Narsalar interneti (IoT) qurilmalarining energiya samaradorligini oshirish uchun qanday usullar, texnologiyalar va strategiyalar mavjudligini o'rganish.*

Kalit so'zlar: *IoT (Internet of Things), Energy Efficiency, Protocols (LoRa, Zigbee, MQTT).*

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POSSIBILITIES FOR INCREASING ENERGY EFFICIENCY AND ENERGY SAVING IN IOT SYSTEMS

Abstract: *The Internet of Things (IoT) is an emerging technology, and energy consumption is one of the important issues. This is important because devices are energy limited. Battery-powered sensors, actuators, and everyday objects are connected to the internet. Significant progress has been made in this paradigm. This paper presents issues and methods for minimizing energy consumption in an IoT*

environment. Explore what methods, technologies and strategies are available to improve the energy efficiency of Internet of Things (IoT) devices.

Keywords: *IoT (Internet of Things), Energy Efficiency, Protocols (LoRa, Zigbee, MQTT).*

Kirish. Narsalar Interneti - Millionlab qurilmalar internetga ulanganligi va qurilmalarning quvvati cheklanganligi sababli, energiya IoTda muhim omil hisoblanadi. Sensor tugunining ishlash muddatini oshirish uchun energiyani turli darajalarda tejash kerak. Ushbu maqolada IoT muhitida energiya samaradorligi va energiya tejashningba'zi usullari haqida umumiy ma'lumot berilgan. IoT qurilmalari orasida kam energiya sarflovchi va uzoq muddat ishlash imkoniyatini beruvchi ma'lumot uzatish protokollari mavjud bo'lib, ularning asosiy vazifasi qurilmalar o'rtasida samarali ma'lumot almashishni ta'minlashdir. Quyida shunday protokollardan eng mashhurlari - LoRa, Zigbee va MQTT haqida batafsil ma'lumot berilgan.

LoRa (Long Range) LoRa - uzoq masofalarga kam quvvat sarflab, simsiz aloqa qilish uchun yaratilgan protokoldir. U LoRaWAN (LoRa Wide Area Network) tarmoq protokolidan ishlaydi va juda kam energiya sarflaydi. LoRa uzoq masofalarda (qishloq joylarda 15-20 km, shahar joylarda 5 km) yuqori samaradorlikka ega. Bu IoT qurilmalari o'rtasida uzoq masofalardan ma'lumot almashishni ta'minlaydi. Quvvat iste'moli LoRa kam energiya sarflaydi, bu esa uni uzoq muddatli monitoring qurilmalari uchun maqbul qiladi. Tarmoq strukturasi moslashuvchanlik LoRaWAN to'liq avtomatlashtirilgan tarmoq boshqaruviga ega, bu esa turli tarmoq komponentlarini moslashtirish imkonini beradi.

Qo'llanilishi. Aqlli shaharlar Atrof-muhit monitoringi, shahar infratuzilmasi nazorati, transport tizimlarida qo'llaniladi. Qishloq xo'jaligi tuproq namligi, o'simlik monitoringi, sug'orish tizimlarida ishlatiladi.

Afzalliklari va kamchiliklari. Afzalliklari masofani uzoqdan nazorat qilish, kam quvvat iste'moli. Kamchiliklari ma'lumot uzatish tezligi nisbatan past, yuqori tezlik talab qiladigan xizmatlar uchun yaroqsiz.

Zigbee protokoli- past quvvat iste'mol qiluvchi va qisqa masofalarda samarali ishlaydigan protokoldir. Zigbee protokoli odatda o'rta masofali, xavfsiz va yuqori samaradorlikka ega ma'lumot almashish uchun ishlatiladi. Masofa va diapazon Zigbee odatda 10-100 metr oralig'ida ishlaydi va zich tarmoqlarda yuqori samaradorlik ko'rsatadi. Kam energiya sarfi Zigbee protokoli kam quvvat iste'mol qiladi, bu esa uni uzoq muddatli ishlashga moslashtiradi. Mesh tarmoq Zigbee mesh tarmoq tuzilmasiga ega bo'lib, bu tarmoq ichidagi barcha qurilmalar o'rtasida axborot uzatishni ta'minlaydi.

MQTT - ma'lumotlarni past quvvat bilan, samarali uzatishni ta'minlaydigan engil protokol bo'lib, sensorlar va qurilmalar o'rtasida ma'lumot uzatish uchun keng qo'llaniladi. MQTT engil bo'lib, tarmoqlararo ishlash uchun mo'ljallangan. MQTT ma'lumotlarni "Publish" va "Subscribe" (e'lon qilish va obuna bo'lish) modeli asosida uzatadi, bu esa tarmoqlarni samarali boshqarish imkonini beradi. Tezkor

ma'lumot almashish imkoniyati bilan mos keladi. Tarmoqlararo moslashuvchanlik, past quvvat sarfi.

Ushbu protokollar IoT tizimlarida energiyani samarali ishlatish imkonini beradi va qurilmalarni uzoq muddat ishlatishga imkon yaratadi. Har bir protokolning qo'llanilishi maqsadga muvofiq bo'lib, ular tarmoq masofasi, energiya iste'moli va xavfsizlik talablariga qarab tanlanadi.

Protokol xususiyatlari marshrutlash protokollarining xarakteristikallari proaktiv, reaktiv va gibrid protokollar kabi uchta asosiy toifaga bo'linishi mumkin. Proaktiv protokollar har doim butun tarmoq topologiyasini ko'rib chiqishga harakat qilib, marshrutlash ma'lumotlarini faol ravishda to'playdi. Reaktiv protokol talab bo'yicha marshrutlarni qidiradi. Faqat uzatish boshlanganda, marshrutni aniqlash jarayoni ishga tushadi. Gibrid - bu ikkalasining kombinatsiyasi. Paketlarni yo'naltirish hop orqali yoki manba marshrutlash orqali bo'lishi mumkin. Birinchisi bilan har bir router har bir marshrutning kichik qismini saqlaydi. Ikkinchisi bilan ma'lumotlarni uzatish uchun marshrutningbutun yo'li ishlatiladi. Bu xotira samaradorligining afzalliklariga ega. Bu sarlavha hajmini va trafik hajmini oshiradi. Ko'p yo'nalishli marshrutlashdan foydalanadigan protokol har bir manzilga muqobil yo'llarni qidiradi. O'zbekiston Respublikasida davlat standartlari kiberxavfsizlik sohasida axborot xavfsizligini ta'minlash uchun asosiy mezonlardan biri hisoblanadi. CSEC.uz ma'lumotlariga ko'ra, O'zbekiston Respublikasining davlat standartlari, masalan, O'z DSt ISO/IEC 17025 va O'z DSt ISO/IEC 17065, axborot xavfsizligi vositalarini tekshirish va sertifikatlash bo'yicha xalqaro talablarga mos keladi. Ushbu standartlar laboratoriyalar va sertifikatlashtirish organlari tomonidan yuqori sifatli va ishonchli xizmat ko'rsatishni ta'minlashga xizmat qiladi.

1-jadval

O'tish	Energiya tejash imkoniyatlari	Tavsif
1. Past quvvatli tarmoqlar va protokollar	LoRa, Zigbee, NB-IoT, Bluetooth kam energiya	Uzoq muddat ishlash va kam energiya sarfi bilan ma'lumot almashish imkonini beruvchi protokollar.
2. Qayta tiklanuvchi energiya manbalari	Quyosh panellari, shamol turbinalari	IoT qurilmalarini uzluksiz quvvat bilan ta'minlaydi, ekologik toza energiya bilan ishlash imkoniyatini beradi.
3. Aqlli quvvat boshqaruvi	Uxlash (Sleep) va kam quvvat rejimlari	Qurilma ishlamagan vaqtda quvvat sarfini minimal darajada saqlaydi, energiyani tejashni ta'minlaydi.
4. Optimallashtirilgan ma'lumot uzatish	Ma'lumotni siqish, uzatish chastotasini kamaytirish	Katta hajmli ma'lumotlarni qisqartirib, tarmoqqa yuklanishni kamaytiradi va energiyani tejaydi.
5. Aqlli sensorlardan foydalanish	Aqlli harorat, namlik, harakat sensorlari	IoT tizimlarida ma'lumot yig'ishni samarali boshqaradi, bu esa ortiqcha energiya sarfini oldini oladi.

O'tish	Energiya tejash imkoniyatlari	Tavsif
6. To'r tarmoq texnologiyasi	Zigbee Mesh tarmoqlari	Tarmoq ichidagi qurilmalar o'rtasida ma'lumot almashish imkoniyatini oshiradi va quvvatni tejaydi.
7. Kiberxavfsizlikning engil texnologiyalari	Kam quvvat talab qiladigan xavfsizlik protokollari	IoT tizimlarining xavfsizligini ta'minlab, energiya iste'molini boshqaradi.
8. Aholi va sanoatni kuzatish tizimlari	Haqiqiy vaqtda monitoring	Qurilmalar faoliyatini monitoring qilish orqali ishlamagan paytda avtomatik o'chirish imkonini beradi.

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ОБЕСПЕЧЕНИЕ АУТЕНТИФИКАЦИИ В СЕТИ ПЕРЕДАЧИ ДАННЫХ

Аннотация. Аутентификация является фундаментальным элементом безопасности в современных сетях передачи данных. Эта статья представляет собой сравнительный анализ различных подходов к аутентификации, рассматривая различные методы, протоколы и технологии, а также их эффективность в обеспечении безопасного доступа к ресурсам.

Ключевые слова. Аутентификация, кибербезопасность, сетевая безопасность, MFA, биометрия, Kerberos, OAuth, RADIUS, LDAP, протоколы аутентификации.

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ENSURING AUTHENTICATION IN A DATA TRANSMISSION NETWORK

Abstract. Authentication is a fundamental element of security in modern data transmission networks. This article presents a comparative analysis of various authentication approaches, examining different methods, protocols, and technologies, as well as their effectiveness in ensuring secure access to resources.

Keywords. Authentication, cybersecurity, network security, MFA, biometrics, Kerberos, OAuth, RADIUS, LDAP, authentication protocols.

Введение

В условиях беспрецедентного роста объема передаваемых данных, усложнения сетевых инфраструктур и усиления кибератак, обеспечение

надежной аутентификации пользователей и устройств становится не просто важной, а критически необходимой задачей для сохранения конфиденциальности, целостности и доступности данных. Аутентификация – это процесс проверки подлинности заявленной идентичности, который служит основой для безопасного доступа к сетевым ресурсам и данным (1). Слабые места в механизмах аутентификации могут привести к несанкционированному доступу, утечкам конфиденциальной информации, саботажу и другим серьезным последствиям. Таким образом, разработка, внедрение и постоянное совершенствование эффективных методов аутентификации являются приоритетными задачами для любой организации, использующей сети передачи данных.

