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METHODS OF USING MODERN METHODS BY TEACHERS OF MATHEMATICS AND INFORMATION TECHNOLOGIES IN THE CLASSROOM

Abstact: the article discusses about methods of using modern methods by teachers of mathematics and information technologies in the classroom.

Key words: methods, using, teachers, mathematics, information, technology, classroom.

Electronic educational resources are educational materials that are reproduced by electronic devices.

The introduction of e-Learning resources into the educational process does not exclude traditional teaching methods, but harmoniously complements and combines with them at all stages of education: familiarization, training, application, control. The use of e-Learning resources in the learning process provides great opportunities for independent creative and research activities of students. E-Learning for a teacher is an opportunity not to write daily and painstakingly notes for lessons; apply control tests or modules almost every day, saving yourself from lengthy checks; assigning objective grades (they are given by the computer); solve the problem of children's interest in the subject (it's no secret that even the "weakest" student will prefer computer testing to a test).

For a student, e-Learning resources are, first of all, an opportunity to really learn. They allow you to perform more full-fledged practical activities at home - virtual visits to museums, observations of production processes, laboratory experiments, etc. Also, the student will be able to independently certify their own knowledge, skills, and abilities without the participation of a teacher or a parent who will prompt him or her to give the right answers - everything is already laid down in the e-Learning Program. As for research work, e-Learning resources allow

not only to study descriptions of objects, processes, and phenomena, but also to work with them in an interactive mode.

Classification of e-Learning resources can be carried out in several directions: In terms of creation technology, these are resources consisting of visual or audio content;

- by type of content – electronic reference books, quizzes, dictionaries, textbooks, laboratory work, control and measurement materials; by type of application – for work both directly in the classroom and for independent work of students.

All e-Learning resources are divided into three main types: Theory – obtaining information. Resources that make the learning process more visual, accessible, and interesting. Practice – this section contains simulators. Their goal is to form and consolidate the practical skills and abilities of students on each topic. The presence of "help" and "hint" modes in this section helps students who have made mistakes to analyze the solution and make appropriate corrections. Practice is a kind of secchion content simulators. Tair Gol Is to form and consolidate to practice skills and abilities of students on their topic. You're a precency of "help" and "hinth" modes he is such a secchion helps students and häve made mistakes, then analysis you are a solution and mace appropriate correction. Information modules:

An interactive lecture is a sequence of animations that are accompanied by text or voiceover.

When working with these modules, you can turn the sound on or off, pause by pausing the module, and enlarge the screen. You can look at the scenes sequentially, and after you've finished watching all the scenes, you can go back to any scene and work through it in more detail. Practical modules:

They are a set of tasks. As a rule, the tasks in the workshops are arranged in order of complexity from scene to scene. Each time the module is launched, the numerical data in the tasks changes.

Control modules: These are sets of tasks that show the student's result with a record of the time and number of attempts. information acquisition module (I-type); Practical training module (P-type); Monitoring module (in general, attestation) (K-type).

All information modules AND have the following structure:

1. Informational part containing text, animations, video clips and interactive models.

2. Security questions.

3. A brief synopsis.

P-modules provide students with opportunities and tools to apply the acquired knowledge in practice, to consolidate this knowledge, as well as to develop skills and abilities based on it. The difference between this type of module and the others is that there is a "Hint" feature that the student can use. The K-type module presents tasks that are similar to the U-type tasks. Except that when you complete these tasks, you are not given the opportunity to receive a hint and complete the task again. The K-type tasks have primarily a control function and can be used as control and measurement materials. Among the main types of lessons, the following three can be distinguished:

a lesson of introduction (explanation) of new material;

a lesson to consolidate knowledge, skills and practice skills;

a lesson of generalization and control of knowledge, skills and abilities.

The lesson of introduction (explanation) of new material can be built in the form of: the teacher's story (conversation), lecture, excursion, Workshop, research laboratory work, playful training session, etc.

A lesson to consolidate knowledge, skills and practice skills can be built in the form of: laboratory work, Problem-solving workshop, Lab, Simulation, Problem Seminar, playful training session, etc.

A lesson of generalization and control of knowledge, skills and abilities can be built in the form of: discussion, consultation, interview, theoretical test, practical test, public review of knowledge, laboratory work, Lab, independent work, Test.

In the lessons of explaining new material, electronic educational resources help the teacher to present the material clearly and intelligibly. With e-Learning Resources, the component of learning – the acquisition of information – changes. It is one thing to study textual descriptions of objects, processes, and phenomena, but it is quite another to see them and study them interactively.

The goal of this type of lesson is to teach students new material. In addition, during the lesson, in the course of studying new material, work is also underway to organize and consolidate what has been previously learned. It is impossible to study new material without recalling, analyzing, relying on the material already covered, without applying it to the conclusions of some new propositions. The goal of this type of lesson is to teach students new material.

To do this, schoolchildren should be involved in solving such didactic tasks as the assimilation of new concepts and methods of action, independent search activities, and the formation of a system of value orientations.

You can start a new introduction lesson with a problematic question that students don't yet know the answer to, but with the help of the new topic, they will

be able to answer it. You can offer to do an assignment that students think they can do, but in fact they don't have enough knowledge to do it yet. The following sequence is possible:

1. New material should be studied not in class, but by offering the next educational block of I, P, K-modules (FCIOR) as homework.

2. There is no need to conduct a sample survey, with which the lesson usually begins, it is enough to look at the results of students' home self-certification, and there will be much more information about the current state of the educational process than as a result of a traditional, even frontal survey.

3. Instead of a one-sided presentation of the educational material, it is necessary to organize answers to the questions that arose during the homework, then in the process of discussion, which requires detailing, additions, and explanations from the teacher, it is necessary to formulate general conclusions.

4. If individual educational trajectories have been used, it is reasonable to give students the opportunity to compare and argue about the results of theoretical and practical assimilation of new knowledge, skills, and abilities from different, in general, subject areas. In this version, the lesson takes place mainly in the form of active communication. Such creative work of a teacher requires appropriate training. On the other hand, the main advantages are an increase in the efficiency of the educational process and the strengthening of the educational function. The lecture form of lessons is expedient when studying new material that has little to do with previously studied, considering material that is difficult for independent study, presenting information in large blocks, in terms of implementing the theory of enlargement of didactic units in teaching, performing a certain type of tasks on one or more topics, sections, applying the studied material in solving practical problems.

Activation of students' cognitive interest at the lecture can be carried out by using a problem situation that arises in solving a mathematical, practical or applied problem. Applied problems are the main source of mathematical problem situations, so you should focus on their wide use in the development of scenarios for all types of lessons. In the course of the educational process, the I-type module can be used as a whole or its separate parts. In order to achieve the maximum pedagogical result, it is advisable to organize work on the development of the I-type module by students in two forms:

1. An individual form of work that allows you to take into account the individual characteristics of each student;

2. Work in pairs.

At the same time, the teacher can act as a coordinator, employee, or assistant.

When completing tasks from the P-type, the number of times one task can be completed is unlimited, after the first completion, the student can use the "Hint" button to get help with the task. It is advisable to use P-type e-learning not only to review and consolidate the knowledge gained, but also to create new opportunities for students to obtain additional information.

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