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Importance of Application of Modern Act in Physics

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Annotation: This article describes the tools and technologies needed to improve the quality of the physics teaching process. The teaching of science focuses on the advantages of ICT tools and the process of their application. The lesson provides tips for engaging and engaging students.

Keywords: technical means, multimedia, presentations, interactive whiteboard, Internet resources.

In the modern world, education is goal-oriented, addressing personal interests and the needs of the student. Today, the student has to choose an individual educational trajectory. In other words, the priority of education has become to develop students 'personalities, their ability to analyze, and their ability to solve responsibilities. Only in this case will modern education become of high quality. Of course, physical education is no exception and should be developed on the basis of modern trends, in accordance with the expectations of society. Undoubtedly, it is one of the main sources of improvement and application of modern pedagogical technologies.

Relevance of the topic. The property of information technology is positioned in the modern world along with qualities such as the ability to read and write. A person with purposeful, effective technology and information will come to another new way of thinking, otherwise problem assessment, to organize their activities. Information and communication technologies (ICT) have the ability to individualize students, adapt to their abilities and interests, develop their independence and creativity, use educational information resources, computer technology.

ICT takes into account the individual abilities of each student, his interests, in real life, the individual teaching of reading, the suitability of students' cognitive needs and interests.

Innovation is a skilled approach, the use of new information technologies and the use of integrated ICT forms require knowledge of computer literacy. ICT technology can be seen as an effective tool for achieving the quality of education in physics. In addition, the use of ICT has a practical direction. The level of computer literacy allows you to engage in the production of your own computer products: handouts, documentary and methodological kits, methodical and methodological kits, computer sites, creating interactive presentations, and more.

The use of ICT in physics lessons allows to activate the activities of teachers and schoolchildren; improving the quality of the subject matter; Reflects important aspects of physical objects, reflects the principle of clarity; The characteristics of the objects and events studied are the most important (in terms of learning goals and objectives) to move forward.

Involving information and communication technologies in students' learning activities is not only a matter of time, it is a process of building the necessary competencies to realize their potential in modern society. "... Determining the essence of knowledge, mastering the ways of cognitive activity, improving them, defining the essence of knowledge, arising from the new knowledge of the school, will help future school students to adapt to a rapidly evolving society.

Physics - To study science at the oral level for the simplest understanding of science, does not create a correct idea of the objects and phenomena studied. Therefore, the main task of physics teachers is the rational use of visual education in the teaching process. The role of connection with the teaching of physics is generally accepted, the clarity of the training is one of the main principles of didactics. The need for certain emotional support was justified by Ya.A. Kamenksky. They allow the school to be presented for discussion. Designing information topics requires special knowledge in the field of media - education, psychology, management. Unlike conventional technical means of learning ICT, not only is knowledge prepared, well-chosen, well-

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organized, but students are able to acquire intelligent, simple skills, but also independent knowledge with a variety of sources of information. unable to learn.

Methodological bases. The problem of speed of use of computer equipment in education, the problem of age-related, individual-psychological and socio-psychological use.

Local and international research on the use of information and communication technologies confirms the feasibility and expediency of the use of ICT in the development of speech, intelligence and, in general, the personality of the student.

There is an assumption that there will be a differentiated impact on the development of the ICT program. Negative dynamics of the formation of interpersonal skills in students with a love of computer technology (partly due to contact with other people, disruption of emotional connections, weakening of emotions, reduced area of interest). These features are related to the cognitive processes and problem-solving associated with creative activity.

The target group of the program is students of 7-9 grades of all development. Therefore, when using ICT, it is important to respect the standards of sanitation and hygiene when working on a computer to maintain the health of students. Integration of health and personal-oriented technologies with ICT technologies can be achieved. All activities in the main areas are organized taking into account the age and individual characteristics of students.

Technology. To determine and analyze the initial level of information (different levels of ICT), a survey of students and participants in the learning process was conducted. According to the results of the survey, the number of students who can search for information on the Internet in words and power points, with the help of Excel, as well as students with intermediate skills at the level of presentations. At the Center for Professional Development with the help of computer technology, first of all, any creative teacher will be interested in a fundamentally new model of student learning and will be able to answer previously identified questions.

I see the benefits of using computer technology in the classroom as follows:

Ability to use at different stages of the course;

• the need to increase use and stop at the right time;

• Demonstrate a range of physical phenomena that can only be observed using special equipment;

• Detailed understanding of the prepared objects and their parts;

• Observation of micrological processes and accelerated processes;

• Perception of materials on a visual and emotional level.

The general principles of organizing computer classes in the ICT class are applied.

 Computer learning tools in the classroom:

• individualization and differentiation of the learning process;

• monitor diagnostics, feedback;

• self-control and self-management of educational activities;

• free up school time by performing regular calculations on a computer;

• imitate prepared processes or events;

• Carrying out laboratory work in the conditions of real experience or simulation of an experimental computer;

• develop the ability to make optimal solutions in different situations;

• formation of a certain way of thinking (for example, visually, theoretically); strengthening the cause of the study;

• formation of a culture of cognitive activity.