В данной статье рассматриваются фундаментальные исследования таких авторов, как Брюс Шнайер (2) в области криптографии и протоколов безопасности, Эндрю Таненбаум (3) в области компьютерных сетей, а также к работам Виджая Пачаи и Шринивасана Веллы (4), посвященным многофакторной аутентификации, и Кристин Каппер (5), изучающей биометрическую аутентификацию и ее уязвимости. Цель – предоставить сравнительный анализ различных методов аутентификации, основываясь на эмпирических данных, а также критически оценить их слабые стороны и предложить перспективные направления развития.

Основная часть.

Ключевые аспекты аутентификации

В результате анализа научной литературы, экспертных мнений и практического опыта, выделяются следующие ключевые аспекты, которые играют важную роль в обеспечении безопасности аутентификации в сетях передачи данных.

Методы аутентификации:

Парольная аутентификация. Традиционный, но крайне уязвимый метод, основанный на использовании паролей, которые могут быть слабыми, украденными или скомпрометированными (6). Исследования показывают, что значительное количество утечек данных происходит из-за слабых паролей и атак, направленных на их получение (например, фишинг, брутфорс).

Многофакторная аутентификация (MFA). Метод, который комбинирует два или более метода аутентификации, что значительно повышает безопасность. Обычно это комбинация чего-то, что пользователь знает (пароль), чего-то, что у него есть (мобильный телефон, смарт-карта) или чего-то, чем он является (биометрические данные). Пачаи и Велла (4) отмечают, что использование MFA является одним из наиболее эффективных способов защиты от несанкционированного доступа.

Аутентификация на основе сертификатов. Использует цифровые сертификаты для проверки подлинности устройств и пользователей, обеспечивая более высокий уровень безопасности, чем парольная аутентификация, так как сертификаты основаны на асимметричной криптографии, что делает их сложнее подделать (2).

Биометрическая аутентификация. Использует уникальные биологические характеристики (отпечатки пальцев, сканирование лица, радужной оболочки глаза и т.д.) для идентификации пользователей, что, как указывает Каппер (5), обеспечивает высокий уровень безопасности и удобства, но также создает новые вызовы, связанные с защитой биометрических данных.

Протоколы аутентификации.

Kerberos. Протокол, использующий доверенную третью сторону (сервер ключей) для аутентификации пользователей и сервисов, что обеспечивает высокий уровень безопасности в корпоративных сетях, но может быть сложным в настройке и обслуживании (3).

OAuth. Протокол, позволяющий предоставлять доступ к ресурсам без передачи паролей, что удобно для веб-приложений и сторонних сервисов (8). Тем не менее, неправильная реализация OAuth может создавать уязвимости для атак с использованием поддельных токенов.

RADIUS (Remote Authentication Dial-In User Service). Протокол для централизованной аутентификации, авторизации и учета пользователей, часто используемый в сетях провайдеров и корпоративных беспроводных сетях (9). RADIUS обеспечивает стандартизированный способ управления доступом, но его безопасность напрямую зависит от надежности используемого протокола (например, EAP-TLS) и методов шифрования.

LDAP (Lightweight Directory Access Protocol). Протокол для доступа к каталогам данных, часто используемый для аутентификации в корпоративных сетях. LDAP, как и другие протоколы, требует внимательного подхода к настройке и защите данных от несанкционированного доступа и утечек (3).

Безопасность аутентификационных данных. Защита паролей, ключей, сертификатов и других аутентификационных данных от кражи и компрометации является критически важным аспектом. Это включает в себя использование надежных алгоритмов хеширования (bcrypt, Argon2) для защиты паролей, шифрование данных при передаче и хранении, а также строгий контроль доступа к системам аутентификации (2).

Масштабируемость и управляемость. Системы аутентификации должны быть способны эффективно обрабатывать большое количество пользователей и устройств, а также предоставлять удобные инструменты для управления, мониторинга и аудита (3). Масштабируемость и удобство управления являются важными факторами, которые влияют на общую стоимость владения и эффективность использования системы аутентификации.

Удобство использования. Методы аутентификации должны быть не только безопасными, но и удобными для конечных пользователей, чтобы избежать снижения их производительности и мотивации к их использованию (10). Неудобные методы аутентификации могут приводить к тому, что пользователи будут искать способы их обхода, что может снизить общую безопасность системы.

Сравнительный анализ на основе эмпирических данных.

Парольная аутентификация и MFA. В исследовании, проведенном Пачаи и Веллой (4) в 2019 году и опубликованном в журнале "Cyber Security Technology", была проанализирована база данных из 1000 организаций, которая показала, что внедрение MFA снижает риск успешных атак на аккаунты пользователей на 90-99%. В частности, использование SMS-кодов снижает риск взлома на 92%, в то время как

использование приложения-аутентификатора снижает риск на 98%.

Биометрическая аутентификация. Каппер (5) в своей книге "Biometric Authentication Security" (2020) анализирует уязвимости различных методов биометрической аутентификации и отмечает, что сканирование радужной оболочки глаза обеспечивает более высокий уровень безопасности, чем сканирование лица, но требует более дорогостоящего оборудования. При этом она указывает на то, что все биометрические методы уязвимы к атакам спуфинга, но с разной степенью сложности.

Сравнительная эффективность протоколов аутентификации. В книге "Computer Networks" (2011) Таненбаум (3) подчеркивает, что Kerberos является наиболее безопасным протоколом аутентификации для корпоративных сетей, особенно при использовании сильных алгоритмов шифрования. Однако, он также указывает на сложность настройки и обслуживания этого протокола. С другой стороны, OAuth, будучи удобным и распространенным протоколом, может быть уязвим для атак с использованием поддельных токенов, если он используется без должных мер предосторожности, как это было показано в ряде исследований, посвященных OAuth.

Безопасность хранения паролей. Шнайер (2) в книге "Applied Cryptography" (2015) детально описывает методы и уязвимости различных алгоритмов хеширования, подчеркивая важность использования современных и надежных алгоритмов, таких как bcrypt или Argon2, а также соли для защиты паролей от атак по словарю.

Перспективы развития и современные вызовы.

Развитие методов аутентификации будет определяться следующими ключевыми тенденциями и вызовами.

Широкое распространение MFA. MFA будет становиться стандартом для всех систем, где требуется высокий уровень безопасности,

а также будут появляться новые и более удобные методы MFA.

Улучшение биометрической аутентификации. Появление более точных и безопасных методов биометрической аутентификации, которые будут сложнее подделать.

Использование ИИ и МО. Использование искусственного интеллекта и машинного обучения для обнаружения аномалий в процессе аутентификации и предотвращения несанкционированного доступа, а также для адаптации к новым видам атак (11).

Безопасность IoT. Устройства IoT требуют новых методов аутентификации, которые были бы эффективны, но при этом потребляли мало ресурсов.

Новые протоколы аутентификации. Разработка более безопасных и эффективных протоколов аутентификации, которые были бы устойчивы к атакам, например, протоколы на основе zero-knowledge proof.

Безопасность персональных данных. Обеспечение защиты персональных данных, собранных в процессе аутентификации, в соответствии с требованиями GDPR и других законов о защите данных.

Заключение

Обеспечение надежной аутентификации является критически важным аспектом безопасности в современных сетях передачи данных. Выбор метода аутентификации должен основываться на тщательном анализе конкретных потребностей, ограничений и рисков, а также на результатах научных исследований и эмпирических данных. В будущем, аутентификация будет развиваться в направлении использования более продвинутых методов, таких как MFA, биометрия, ИИ и МО, а также в направлении разработки новых, более безопасных и эффективных протоколов и технологий.

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ПРОТОКОЛЫ МАРШРУТИЗАЦИИ И ИХ ПРИМЕНЕНИЕ В КОМПЬЮТЕРНЫХ СЕТЯХ

***Аннотация.** Статья рассматривает различные протоколы маршрутизации, их принципы работы и применение в компьютерных сетях для оптимизации маршрутов передачи данных, повышения надежности и эффективности сетевой инфраструктуры.*

***Ключевые слова:** проблемы маршрутизации, протоколы маршрутизации, маршрутизация, протокол, сеть, пакет, связь.*

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ROUTING PROTOCOLS AND THEIR APPLICATION IN COMPUTER NETWORKS

***Abstract.** This article examines various routing protocols, their operating principles, and their application in computer networks to optimize data transmission routes, improve reliability, and enhance the efficiency of the network infrastructure.*

***Keywords:** routing problems, routing protocols, routing, protocol, network, packet, connection.*

Введение. Задачи маршрутизации решаются на основе анализа таблиц маршрутизации, размещенных на всех маршрутизаторах и конечных узлах сети. Основная работа по созданию таблицы маршрутизации выполняется автоматически, однако предусмотрена возможность ручного внесения изменений и дополнений.

Для автоматического построения таблицы маршрутизации маршрутизаторы обмениваются информацией о топологии сети в соответствии со специальным служебным протоколом. Такие протоколы называются протоколами маршрутизации (или маршрутизирующими протоколами). Протокол маршрутизации (например, RIP, OSPF, NLSP) следует отличать от сетевых протоколов (например, IP, IPX). Оба типа протоколов выполняют задачи сетевого уровня модели OSI. Они доставляют

пакеты к адресатам в различных подсетях. Однако первые из них передают исключительно служебную информацию, а вторые предназначены для передачи пользовательской информации, аналогично протоколам канального уровня. Протоколы маршрутизации используют сетевые протоколы в качестве транспортного средства. Когда пакеты протоколов маршрутизации обмениваются информацией о маршрутах, они размещаются в поле данных пакетов сетевого или даже транспортного уровня. Поэтому с точки зрения размещения пакетов протоколов маршрутизации следует рассматривать как более высокий уровень по сравнению с формальным сетевым уровнем.

Основная часть. Когда маршрутизаторы обращаются к таблицам адресов для принятия решения о передаче пакетов, можно заметить их сходство с мостами и коммутаторами. Однако природа адресных таблиц, которые они используют, существенно различается. Вместо MAC-адресов в таблицах маршрутизации указываются номера подсетей, соединенных через межсетевые соединения. Другим отличием таблицы маршрутизации от адресных таблиц мостов является способ их построения. Если мосты строят свои таблицы, пассивно наблюдая за информационными кадрами, передаваемыми между конечными узлами сети, то маршрутизаторы активно обмениваются специальными служебными пакетами, информируя соседей о подсетях, маршрутизаторах и их связях. Обычно при этом учитывается не только топология связей, но и их пропускная способность и состояние. Это позволяет маршрутизаторам быстрее адаптироваться к изменениям конфигурации сети и корректно передавать пакеты в сложных сетях с произвольной топологией.

