INFORMATION AND COMMUNICATION TECHNOLOGIES IN PHYSICS LESSONS

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Annotation. The article discusses the problem of improving the effectiveness of training in physics lessons, the direction of ICT application in lessons, extracurricular activities, research projects, about the skills that a teacher must possess in order to successfully use ICT.

Key words: physics, ICT, Internet, multimedia.

A natural orientation in the educational process is the attitude towards independent acquisition of knowledge by students, towards their self-education and self-knowledge.

In the context of the modern development of the school, there is an urgent need to transform the traditional education system into a qualitatively new education system, the result of which will be the upbringing of a competent, productive thinking person, adapted to the new conditions of life in society.

The realities of modern education, and in particular the subject of physics, are such that the amount of information that a student needs to master increases with each academic year. Moreover, the peculiarities of teaching the subject are such (despite the concentric nature of the structure of the subject) that almost every lesson carries a new amount of information that the student must master (i.e. understand and accept). There is practically no time left for comprehension and consolidation. The problem of information adaptation of a person in society arises. If a student does not have sufficient skills to process the information he receives, he experiences tremendous difficulties and loses interest in both the learning and

teaching process and the subject itself. Therefore, the teacher is currently faced with the problem of teaching the child such technologies of cognitive activity, the ability to master new knowledge in any forms and types, so that he can quickly, and most importantly, qualitatively process the information he receives, apply it in practice when solving various types of tasks (and tasks), feel personal responsibility and involvement in the learning process, prepare yourself for further practical work and continuing education.

Teaching physics, due to the nature of the subject itself, is a favorable area for the application of modern information technologies. I use information technologies both when conducting lessons and in organizing extracurricular activities of students.

The computer is the most powerful and most effective of all the technical means that have existed until now, which the teacher has.

It is difficult to imagine the study of physics without laboratory work. Unfortunately, the equipment of the physical office does not always allow for software laboratory work, does not allow the introduction of new work at all, requiring more sophisticated equipment. A personal computer comes to the rescue, which allows you to carry out fairly complex laboratory work. In them, the student can, at his own discretion, change the initial parameters of the experiments, observe how the phenomenon itself changes as a result, analyze what he saw, and draw appropriate conclusions.

Many phenomena in the conditions of a school physics study cannot be demonstrated. For example, these are the phenomena of the microworld, or fast-flowing processes, or experiments with devices that are not in the office. As a result, students find it difficult to study them, as they are unable to mentally imagine them. The computer can not only create a model of such phenomena, but also allows you to change the conditions of the process, "scroll" with an optimal speed for assimilation.

I use information technology in physics lessons in the following areas:

-Multimedia scripts of lessons or fragments of lessons;

-preparation of didactic materials for lessons;

-use of ready-made software products according to your discipline;

-working with electronic textbooks in the classroom;

-searching the necessary information on the Internet in preparation for lessons and extracurricular activities;

-search for the necessary information on the Internet directly in the lesson;

-work in the lesson with materials from Web sites;

-development of tests using ready-made shell programs;

-use of computer simulators for the organization of control knowledge.

To maintain the interest and develop the cognitive activity of students, it is necessary to expand the number of creative and research work carried out using ICT; use material with physical content when carrying out practical work in computer science lessons; Conduct a week of physics and computer science, where students will be able to submit to the competition and defend their creative and research work done using ICT.

In order for the computer and its capabilities to be usefully used in teaching any subject, it is necessary that the teacher be familiar with the computer. Therefore, the use of ICT in the educational process assumes that the teacher is able to:

- to process text, digital, graphic and sound information with the help of appropriate editors to prepare didactic materials to work with them in the lesson;
- create slides on the given educational material, using the MS PowerPoint presentation editor to demonstrate the presentation at the lesson;
- use the available off-the-shelf software products in your discipline;
- organize work with an electronic textbook in the classroom;
- to apply educational software;
- search for the necessary information on the Internet in preparation for lessons and extracurricular activities;

- to organize work with students to find the necessary information on the Internet directly in the classroom;
- work in the lesson with materials from websites;
- create web pages on the issue of interest to the educational material;
- develop tests using ready-made shell programs or independently, and conduct computer testing.

The use of information technology in the educational process allows teachers to make the educational process more intense, vivid and effective.

Analyzing my experience of using ICT in physics lessons, I was convinced that this allows with a high degree of efficiency to develop the cognitive activity of students, increase interest in the subject under study, develop analytical thinking, form and improve computer skills, form the skills of teamwork and independent research.

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