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# DEVELOPMENT OF ELECTRONIC LEARNING MATERIALS IN THE COURSE OF GENERAL PHYSICS

**Annotation.** Working with multimedia aids makes it possible to diversify the forms of work in the classroom through the simultaneous use of illustrative, statistical, methodological, as well as audio and video material.

**Key words:** multimedia, efficiency improvement, modern lesson, virtual laboratories

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**Аннотация.** Работа с мультимедийными пособиями дает возможность разнообразить формы работы на уроке за счет одновременного использования иллюстративного, статистического, методического, а также аудио- и видеоматериала.

**Ключевые слова:** мультимедия, повышение эффективност, современный урок, виртуальные лаборатория

The use of new information technologies in the educational process allows us to implement our pedagogical ideas, present them to the attention of colleagues and get a prompt response, and gives students the opportunity to independently choose an educational trajectory - the sequence and pace of studying topics, a system of training tasks and tasks, ways to control knowledge. This is how the most important requirement of modern education is realized - the development of an individual style of activity, a culture of self-determination

among the subjects of the educational process, their personal development takes place.

Recently, more and more attention has been paid to the introduction of achievements in the field of information technology into the traditional education system. The computerization of educational institutions contributes to the widespread use of electronic educational materials (EEM) and Internet resources in the educational process. The use of EEM and Internet resources is justified only in those cases in which they provide a significant advantage over traditional forms of education.

Using information technology in the classroom, you can organize individual interactive learning for students; use electronic resources, especially animations; computer models and virtual laboratories for demonstrations; conduct computer laboratory work using computer models or virtual laboratories; organize research and project activities of students; control students' knowledge using computer programs or distance learning technologies.

A modern lesson is impossible without the use of information and telecommunication technologies. This is especially true for the subjects of the natural science cycle, because. they form a single picture of the world.

The use of information technology in physics lessons helps to achieve pedagogical goals:

- development of the student's personality, preparing him for independent productive activity in the conditions of the modern information society: the development of thinking, aesthetic education, the formation of the ability to make the right decision or offer options in a difficult situation, the development of the ability to carry out experimental research activities;

- implementation of the social order, due to the informatization of modern society;

-intensification of the educational process at all levels of the system of continuous education;

-improving the efficiency and quality of the educational process through the implementation of the possibilities of the EEM;

- activation of cognitive activity with the use of EEM;

-implementation of the ideas of open education based on the use of network technologies.

The use of information technology helps the teacher to expand the possibilities of creative search and organization of joint activities with students.

When teaching physics in high school, a teacher usually faces the following difficulties:

- students cannot imagine some phenomena, such as the phenomena of the microworld and the world with astronomical dimensions;

- the study of some physical material is hampered by students' ignorance of the mathematical apparatus, with the help of which the material can be studied at a high theoretical level (for example, ignorance of the basics of differential and integral calculus when considering the section of mechanics).

Usually, such things are studied at physics lessons either at a low scientific level, or are explained "on the fingers", or are not studied at all, which, of course, affects the level of students' preparation. Therefore, the use of information technology will help the teacher in organizing the educational process and will become its integral part.

Working with multimedia aids makes it possible to diversify the forms of work in the classroom through the simultaneous use of illustrative, statistical, methodological, as well as audio and video material.

Such work can be carried out at different stages of the lesson as:

- homework check form;

- a way to create a problem situation;

- a way of explaining new material;

- the form of consolidation of the studied;

- a way to test knowledge in the course of the lesson.

With the advent of multimedia materials (interactive CD-ROMs) on physics (together with new computer classes), it became possible to include fragments of video lectures, organize workshops and laboratory work in the lesson. When designing them, it is necessary to develop such a scheme for setting training tasks that would be an integral system of successive stages of observing a phenomenon, making measurements, and corresponding experimental results.

Innovative training tasks allow the student to master various ways of searching for unknown values, use the results obtained to establish a regular relationship between physical quantities, as well as to predict possible practical effects and prepare for a real physical experiment.

A lesson using computer forms of control implies the possibility of testing students' knowledge (at different stages of the lesson, with different goals) in the form of testing using a computer program, which allows you to quickly and effectively fix the level of knowledge on the topic, objectively assessing their depth (the mark is set by the computer).

Information and communication technologies significantly expand the range of search for additional information in preparation for the lesson. Biographical materials, photographic documents, illustrations are found through Internet search engines. Of course, many works require verification, editorial corrections, but fragments of articles can be useful in the development of didactic materials for the lesson, and suggest the form of the lesson.

In all cases, ICTs perform the function of an "intermediary", "which makes significant changes in a person's communication with the outside world." As a result, the teacher and student not only master information technology, but also learn to select, evaluate and apply the most valuable educational resources, as well as create their own.

Physical science has always been at the heart of all the achievements of human civilization, computer technology and the Internet are no exception.

However, a paradoxical situation often arises when "the shoemaker is left without boots." The point is that the process of informatization of physical education and physical research should reach a high level, especially since there are all the prerequisites for this.

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