С помощью протоколов маршрутизации маршрутизаторы составляют карту сетевых соединений с различной степенью детализации. На основе этой информации принимается решение о том, какому маршрутизатору передать пакеты для определенной подсети, чтобы маршрут был наиболее оптимальным. Результаты этих решений заносятся в таблицы маршрутизации. Если конфигурация сети изменяется, некоторые записи в таблицах могут стать недействительными, что иногда приводит к потере или остановке пакетов.

Качество работы всей сети зависит от того, насколько Протокол маршрутизации способен адаптировать содержимое таблиц к реальному состоянию сети. Протоколы маршрутизации различаются методами построения таблиц маршрутизации, способами выбора оптимального маршрута и другими характеристиками. Это ускоряет передачу пакетов через сеть, снижает нагрузку на маршрутизаторы, но увеличивает нагрузку на конечные узлы. Такая схема используется редко, за исключением случаев, когда требуется распределенная одноэтапная маршрутизация. Однако в новой версии протокола IP предусмотрена поддержка как классической одноэтапной маршрутизации, так и маршрутизации на основе источника.

Одноэтапные алгоритмы делятся на три класса в зависимости от метода построения таблиц маршрутизации:

- статические алгоритмы маршрутизации;
- простые алгоритмы маршрутизации;
- динамические (или адаптивные) алгоритмы маршрутизации.

Статическая маршрутизация предполагает, что все записи в таблице маршрутизации являются статическими. Администратор сети сам определяет, каким маршрутизаторам передавать пакеты для определенных адресов, и вручную добавляет записи в таблицу маршрутизации с помощью утилит (например, `route` для Unix или Windows NT). Такая таблица создается во время загрузки системы и остается неизменной, если в нее не вносятся изменения вручную. Например, такие изменения могут понадобиться, если один из маршрутизаторов выходит из строя, и его функции берет на себя другой маршрутизатор. Существует два типа таблиц маршрутизации: однопутевые и многопутевые. В однопутевой таблице для каждого адреса указан только один маршрут, а в многопутевой — несколько альтернативных маршрутов. В последнем случае один из маршрутов назначается основным, а остальные являются резервными. Очевидно, что статический алгоритм подходит только для простых сетей с небольшой топологией. Однако он может быть эффективным для работы с крупными магистральными сетями, поскольку такие сети обычно имеют простую структуру с наилучшими маршрутами для подсетей, подключенных к магистрали.

Простые алгоритмы маршрутизации не используют таблицы маршрутизации или обходятся без протоколов маршрутизации. Существуют три типа простой маршрутизации:

- случайная маршрутизация, при которой пакеты отправляются в произвольные направления, отличные от первоначального;
- лавинная маршрутизация, когда пакеты рассылаются во все возможные направления, помимо первоначального;
- маршрутизация на основе предыдущего опыта, когда выбор маршрута осуществляется на основе таблицы, сформированной путем анализа адресных полей пакетов на входных портах.

Наиболее распространенным является динамический (или адаптивный) алгоритм маршрутизации. Такие алгоритмы автоматически обновляют таблицы маршрутизации при изменении конфигурации сети. Протоколы, построенные на основе динамических алгоритмов, оперативно фиксируют изменения в конфигурации сетей и собирают информацию о топологии связей. Динамическая маршрутизация обычно включает данные о времени жизни маршрута (Time To Live, TTL). Такие алгоритмы, как правило, распределены, что позволяет собирать и обобщать топологическую информацию всеми маршрутизаторами сети.

Динамические алгоритмы маршрутизации должны соответствовать нескольким важным требованиям. Во-первых, они должны обеспечивать не только оптимальность, но и приемлемость маршрута. Во-вторых, алгоритмы

должны быть достаточно простыми, чтобы их реализация не требовала значительных ресурсов сети. Наконец, алгоритмы маршрутизации должны быть предсказуемыми и давать одинаковый результат при одинаковых условиях.

Динамические протоколы маршрутизации, используемые в современных сетях, делятся на две группы в зависимости от используемого алгоритма:

- алгоритмы векторного расстояния (Distance Vector Algorithms);
- алгоритмы состояния связи (Link State Algorithms).

Алгоритмы векторного расстояния предполагают, что каждый маршрутизатор периодически и широковещательно передает вектор, компоненты которого представляют собой расстояния от данного маршрутизатора до всех известных ему сетей. Под расстоянием понимается количество переходов (хопов) между маршрутизаторами или время прохождения пакетов через соседние маршрутизаторы. После получения вектора от соседа маршрутизатор увеличивает расстояния на значение, равное расстоянию до этого соседа, добавляет информацию о сетях, о которых узнал от соседей, и передает обновленный вектор дальше. В результате каждый маршрутизатор получает информацию о всех сетях в межсетевом пространстве и расстояниях до них через соседние маршрутизаторы.

Наиболее распространенным протоколом, основанным на алгоритме векторного расстояния, является RIP. Он существует в двух версиях: RIP IP для работы с протоколом IP и RIP PX для работы с протоколом IPX.

Алгоритмы состояния связи предоставляют каждому маршрутизатору достаточно информации для построения точного графа сетевых соединений. Все маршрутизаторы работают на основе одинаковых графов, что обеспечивает устойчивость маршрутизации к изменениям конфигурации сети. Широковещательная передача используется только при изменении состояния соединений, что редко встречается в надежных сетях.

Протоколы, основанные на алгоритмах состояния связи, включают IS-IS стека OSI (Intermediate System to Intermediate System), OSPF стека TCP/IP (Open Shortest Path First) и NLSP стека Novell.

Таким образом, выбор маршрутов для передачи пакетов в IP-сетях осуществляется на основе таблиц маршрутизации. Сам протокол IP не предоставляет возможности выбора правильного маршрута, для этого используются управляющие протоколы обмена информацией, такие как ICMP, OSPF и RIP.

Основы маршрутизации в IP-сетях: Задачей сетевого уровня является маршрутизация, то есть передача пакетов между двумя конечными узлами в составе сети.

В данной сети 20 маршрутизаторов объединяют 18 сетей: S1, S2, ..., S20. Каждый маршрутизатор имеет несколько портов (не менее двух), через которые подключаются сети. Каждый порт маршрутизатора имеет сетевой

адрес и локальный адрес. Например, маршрутизатор M1 с тремя портами подключен к сетям S1, S2 и S3. Адреса портов обозначены как M1(1), M1(2) и M1(3). Порт M1(1) имеет локальный адрес в сети S1, порт M1(2) — в сети S2, а порт M1(3) — в сети S3. Таким образом, маршрутизатор можно рассматривать как совокупность узлов, каждый из которых принадлежит своей сети. Поскольку маршрутизатор является единым устройством, он не имеет собственного сетевого или локального адреса.

В сложных сетях почти всегда существует несколько альтернативных маршрутов для передачи пакетов между двумя конечными узлами. Маршрут представляет собой последовательность маршрутизаторов, через которые должен пройти пакет от отправителя до получателя. Например, пакет, отправленный из узла А в узел В, может пройти через маршрутизаторы 17, 12, 5, 4 и 1 или через маршрутизаторы 17, 13, 7, 6 и 3. Другие возможные маршруты также легко найти. Выбор маршрута осуществляется маршрутизаторами и конечными узлами на основе информации о текущей конфигурации сети и заданных критериев выбора.

Заключение. В данной статье рассмотрены процессы решения задач маршрутизации на основе анализа таблиц маршрутизации, размещенных на маршрутизаторах и конечных узлах сети. Основная работа по созданию таблицы маршрутизации выполняется автоматически, однако предусмотрена возможность ручного внесения изменений и дополнений. Таким образом, маршрутизатор можно рассматривать как совокупность узлов, каждый из которых принадлежит своей сети.

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ВАЖНОСТЬ ИСКУССТВЕННОГО ИНТЕЛЛЕКТА В СИСТЕМЕ ОБРАЗОВАНИЯ

Аннотация: В этой статье подробно рассказывается об использовании искусственного интеллекта в системе образования, о плюсах и минусах применения искусственного интеллекта в образовании.

Ключевые слова: система образования, искусственный интеллект, профессиональная деятельность, виртуальная реальность, интеллектуальные машины, робототехника.

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ARTIFICIAL INTELLIGENCE AND ITS IMPORTANT IMPORTANCE IN EDUCATION

Annotation: This paper provides a comprehensive overview of the application of artificial intelligence in the educational system, examining both the benefits and drawbacks of its implementation in education.

Keywords: educational system, artificial intelligence, professional activities, virtual reality, Smart Machines, Robotics.

Введение: Искусственный интеллект (ИИ) сейчас очень популярный термин во всем мире. Это развивающаяся технология, которая учит машины думать, действовать или реагировать так же, как люди. Это означает, что каждый должен точно знать, что такое ИИ, как работает ИИ, а также его основные инструменты и приложения. Известно, что машины запрограммированы имитировать человеческие движения, говорить и взаимодействовать, как люди, и неустанно работать. Однако важно знать типы ИИ, основные подполя, такие как машинное обучение, глубокое обучение и обработка естественного языка (НЛП), а также его применение в различных областях и достижения, достигнутые до сих пор. Эта статья посвящена всем вышеперечисленным областям и пытается познакомить читателя с важными аспектами искусственного интеллекта. Что касается положительных аспектов искусственного интеллекта, то он снижает количество человеческих ошибок и рисков, не требует перерывов и обновлений, в отличие от людей. Выполняет повторяющиеся действия и быстрее принимает решения. Ежедневные

программы могут помочь в опасных ситуациях, привести к приватизации обучения, улучшить ИТ, развить гибкую команду, интеллектуальная модернизация также исследует виртуальную реальность. Оценивает разрешение в реальном времени. У машины есть как достоинства, так и недостатки.