The following teaching aids are available during the course:

1. When using multimedia: mute the sound and ask the process to comment on the process, stop the field and ask the process to continue another process, ask to explain the process.

2. When studying text materials: you can fill in the table, fill in the table, make a brief summary, find the answer to the question about the material.

3. Knowledge control: tests with self-examination.

4. The main thing for school students with multimedia presentation is speech, thinking, memory, information separation, making logical connections.

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5. Homework, for example: - Find information on "Molecular Physics" on the website and enter assignments; site with the specified address, check the theory on the topic and complete the task.

Different types and forms of ICT use in the classroom. To prepare and conduct physics classes at different levels of training and we use different types of ICT forms:

1. Multimedia. Multimedia lessons are provided on a CD-ROM for use on an autonomous personal computer.

Working with multimedia grants diversifies classroom work forms, allowing you to use specific, statistical, methodological, as well as audio and video forms of images at the same time. Such work can be done at different stages of the lesson:

- as a way to create a problem situation (physical objects and students are invited to classify them, then this object is unnecessary, it is not suitable for classification and the subject of reading in the lesson).

- as a method of explaining new material (video and picture materials, diagrams, tables explaining new material).

- Form of merging of preparations (final test, introduction of various labyrinths, missed words, virtual laboratory and practical work).

- as a form of homework check (test, cut, crossword puzzles).

- As a way to check knowledge during the lesson (fill in the table, audio video, progress, etc.).

2. Presentations in physics lessons. The use of multimedia presentations is recommended at any stage of the topic and at any stage of the lesson. The presentation allows the teacher to show creativity and originality to avoid a formal approach to classrooms. This form allows you to present training materials as a system of bright support images filled with complex structured data in an algorithmic manner. The purpose of educational information is to form a system of thought formation in school students. The flow of learning materials in the form of presentations reduces learning time. In preparing a presentation, the student must do a great deal of scientific work, avoid stereotypes, and turn each work into a product of individual creativity. Forms this type of teaching skills and abilities in the field of education, which allows you to develop logical thinking from the student, acquiring the experience of public speaking.

3. Interactive whiteboard - helps to increase the effectiveness of reading, new cognition in the learning process contributes to increasing the motivation of students.

When working with an interactive whiteboard, you can perform the following tasks: computer observations, subsequent computer control, ready-made materials (frontal work), public discussion, independent student work results (group, individual work), pre-prepared materials (tests, diagrams, numbers) and many other things on display.

On the interactive whiteboard, you can easily move objects and notes, comment on texts, drawings and diagrams, highlight key areas, and add colors. You can also hide texts, pictures, or graphics, and then show the main points of the lesson. The teacher and the students do all this on the board in front of the whole class, which definitely attracts all the attention. For example, you can use the curtain tool to ask students for advice. The pre-compiled table is closed and the explanation of the new material is gradually opened after the discussion. What is the purpose of interactive whiteboards in school lessons?

• Clear, effective and dynamic preparation of individual needs of different age groups.

• Significant increase in student motivation. Even students who don't want to go to class are instantly involved in the learning process because they themselves are well-focused in the digital world and have a variety of electronic devices in their daily lives.

• It is an indispensable tool for activating the cognitive activity of students and communication skills, developing students 'skills, understanding their skills and perspectives.

• Save time. prepared classes (as well as tables, pictures, quizzes, desks, music, maps, and other resources for the lesson) allow you to save a quick textbook.

4. Internet resources. When it comes to new information technologies, it's impossible not to remember about the Internet. What helps the learning process in physics classes?

Now you can use the Internet:

1. Search for information on educational issues, create presentations;

2. Participation in competitions of different levels in science olympiads;

3. delivery of educational video programs;

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4. teacher training;

5. Post your information on the sites.

The development and implementation of smart devices is also used in our schools, for example, smart bells and various sensors that measure room temperature. In addition, we can create modern training rooms depending on the seismic detection device, photoelectric converter device, thermoelectric converter device. The use of cloud technologies in data storage has become very useful.

It will be useful for the student to be active and not distracted in the classroom, and the quality of education will increase. In this process, we propose the following:

- Introduce modeling technologies into the teaching process due to the lack of imagination of students in the educational process;

- Virtually create a workflow and display the results in cases where the practical use of technical equipment in the classroom is not possible;

- analysis on the basis of modeled objects;

- Demonstration of chemicals;

- In physics lessons, the created models of virtual laboratories can be used effectively.

High school students 'inconvenient skills in working with information spaces should be counseled on this issue, and it makes sense to seek information independently, charging high school students in the first place. In the middle grades, the use of materials from the Internet in the classroom is more interested in nature, allowing students to additionally engage and broaden their horizons. Create a catalog of some physics sites with students, and use their information to prepare for and use the lesson.

The active involvement of students in various activities, the development of new ways of human activity in the socio-cultural environment, the development of skills and abilities to adapt to human living conditions provide a project approach.

The benefits of using ICT include:

• linking all stages of all lessons;

• Emphasis is placed on memorizing huge formulas and terms that are impossible for the average child, and memorizing new formulas based on previously known, logical, and hitherto limited knowledge.

• The use of animation helps to best fund the methodology of solving graphical tasks;

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