Анализ литературы и методология: Одним из важных факторов искусственного интеллекта является обучение модели машины и ее применение в образовании и других областях. Machine learning (Машинное обучение) - это практика и теория создания самообучающихся приложений, большая часть искусственного интеллекта. Программисты учат свои алгоритмы определять общие закономерности в частных случаях. В результате компьютер принимает решения, основываясь на своей личной компетентности, а не на командах, которые человек указал ранее. К data mining можно отнести очень много методов такого обучения. Первый тариф на машинное обучение был дан американским информатиком Артуром Сэмюэлем в 1959 году. Он создал шашечную игру с элементами искусственного интеллекта, первую в мире программу для самостоятельного обучения. Посредством машинного обучения компьютеры учатся распознавать не только лица на фотографиях и изображениях, но и пейзажи, объекты, текст и числа. Компьютерное обучение также важно, когда речь идет о тексте: функция проверки грамматики теперь доступна в любом текстовом редакторе и даже на телефонах. Кроме того, учитывается не только написание слов, но и контекст, оттенки значения и другие тонкие лингвистические аспекты. Причем без вмешательства человека (экономического, спортивного и др.) q mattersdam) есть программное обеспечение, с помощью которого можно писать новостные статьи. Как известно, в мировом масштабе воспитанию подрастающего поколения уделяется особое внимание. Последовательно ведется деятельность по созданию всех необходимых условий для получения молодежью современных знаний, взросления с высокой духовностью. К 21 веку наука настолько усовершенствовалась, что стало невозможно представить ни один день нашего образа жизни без достижений науки и технологий. В частности, такие концепции, как информированное общество и искусственный интеллект, стали важной частью нашей жизни. Что касается концепции искусственного интеллекта, которая часто встречается в нашем обществе, для начала нам нужно понять концепцию интеллекта. Деятельность, проводимая в нашем государстве по развитию всех отраслей образовательной сферы-дошкольного образования, школьной системы, среднего специального и высшего образования, строительству новых учреждений и реконструкции существующих, приносит свои плоды в развитии молодежи. Искусственный интеллект-это быстро развивающаяся область технологий, связанная с созданием интеллектуальных машин, которые имитируют человеческое поведение и выполняют задачи с человеческой точностью.

Результаты: Область искусственного интеллекта сосредоточена на создании программного обеспечения и систем, которые позволяют учиться на

данных, рассуждать, понимать естественный язык, воспринимать изображения и звуки и принимать решения с использованием информации, собранной с помощью различных инструментов. В контролируемом обучении машины учатся на примерах статей, помеченных людьми, в то время как в неконтролируемом обучении они изучают шаблоны наборов данных без специальных инструкций.

Лучшее обучение, последнее усовершенствование машинного обучения, включает в себя изучение больших объемов данных с помощью многоуровневых нейронных сетей. Здесь большие объемы данных вводятся в алгоритмы для изучения или выполнения сложных задач. Сегодня приложения искусственного интеллекта намного сложнее и совершенствуются, от голосовых помощников до алгоритмов прогнозирования фондового рынка, обработки естественного языка и программного обеспечения для распознавания изображений. Искусственный интеллект занимается робототехникой и предоставляет машины для автоматизации текущих действий.

Обсуждение: в последнее время оцифровка данных значительно улучшилась. Но, как и любая другая технология, данные студентов могут быть подвержены взлому. Если он попадет в чужие руки, школы всегда рискуют использовать личную информацию ненадлежащим образом. Искусственный интеллект вряд ли найдет прогресс. Всегда есть аргумент, что подъемы перевешивают недостатки. Пришло время, когда наша система образования нуждается в обновлении, и теперь искусственный интеллект может подтолкнуть нас в правильном направлении.

Хотя умные машины улучшают образовательный опыт, их не следует рассматривать как замену личному взаимодействию. Для класса или учителей, которые слишком сильно полагаются на эти машины, получение помощи может привести к появлению вредоносных образовательных программ для учащихся. Компьютеры демонстрируют не только способность организовывать умные дневники, но и способность обучать другие компьютеры. Однако существует высокая вероятность того, что они не смогут принимать решения с помощью интуиции в новых ситуациях, которые часто возникают в классе.

Заключение: В заключение можно сказать, что в настоящее время искусственный интеллект стал неотъемлемой частью нашей жизни. Но и определенные его недостатки тоже бросаются в глаза. Например, по мере ускорения совершенствования ИИ постепенно сокращаются и профессиональные рабочие места. Он также оказывает значительное влияние на деятельность в области здравоохранения, преподавания, защиты интересов, реагирования на чрезвычайные ситуации, социальных работников, обслуживания клиентов. Не следует забывать, что искусственный интеллект уже не может занять профессию людей, которые проявляют творческий подход, то есть креативность, изобретательность идей. Таких областей можно привести множество примеров!

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USING PROJECT-BASED METHOD IN EFLT CLASSES

Abstract: *This study investigates the effects of Project-Based Learning (PBL) on English as a Foreign Language (EFL) learners' language proficiency. Utilizing a quasi-experimental design, the study compares the language development of students exposed to a PBL approach with those receiving traditional instruction. The findings suggest that PBL positively influences learners' communicative competence, motivation, and collaborative skills.¹ This research contributes to the growing body of literature supporting the integration of PBL into EFL classrooms.*

Keywords: *Project-Based Learning, EFL, Language Proficiency, Communicative Competence, Motivation, Collaborative Learning.*

Introduction:

In today's interconnected world, effective communication in English is crucial. Traditional EFL teaching methods, often focusing on grammar rules and rote memorization, may not adequately prepare learners for real-world communication.² Project-Based Learning (PBL), an instructional approach centered around student-driven projects, offers a potentially more engaging and effective alternative.³ PBL encourages active learning, collaboration, and critical thinking, fostering a deeper understanding of the target language and culture.⁴ This study aims to explore the impact of PBL on EFL learners' language proficiency, focusing on communicative competence, motivation, and collaborative skills.

Literature Review

PBL has its roots in constructivist learning theories, emphasizing active knowledge construction and learner autonomy (Dewey, 1938; Piaget, 1950).⁵ In the context of language learning, PBL promotes meaningful language use in authentic contexts (Stoller, 2002).⁶ Several studies have demonstrated the positive effects of PBL on various aspects of language acquisition, including vocabulary development (Beckett & Miller, 2006), oral fluency (Fried-Booth, 2002), and writing skills (Thomas, 2000). Research also suggests that PBL enhances learner motivation and engagement (Larmer et al., 2015).⁷ However, some studies have highlighted potential challenges, such as the need for careful project design and teacher training (Bell, 2010). This study builds upon this existing research by examining the specific impact of PBL on EFL learners' communicative competence, motivation, and collaborative skills in a particular educational context.

Methodology

The study was conducted with two groups of EFL learners (N=60) at Fergana State University in Uzbekistan, divided into an experimental group and a control group, each comprising 30 participants. The experimental group was instructed using a Project-Based Learning (PBL) approach, while the control group received traditional grammar-based instruction. The PBL group participated in a semester-long project focused on creating a tourist guide for their city, which involved stages such as research, planning, production, and presentation. In contrast, the traditional group followed a textbook-based curriculum emphasizing grammar and vocabulary exercises.

Data collection methods included pre- and post-tests designed to assess communicative competence through oral presentations and role-plays, a motivation questionnaire to measure engagement levels, and observations of group work to evaluate collaborative skills. The analysis of quantitative data, such as test scores and questionnaire responses, was performed using statistical methods, including t-tests and ANOVA. Qualitative data from observations were thematically analyzed to gain deeper insights into student collaboration and interaction. This comprehensive methodology aimed to explore the impact of the PBL approach on developing communicative competence and fostering student motivation in the EFL context.

Discussion

The results of the study indicated a statistically significant improvement in communicative competence for the PBL group compared to the traditional group. The PBL group also demonstrated higher levels of motivation and more effective collaborative skills.⁸ These findings suggest that engaging in authentic projects provides learners with opportunities to practice using the target language in meaningful contexts, leading to improved communicative abilities.⁹ The collaborative nature of PBL also fosters teamwork and communication skills.¹⁰ The observation data revealed that PBL students were more actively engaged in the learning process, demonstrating greater autonomy and problem-solving skills. Below we have gathered the advantages and disadvantages of using Project-based method in Uzbekistan EFLT context (see table 1).

Advantages	Disadvantages
Increased Motivation and Engagement: Students are more invested in relevant projects.	Time-Consuming: PBL requires significant planning, implementation, and assessment time.
Enhanced Communicative Competence: Projects provide authentic language use opportunities.	Potential for Uneven Participation: Some students may dominate group work.
Development of 21st-Century Skills: PBL fosters critical thinking, collaboration, and creativity.	Assessment Challenges: Assessing project work requires diverse methods beyond traditional tests.

Real-World Application: Projects connect learning to real-world situations.	Teacher Training and Preparation: Effective PBL requires trained and supported teachers.

Table 1. Advantages and disadvantages of using PBLT in EFLT classes

Conclusion

The conclusion of this study highlights the significant impact of the Project-Based Learning (PBL) approach on developing the communicative competence, motivation, and collaborative skills of EFL learners at Fergana State University in Uzbekistan. The findings demonstrate that students engaged in PBL activities, such as creating a tourist guide for their city, showed marked improvements in their ability to effectively communicate in English, particularly in oral presentations and role-plays, compared to those receiving traditional grammar-based instruction. Moreover, the motivation questionnaire results revealed that PBL participants displayed higher levels of engagement and interest in their learning process, indicating that the hands-on and interactive nature of PBL positively influenced their attitudes toward language learning.

Additionally, observations of group work highlighted the development of essential soft skills, such as teamwork, problem-solving, and collaboration, which are crucial for students' academic and professional success. The statistical analysis of quantitative data reinforced these outcomes, confirming the effectiveness of PBL in enhancing language learning outcomes. In light of these findings, this study underscores the value of incorporating PBL approaches into the EFL curriculum in Uzbekistan, particularly for higher education institutions aiming to align language teaching methods with global standards and the practical needs of learners. Future research could explore the long-term impacts of PBL on language acquisition and extend its application to other fields of study and educational contexts. The results also provide a foundation for policymakers and educators to promote innovative and student-centered teaching methodologies in foreign language education.

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MEDIATA'LIM VOSITALARINING TEXNIKA FANLARIDAGI O'RNI

Annotatsiya: *Mediata'lim vositalarining texnik ta'limdagi qo'llanilishi, xususan, simulyatsiya, virtual laboratoriyalar, onlayn kurslar va interaktiv mashg'ulotlarning ahamiyati haqida batafsil ma'lumot berilgan. Shuningdek, mediata'lim vositalarining o'ziga xos afzalliklari va cheklovlari, jumladan, talabalar va o'qituvchilarda texnik tayyorgarlik va zarur infratuzilma mavjudligi masalalari ham ko'rib chiqilgan.*

Kalit so'zlar: *Mediata'lim vositalari, raqamli texnologiya, masofaviy ta'lim, elektronika simulyator interaktiv mashg'ulot.*

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THE ROLE OF MEDIA EDUCATION TOOLS IN TECHNICAL SCIENCES

Abstract: *The use of media learning tools in technical education, in particular, the importance of simulation, virtual laboratories, online courses and interactive training, is given in detail. Also, the specific advantages and limitations of media education tools, including the technical training of students and teachers and the availability of the necessary infrastructure, were also considered.*

Keywords: *Media education tools, digital technology, distance learning, electronics simulator, interactive lesson.*

Kirish. Zamonaviy texnologiyalar va innovatsion yondashuvlar ta'lim tizimida keng qo'llanilmoqda. Xususan, texnika fanlari bo'yicha ta'limda mediata'lim vositalarining roli juda muhim. Mediata'lim vositalari – bu ma'lumotlarni taqdim etishda texnologiyalardan foydalanishni anglatadi, masalan, internet platformalari, simulyatsiya dasturlari, virtual laboratoriyalar, video darsliklar va interaktiv o'quv materiallari.

➤ **Tezkor va samarali bilim olish.** Mediata'lim vositalari yordamida talabalar murakkab texnik masalalarni oson va samarali tushunishi mumkin. Masalan, mexanik tizimlar yoki elektr sxemalari haqidagi nazariy materiallarni video animatsiyalar, interaktiv diagrammalar yordamida yanada aniqroq tushuntirish mumkin. Bu texnik tushunchalarni talabalar osonroq o'zlashtirishi va ko'proq vizual materiallar orqali eslab qolishlari mumkin bo'ladi.

➤ **Simulyatsiyalar va modellash.** Texnika fanlarida o'quvchilarga virtual simulyatsiyalar orqali real hayotdagi jarayonlarni o'rgatish juda samarali. Masalan, kimyo yoki mexanika fanlarida laboratoriya sharoitida amalga oshiriladigan tajribalarni virtual muhitda ko'rish va simulyatsiya qilish mumkin. Bu real tajriba o'tkazish imkoniyati bo'lmagan sharoitlarda talabalarga amaliy ko'nikmalarni o'zlashtirishga yordam beradi.

➤ **Interaktiv mashg'ulotlar.** Mediata'lim vositalari yordamida talabalar uchun interaktiv testlar, vazifalar, mashqlar va topshiriqlar tashkil etish mumkin. Bu metodlar o'quvchilarga o'z bilimlarini tekshirish va ularni mustahkamlash imkoniyatini beradi. Interaktiv mashg'ulotlar esa talabalarni faol o'qishga, muammolarni birgalikda hal qilishga va g'oyalarni baham ko'rishga undaydi.

➤ **Eng yangi texnologiyalarni o'rgatish.** Texnik fanlar o'qitilishida mediata'lim vositalari yordamida eng yangi texnologiyalarni o'rgatish mumkin. Masalan, 3D printerlardan foydalanish, robototexnika, sun'iy intellekt va boshqa ilg'or texnologiyalarni amaliy mashg'ulotlarda qo'llash talabalar uchun yangi bilimlar olishga yordam beradi.

➤ **Elektronika fanida misolida.** Elektronika fanida talabalarga o'rgatiladigan ko'plab tushunchalar ko'rsatilgan va amalda ishlatiladigan vositalar bilan bog'liq. Masalan, elektr zanjirlar, komponentlar va ularning ishlash prinsiplari, interaktiv taqdimotlar orqali tushuntirish juda samarali bo'lishi mumkin. Grafikalar, diagrammalar va animatsiyalar yordamida kompleks mavzularni oddiy va tushunarli tarzda talabalarga yetkazish mumkin bo'ladi. Simulyatorlar, masalan, Proteus, Tinkercad yoki Multisim, yordamida talabalar turli elektron zanjirlarni virtual ravishda yaratish, tahlil qilish va o'zgartirish imkoniyatiga ega bo'ladilar. Virtual laboratoriyalar orqali talabalar elektr sxemalarini qurish, ulash va test qilishni o'rganishlari mumkin.

➤ **Mediata'lim vositalarining afzalliklari va qiyinchiliklari.**

Afzalliklar: Qulaylik va moslashuvchanlik: Mediata'lim vositalari talabalar uchun ta'limni osonlashtiradi va vaqtni tejaydi, chunki ular o'z ehtiyojlariga mos ravishda materiallarga kirish imkoniga ega.

- **Innovatsion yondashuvlar:** Texnik fanlarni o'rgatishda eng yangi texnologiyalarni qo'llash, talabalarni zamonaviy muhandislik sohalari bilan tanishtiradi.

Qiyinchiliklar: Texnik infratuzilma: Mediata'lim vositalaridan samarali foydalanish uchun talabalar va o'qituvchilarda zarur texnik vositalar va internet aloqasi bo'lishi kerak.

- **O'qituvchilarning tayyorligi:** Mediata'lim vositalaridan samarali foydalanish uchun o'qituvchilarni yangi texnologiyalarni o'rganishga tayyorlash zarur.

- **Talabalar uchun yangi muhit:** Ba'zi talabalar uchun mediata'lim vositalaridan samarali foydalanish qiyin bo'lishi mumkin, ayniqsa agar ular yangi texnologiyalar bilan tanish bo'lmasalar.

Xulosa. Mediata'lim vositalari texnika va elektronika fanlarini o'qitishda ajralmas va samarali resurslarga aylangan. Elektronika kabi murakkab va amaliy

fanga oid bilimlarni o'rganishda mediata'lim vositalari talabalarga tushunishni yengillashtirish, bilimlarni mustahkamlash va amaliy tajriba orttirish imkoniyatini beradi. Video darsliklar, interaktiv simulyatorlar, animatsiyalar va virtual laboratoriyalar yordamida talabalarining nazariy bilimlari amaliy ko'nikmalar bilan uyg'unlashadi, bu esa o'rganishni yanada samarali va qiziqarli qiladi. Mediata'lim vositalari o'qitishning aralash va masofaviy usullarini qo'llashga imkon beradi, bu esa talabalarga o'z vaqtida va joydan qat'iy nazar darslarni o'rganish imkoniyatini yaratadi. Interaktiv platformalar va simulyatorlar yordamida talabalar o'quv jarayonida faol ishtirok etadilar, o'zgaruvchan sharoitlarga tezda moslashadilar va elektronika kabi texnik fanlarni chuqurroq o'zlashtiradilar.

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**ВЫЯВЛЕНИЕ МАНИПУЛИРОВАНИЯ ДАННЫМИ
БУХГАЛТЕРСКОЙ (ФИНАНСОВОЙ) ОТЧЕТНОСТИ НА ПРИМЕРЕ
ПРЕДПРИЯТИЯ - УЧАСТНИКА ВНЕШНЕЭКОНОМИЧЕСКОЙ
ДЕЯТЕЛЬНОСТИ**

***Аннотация:** Данная статья посвящена анализу таможенного аудита как механизма для предотвращения и выявления нарушений в области таможенного законодательства. Она подчеркивает отличие стран, где внедрение аудита может варьироваться. Особое внимание уделяется инструменту использования аудита в России, который, по мнению Федеральной Таможенной Службы, должен способствовать созданию законопослушной предпринимательской среды.*

***Ключевые слова:** аудит; модель М. Бениша; бухгалтерская отчетность; финансовая отчетность; внешнеэкономическая деятельность.*

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**IDENTIFICATION OF MANIPULATION OF ACCOUNTING
(FINANCIAL) DATA REPORTING ON THE EXAMPLE OF AN
ENTERPRISE PARTICIPATING IN FOREIGN ECONOMIC ACTIVITY**

***Abstract:** This article is devoted to the analysis of customs audit as a mechanism for the prevention and detection of violations in the field of customs legislation. She highlights the difference between countries where the implementation of auditing may vary. Special attention is paid to the audit tool in Russia, which, according to the Federal Customs Service, should contribute to the creation of a law-abiding business environment.*

***Keywords:** audit; M. Benish's model; accounting; financial reporting; foreign economic activity.*

Согласно европейской трактовке «таможенный аудит» — это деятельность, направленная на предотвращение и выявление нарушений

таможенного законодательства с целью определения размера недоимки или излишне уплаченной суммы.

Эта процедура до конца не унифицирована и применяется в разных странах по-разному, с учетом национальных особенностей. Например, в Японии и Финляндии таможенный аудит полностью заменяет проверку, не дает проверяемой компании возможности исправить свои ошибки и недочеты.

В Индии, напротив, главной задачей аудита является создание благоприятных условий для добровольного соблюдения требований и ограничений. Данный инструмент применяется, в том числе для формирования "белого списка" (наш аналог — перечень компаний из так называемой "группы низкого риска").

По мнению, Федеральной Таможенной Службы РФ, аудит прежде всего должен быть направлен на стимулирование законопослушного бизнеса, дающего большой объем платежей. Кроме того, создание такого института упростит взаимоотношения с иностранными партнерами.

На примере аудита показателей отчетности предприятия - участника внешнеэкономической деятельности общество с ограниченной ответственностью ООО "Фригогласс Евразия", показан механизм **выявление и манипулирование данными бухгалтерской (финансовой) отчетности.**

Компания зарегистрирована 27 лет назад, это говорит о стабильной деятельности и поднадзорности государственным органам. Уставный капитал составляет 154,1 млн. руб., который определяет минимальный размер его имущества, гарантирующего интересы его кредиторов. У организации, как можно видеть на рис.1, зарегистрирован рост динамики выручки с 2018-2019 гг. на 2,3 млрд. рублей. Но с 2022 по 2023 гг. выручка компании стала меньше на 3 млрд. рублей, причиной этому стало снижение объемов продаж.

По данным сайта «Чекко» компания вела 59 судебных разбирательств. На данный момент в качестве «Ответчик» компания завершила 18 дел, в качестве «Истец» рассматривается 41 дело. Основная категория рассматриваемых дел - экономические споры по гражданским правоотношениям.

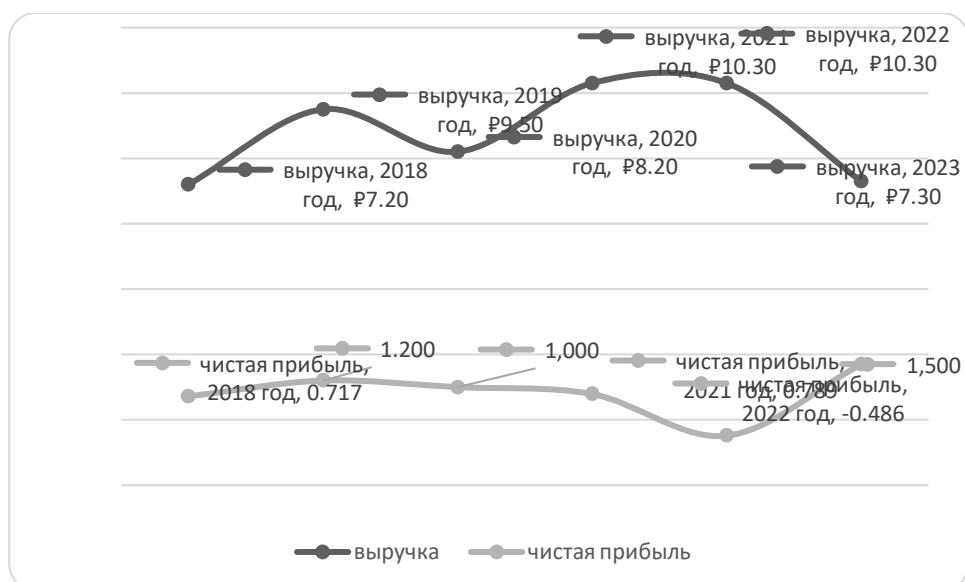


Рисунок 1- График выручки и чистой прибыли 2018-2023 гг.

По данным деятельности компании наблюдается как рост выручки, так и ее снижение, и стоит обратить внимание на период 2020-2022 гг.: при положительной динамике выручки наблюдается снижение прибыли, в 2021 г. это могло быть обосновано обновлением оборудования (в составе баланса наблюдается увеличение уровня основных средств) [7]. Уменьшение прибыли к 2022 г. частично обусловлено погашением кредиторской задолженности.

Так же к 2023 году наблюдается спад выручки на 41%, основные средства снизились на 135,2 млн. руб., это можно обосновать тем, что запасы к 2023 году снизились на 2 млрд.

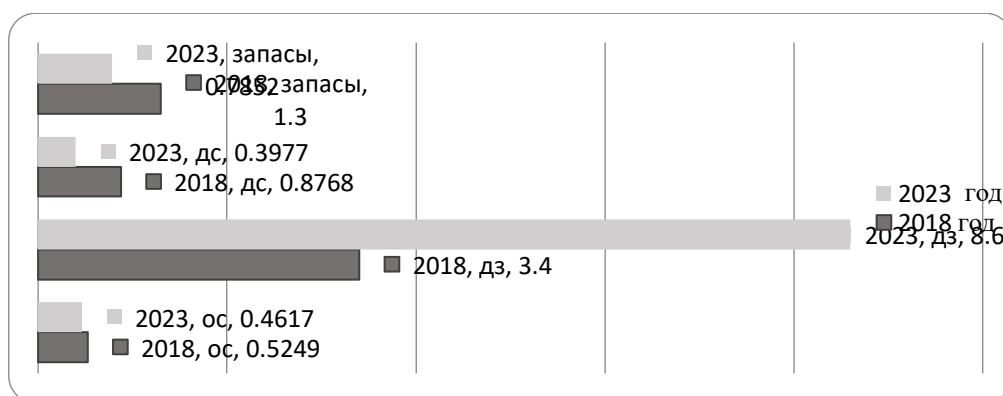


Рисунок 2- Гистограмма структура активов 2018-2023 гг.

В период с 2018-2023 гг. дебиторская задолженность выросла на 60%, что говорит о том, что компания может потерять финансовую устойчивость. Чистая прибыль возросла за счет прочих доходов на 28 % с 2,3 млрд.руб. до 3,2 млрд.руб.

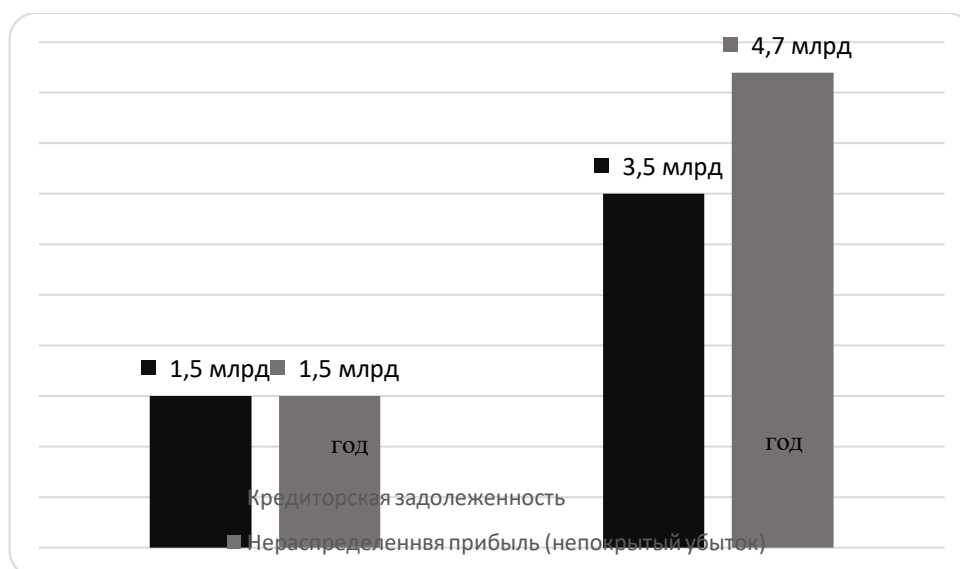


Рисунок 3- Гистограмма изменения структуры капитала 2018– 2023 гг.

Таким образом, в компании в 2018 году по сравнению с 2023 годом были следующие изменения (рисунок 3): кредиторская задолженность увеличилась на 2 млрд. руб., а нераспределенная прибыль (непокрытый убыток) увеличилась на 3,2 млрд. руб. [7].

Вероятность банкротства, рассчитанная по международной методике Е. Альтмана в 2023 году показала низкую вероятность банкротства (по адаптивной методике) – Z – показатель Альтмана = 22,04. Так как интервальная оценка Альтмана: при $Z < 1,81$ – высокая вероятность банкротства, при $Z > 2,67$ – низкая вероятность банкротства, при $1,81 < Z < 2,67$ – зона неопределенности [1].

Аналитическая модель американского исследователя Мессода Бениша основана на исследованиях финансовых данных организаций, уличенных в манипулировании бухгалтерской отчетностью. С ее помощью можно увидеть нестандартные колебания данных бухгалтерского баланса и финансовых отчетов компании.

М. Бениш в конце 80-х годов прошлого века выявил и формализовал признаки фальсификации отчетности на основании расчета 8 индексов, а также сводный индекс (M-score):

$$M\text{-score} = -4,84 + DSRI \times 0,920 + GMI \times 0,528 + AQI \times 0,404 + SGI \times 0,892 + DEPI \times 0,115 - SGAI \times 0,172 + TATA \times 4,679 - LVGI \times 0,327$$

Чтобы использовать модель М. Бениша, потребуется отчетность участника ВЭД за несколько периодов (6 лет). Все эти данные имеются в доступе у должностных лиц таможенных органов, которые в рамках таможенного контроля предприятий-участников ВЭД могут в качестве дополнительного индикатора мошенничества использовать указанные инструментари [2].

Из приведенных показателей М. Бениш разработал агрегированный индекс M-score. Из-за специфики раскрытия данных в российской

финансовой отчетности, где недостает информации о начисленной амортизации, необходимо использовать модифицированный вариант индексированной модели Бениша [2]. Это делается путем исключения двух факторов: индекса амортизации DEPI и показателя, связанного с начислениями активов TATA. Такие изменения не повлияют на качество анализа, поскольку ни одно из судебных дел против российских компаний не показало фальсификацию отчетности из-за искажений в начисленной амортизации.

Данная ситуация объясняется российским законодательством, которое не позволяет компаниям изменять методики начисления амортизации и сроки полезной службы активов без фактической модернизации.

В результате исключения DEPI и TATA, пороговое значение M-score для адаптированной модели М. Бениша составляет -1,802. Формула для расчета индекса также была адаптирована.

$$\text{Beneise M-Score} = -4,84 + 0,92 \cdot \text{DSRI} + 0,528 \cdot \text{GMI} + 0,404 \cdot \text{AQI} + 0,892 \cdot \text{SGI} + 0,1158 \cdot \text{DEPI} - 0,172 \cdot \text{SGAI} + 4,679 \cdot \text{TATA} - 0,327 \cdot \text{LVGI}$$

Критерии выводов по сводному индексу M-score о данных финансовой отчетности российских предприятий-участников ВЭД (с вероятностью 62%) (см. табл. 1):

Таблица 1

Значение M-score

Значение M-score	Вывод о данных финансовой отчетности российских предприятий-участников ВЭД
$\leq -1,802$	Показатели отчетности достоверны
$\geq -1,802$	Показатели отчетности недостоверны

Важно отметить, что наличие признаков мошенничества в отчетности не всегда указывает на искажение данных или на нарушения таможенного законодательства со стороны участника ВЭД. Тем не менее, к такой отчетности необходимо относиться с особым вниманием.

Таким образом, модель М. Бениша позволяет статистически оценивать вероятность манипуляций с отчетностью, основываясь на финансовых коэффициентах, полученных из опубликованного бухгалтерского учета компании [2].

Таблица 2

Результаты расчетов индекса М-score ООО "Фригогласс Евразия" за период 2017-2023 гг.

Показатель	Отчетный год						Граничное значение показателя
	2023	2022	2021	2020	2019	2018	
DSRI	0,685	0,367	0,400	0,339	0,252	0,239	1,408
GMI	1,070	1,545	0,114	0,974	0,978	0,745	1,260
AQI	4,229	-81,278	-2,380	0,005	14,55	80,967	1,186
SGI	0,708	1	1,256	0,863	1,319	1,142	1,280
SGAI	1,794	1,108	0,849	1,186	0,929	1,54	1,025
LVGI	0,609	2,029	0,92	19,087	0,139	0,626	1,119
M-score	-1,812	-36,485	-4,699	-9,687	2,757	29,033	-1,802

В данной таблице представлены результаты расчетов индекса М-score. С помощью полученных данных построена гистограмма.

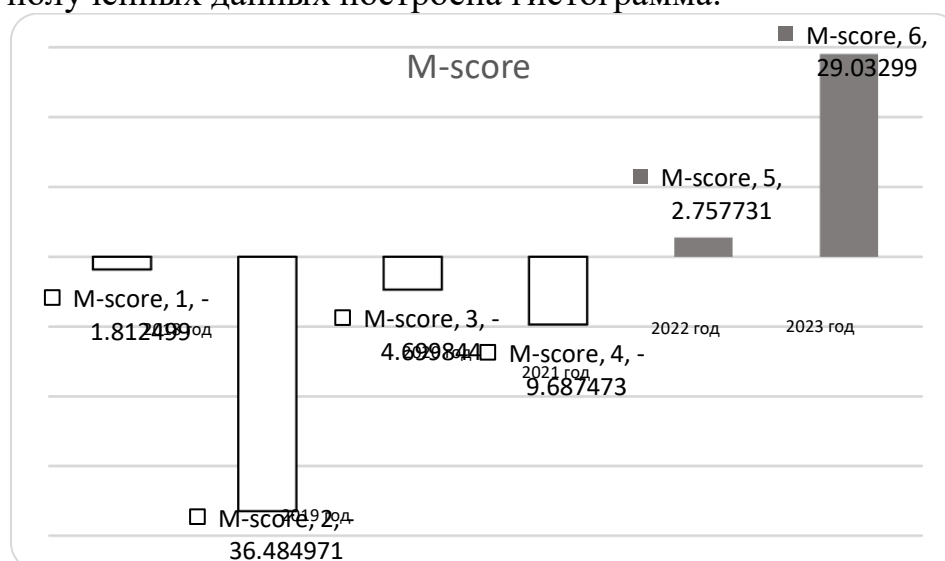


Рисунок 4— Гистограмма - Результаты расчетов индекса М-score компании ООО "Фригогласс Евразия" за 2018-2023 гг.

На рисунке 4 можно видеть, что в 2023 году индекс «М-score» превышает нормативное значение, что свидетельствует о фальсификации данных отчётности ООО «Фригогласс Евразия» [8]. Но нужно помнить, что любая модель, в нашем случае модель М. Бениша, даёт точный результат с 60% вероятностью. Поэтому необходимо выявить факторы, которые определяют изменения.

Показатели индекса дневных продаж в дебиторской задолженности ниже 1 может указывать на то, что дебиторская задолженность уменьшается,

что положительно сказывается на ликвидности. Показатель устойчиво снижается, что потенциально может свидетельствовать о намерениях уменьшить задолженность.

Низкие значения DSR1 могут свидетельствовать о высоком уровне оборачиваемости дебиторской задолженности, что обычно является позитивным знаком.

В 2023 году показатель рентабельности немного снизился, но все еще остается выше единицы, что может указывать на возможность фальсификации, если компания показывает растущие маржи при стабильных или падающих доходах.

Показатели индекса качества актива стал отрицательным, что может быть тревожным сигналом. Значительное увеличение показателя может говорить о плохом качестве активов компании или о резком увеличении сомнительных активов. Это может указывать на возможные искажения в отчетности.

В 2023 году показатель ниже 1 может указывать на замедление роста выручки, что требует дополнительного анализа, поскольку снижение может быть признаком возможных проблем.

Значительное увеличение SGAI может означать, что расходы по сравнению с выручкой растут, что может быть признаком неэффективного управления или манипуляции с отчетностью.

Индекс финансовой независимости ниже 1 означает, что уровень заимствований снижается, что, как правило, является хорошим знаком, сигнализирующим о уменьшении финансовых рисков.

Отрицательные значения M-score во многом указывают на низкий риск фальсификации. Однако динамика с 2018 года – это повод задуматься. В 2022 году значение было чрезвычайно высоким и отрицательным, что означает высокий риск манипуляций.

Динамика показателей показывает смешанную картину. Хотя некоторые из них свидетельствуют о хороших условиях и управлении, другие вызывают беспокойство, особенно AQI и SGAI. Рекомендуется провести более глубокий анализ, включая сравнение с нормами для отрасли, а также детальный анализ бухгалтерского учета и финансовой отчетности. Подобный подход может помочь лучше понять структурные изменения и возможные манипуляции в отчетности предприятия.

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ИЗМЕНЕНИЯ В ИМПОРТЕ РОССИИ В УСЛОВИЯХ СОВРЕМЕННЫХ САНКЦИЙ

Аннотация: В статье анализируются экономические последствия введения санкций для России, с особым вниманием к изменениям в импорте и внешнеэкономической деятельности. Цель исследования — выявить влияние санкций на структуру внешней торговли и оценить эффективность механизма параллельного импорта в условиях санкционного давления. Метод исследования включает анализ статистических данных и вторичных источников, а также изучение практики параллельного импорта через третьи страны. Итоговый результат показал необходимость усиленного государственного контроля за качеством товаров, поступающих через параллельный импорт, для обеспечения безопасности потребителей и минимизации экономических рисков.

Ключевые слова: импорт, санкции, внешнеэкономическая деятельность, экономические меры, адаптация.

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CHANGES IN THE IMPORT OF RUSSIA IN THE CONDITIONS OF MODERN SANCTIONS

Abstract: The article analyses the economic consequences of sanctions for Russia, with special attention to changes in imports and foreign economic activity. The purpose of the study is to identify the impact of sanctions on the structure of foreign trade and to assess the effectiveness of the mechanism of parallel imports in the conditions of sanctions pressure. The research method includes the analysis of statistical data and secondary sources, as well as the study of the practice of parallel imports through third countries. The final result showed the need for enhanced state control over the quality of goods coming through parallel imports to ensure consumer safety and minimise economic risks.

Key words: *imports, sanctions, foreign economic activity, economic measures, adaptation.*

Современные экономические реалии России, обусловленные введением экономических и политических санкций со стороны недружественных стран, которые были введены в 2022 году, требуют глубокого анализа изменений в импорте и внешнеэкономической деятельности. Экономические санкции играют важную роль во внешней политике и оказывают существенное влияние на показатели внешней торговли, в том числе на изменение объемов экспорта и импорта.

Для более подробного изучения влияния данных событий на импортный потенциал страны необходимо проанализировать данные, взятые из Федеральной службы государственной статистики, а также изучить дополнительные источники для более подробного раскрытия информации.

С 2022 года Россия столкнулась с санкционными ограничениями, которые привели к уходу большинства западных компаний с российского рынка, в связи с чем пришлось перестраивать логистические цепочки и начинать поиск новых поставщиков из дружественных стран. Введение механизма параллельного импорта стало ключевым шагом для обеспечения доступности товаров на потребительском рынке. Важно отметить, что уход западных компаний привел к значительным изменениям товарной структуры импорта, особенно в сегментах высоких технологий, а также автомобильной отрасли. Стоит отметить, что в 2022 году из КНР в Россию отправили всего 160 тысяч автомобилей, в 2023 году – уже 910 тысяч.

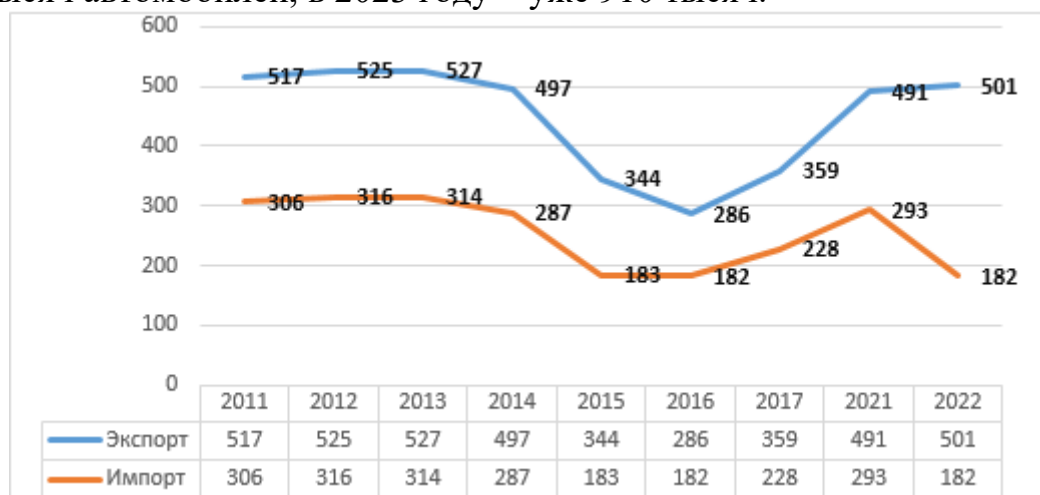


Рисунок 1 – Динамика экспорта и импорта России, 2011–2022 гг., млрд долл.

По данным диаграммы можно сделать следующие выводы. После серьезного экономического спада 2016 года, вызвавшего обвал поставок из-за рубежа, внешние закупки России столкнулись с новым испытанием в 2022 году. Если ранее негативная динамика импорта наблюдалась постепенно с

начала 2010-х годов, то текущее падение объемов международной торговли эксперты связывают с введенными санкционными ограничениями и общемировой финансовой нестабильностью.

Импорт России в январе 2022 года составил 23,3 млрд долл. США и по сравнению с январем 2021 года увеличился на 38,6%. На долю стран дальнего зарубежья приходилось 91,0%, на страны СНГ – 9,0%.[2]

В товарной структуре импорта наибольший удельный вес приходился на машины и оборудование – 48,6% (в январе 2021 года – 47,3%). В товарной структуре импорта из стран дальнего зарубежья доля этих товаров составила 51,9% (в январе 2021 года – 50,7%), из стран СНГ – 16,8% (18,7%). Стоимостный объем ввоза этой продукции по сравнению с январем 2021 года увеличился на 42,5%, в том числе механического оборудования – на 47,0%, электрического оборудования – на 32,6%, инструментов и аппаратов оптических – на 25,6%. Возрос физический объем импорта легковых автомобилей на 39,2%, грузовых автомобилей – на 47,5%.[2]

Учитывая неопределенность, географическую среду и изменения в глобальной цепочке поставок, Таможенная служба России прекратила публикацию данных о внешней торговле в апреле 2022 года. Решение было принято во избежание «негативного анализа и спекуляций». [1]

В 2025 году ожидается увеличение импорта товаров на треть по сравнению с 2022 годом, что соответствует снижению на 16,9% относительно 2021 года. Доля импорта товаров в ВВП будет колебаться в пределах 14-16% в течение прогнозного периода, что соответствует историческим данным (учитывая, что в 2021 году доля импорта составляла более 17% ВВП). Это связано с изменениями в структуре российской экономики, включая ограничения на товары из недружественных стран, неспособность полностью заменить их из-за отсутствия альтернатив, а также процессы импортозамещения и рост доли менее зависимых от импорта отраслей в экономике. [3]

В связи с политическими событиями некоторые недружественные государства ввели запреты на прямые поставки своей продукции в Россию. В ответ на эти действия было принято решение о легализации параллельного импорта. Это позволяет российским компаниям приобретать необходимые товары через посредников в-третьих странах, минуя официальных дистрибьюторов и представительства производителей.

В условиях санкционного давления параллельный импорт превращается в важный инструмент для стабилизации потребительского рынка. Однако для достижения максимальной эффективности и минимизации экономических рисков необходимо усилить государственный надзор за качеством ввозимых товаров. Целесообразно ввести дополнительные процедуры сертификации и контроля продукции, поступающей через третьи страны, чтобы предотвратить появление контрафакта и нелегальных товаров. Также, важно укрепить законодательную базу, которая обеспечит правовую защиту и

регулирование параллельного импорта, гарантируя его безопасность и прозрачность для всех участников рынка.

Российское Министерство промышленности и торговли составило список продукции, которая подпадает под действие нового механизма. В него вошли товары, которые невозможно приобрести на территории РФ другими способами. Важно отметить, что для ввоза такой продукции больше не требуется получать специальное разрешение от правообладателей торговых марок. С позиции международного законодательства такая практика является легитимной.

Разрешение параллельного импорта позволяет России преодолевать ограничения, связанные с санкциями, однако важно обеспечить строгий контроль за качеством товаров, поступающих через этот канал. Необходимо, чтобы такие поставки не только способствовали экономической выгоде, но и гарантировали безопасность для потребителей. Для достижения этой цели требуется тесное взаимодействие между государственными структурами и бизнесом, что поможет поддерживать баланс между доступностью продукции и соблюдением международных стандартов качества.

Наблюдая за развитием экономических процессов в нашей стране, особый интерес вызывает практика параллельного импорта. При условии подлинности товара, такой механизм является абсолютно законным и не противоречит правовым нормам. Показательным случаем служат поставки зарубежной электроники и машин через третьи страны - ОАЭ, Китай и Казахстан. Важно подчеркнуть категорический запрет на ввоз поддельной продукции. Для максимальной эффективности необходимо создать гармоничное сочетание рыночных инструментов и государственного контроля, что позволит достигать социальных и экономических задач с минимальными потерями. Этот процесс требует дальнейшего тщательного изучения и мониторинга его эволюции в российских реалиях. [4]

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ЭКСПОРТНЫЙ ПОТЕНЦИАЛ ВОЛГОГРАДСКОЙ ОБЛАСТИ

Аннотация: Данная статья посвящена анализу экспортного потенциала Волгоградской области – одного из самых значимых регионов Южного федерального округа. Исследование включает изучение динамики и структуры экспортных потоков региона, а также выявление ключевых факторов, влияющих на развитие экспортной деятельности. На основе полученных данных определены перспективы и рекомендации по наращиванию экспортного потенциала Волгоградской области.

Ключевые слова: экспорт, экспортный потенциал, Волгоградская область, региональная экономика, диверсификация экспорта.

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EXPORT POTENTIAL OF THE VOLGOGRAD REGION

Annotation: This article is devoted to the analysis of export potential of the Volgograd region – one of the most important regions of the Southern Federal District. The research includes the study of the dynamics and structure of the region's export flows, as well as the identification of key factors affecting the development of export activity. On the basis of the obtained data the prospects and recommendations for increasing the export potential of the Volgograd region are determined.

Key words: export, export potential, Volgograd Oblast, regional economy, export diversification.

Волгоградская область обладает значительным экономическим потенциалом. Одним из ключевых направлений развития области является наращивание экспортных возможностей. Экспорт играет значительную роль в стимулировании экономического роста, привлечении дополнительного

финансирования, обеспечении занятости населения и конкурентоспособности региона. В условиях сложившейся нестабильной геополитической обстановки особое внимание стоит уделить развитию экспорта в данной области (рис.1).

Для подробного изучения экспортного потенциала региона необходимо проанализировать статистические данные, взятые из Федеральной службы государственной статистики, а также других источников, и сравнить их между собой [1].

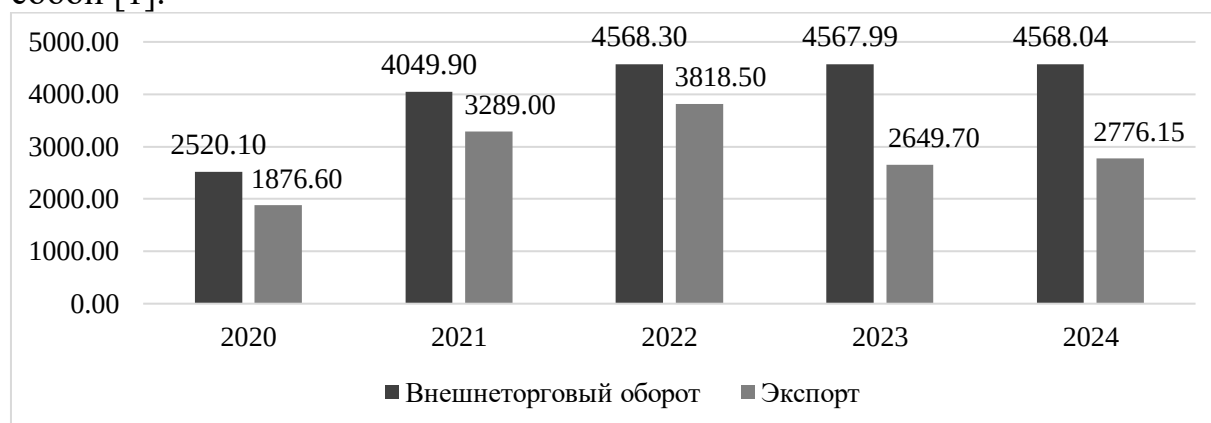


Рисунок 1 – Экспорт Волгоградской области за 2022-2024 гг., млн. долл.

США

Анализируя данные внешнеторгового оборота и экспорта за последние годы, можно заметить существенные колебания в динамике. В 2021 году наблюдался резкий рост, который свидетельствовал о восстановлении после экономических потрясений, связанных с пандемией в 2020 году. Этот рост продолжался и в 2022 году, когда экспорт достиг рекордных значений.

Тем не менее 2023 год стал поворотным моментом: хотя общий объем внешнеторгового оборота остался примерно на уровне прошлого года, экспорт показал значительное снижение. Это подчеркивает возможные вызовы, с которыми столкнулись отечественные производители, включая международные санкции и изменения в спросе на ключевые товары.

В 2024 году показатели увеличились на 4,8 % по сравнению с прошлым годом, поскольку отечественные производители стали налаживать свою логистику, поставляя продукцию в различные регионы страны. Помимо этого, удалось выстроить взаимодействия с новыми зарубежными партнёрами. Этому способствовала слаженная работа органов власти, экспортоориентированных организаций и деловых партнёров агробизнеса.

В настоящее время Волгоградская область занимает 29 место в общероссийском рейтинге экспортеров и 3 место в Южном федеральном округе. Внешнеторговые связи включают 102 страны мира, среди которых страны Ближнего Востока, Азии и Закавказья [2]. В данные регионы поставляются различные виды продукции, представленные в таблице 1 [1].

Показатель	Год				
	2020г.	2021г.	2022г.	2023г.	2024г.
Минеральные продукты	13,40	56,88	40,50	37,10	42,20
Продовольственные товары и с/х сырье	6,00	7,90	3,50	27,30	28,10
Металл и изделия из них	50,20	16,45	33,10	19,40	15,40
Продукция химической промышленности	26,30	16,27	21,20	14,60	11,80
Машины, оборудование и ТС	0,65	0,79	0,50	0,60	0,60
Древесина и целлюлозно-бумажные изделия	0,09	0,19	0,30	0,20	0,20
Текстиль	0,11	0,12	0,20	0,12	0,09
Другие товары	3,25	1,40	0,70	0,80	1,60

Таблица 1–Товарная структура экспорта Волгоградской области, %

Представим данные таблицы в виде диаграммы (рис.2).

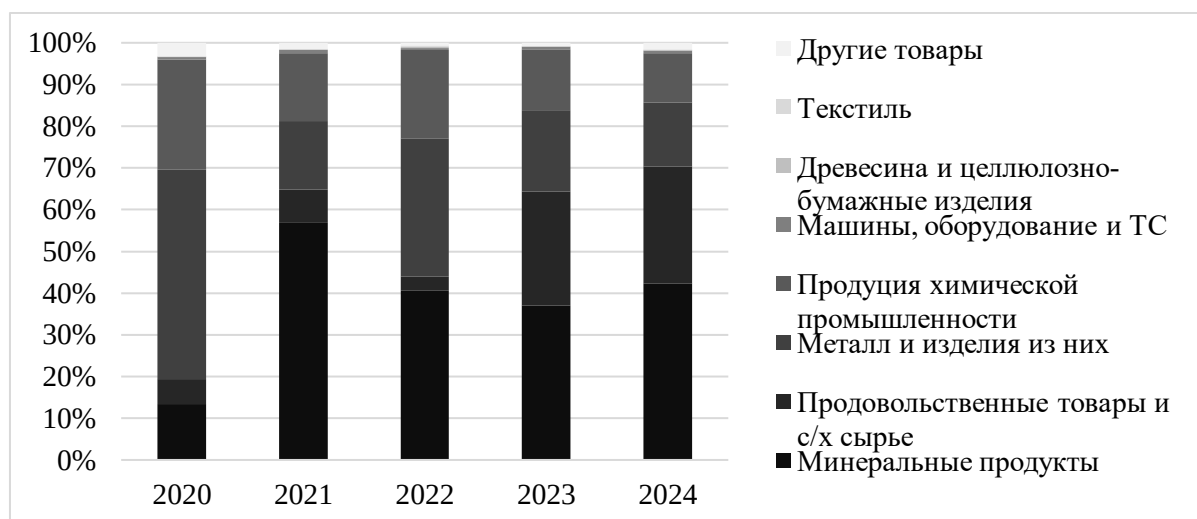


Рисунок 2–Торговая структура экспорта Волгоградской области, %

В представленных данных наблюдаются значительные изменения в структуре экспорта области. В 2020 году ведущей статьёй выступал металл и изделия из него. Однако в последующие годы лидирующую позицию стали занимать минеральные продукты. Продовольственные товары и с/х сырье показывают впечатляющий рост, особенно в 2023 году, что может быть связано с усиливающимся акцентом на продовольственную безопасность и устойчивые источники поставок. Такие изменения подчеркивают важность внутреннего производства в условиях глобальных кризисов и накаляющейся обстановкой стране. Metallургический сектор после 2020 года стал демонстрировать отрицательную динамику, как и химическая промышленность, что говорит о значительном влиянии санкций, введенных западными странами против РФ.

На основе изложенных данных можно сделать следующие выводы:

1. Экспорт в Волгоградской области в целом растет, но его динамика не всегда стабильна;

2. Структура экспорта свидетельствует о том, что больше всего экспортируются минеральные продукты, а также продовольственные товары и сельскохозяйственное сырье;

3. К факторам, влияющим на экспортный потенциал, можно отнести как внутренние (недостаток квалифицированных специалистов, слабо развитая транспортная инфраструктура, устаревшее оборудование), так и внешние (санкции, ужесточение конкуренции на мировых рынках, изменение мировых цен на товары, геополитическая обстановка).

Волгоградская область обладает значительным экспортным потенциалом, но сталкивается с проблемой зависимости от сырьевого экспорта. Для повышения устойчивости и конкурентоспособности региона необходимо диверсифицировать экспорт, поддерживать несырьевые отрасли и инновации, модернизировать инфраструктуру и оборудование, а также активно продвигать продукцию на международных рынках. Выполнение этих рекомендаций позволит существенно нарастить экспорт.

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ЭЛЕКТРОННОЕ НАУЧНО-ПРАКТИЧЕСКОЕ
ПЕРИОДИЧЕСКОЕ МЕЖДУНАРОДНОЕ ИЗДАНИЕ

«Экономика и социум»

Выпуск № 1(128) 2025

Сайт: <http://www.iupr.ru>

Издательство: ООО "Институт управления и социально-
экономического развития", Россия, г. Саратов

Дата издания: Январь 2025

