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CHALLENGES OF MODERN PHYSICS EDUCATION AND PROSPECTS FOR ITS IMPROVEMENT

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Abstract

The development of society, the reforms in the field of education in our country require the training of mature and highly thinking personnel in accordance with world standards. This article discusses the importance of basic and science competencies in solving the problems of physics education and the prospects for its improvement.

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INTRODUCTION

In recent years, the laws of the Republic of Uzbekistan on education set the task of reforming the education system, modernizing the teaching of science in all educational institutions, humanism, the scope of knowledge transferred to vital processes. This requires the widespread use of modern information technologies in education. At present, the accelerated introduction of innovative pedagogical and information technologies in physics education has become a pedagogical and methodological idea. The introduction of information technology in the education system, especially in the teaching of physics, has led to the emergence of new types of training (acquaintance with the physical model, computer experiments, solving experimental problems, research, creative assignments). ldi. Among them, one of the main problems of physics education is the creation of virtual stands of laboratories, modeling of physical processes.

LITERATURE ANALYSIS AND METHODOLOGY

At a time when computerization is at its peak in the 21st century, it is time to teach science through computer programs. Computerization is gaining momentum in the educational process. Computer programs can be used to demonstrate physical experiences, effects, and events. It can be widely used in computer education, knowledge control, physics problem solving and laboratory. Since there are no high-precision results devices under traditional laboratory conditions, physical experiments and effects are explained orally,

making it almost impossible to demonstrate them. Such processes can be observed only with the help of modern computers. many are being built. Such programs are also used in the teaching of physics. Recently, the creation of electronic textbooks to further improve teaching is underway. Teachers can make better use of this. It is very convenient for both the student and the teacher, and you can study any topic on the computer and get answers to the necessary questions. The most convenient aspect of these e-textbooks is that they allow you to control them remotely. Demonstration methodology of teaching physics is the study of the structure and organization of the course, as well as the laws of development of the theory of teaching physics and the principles of its implementation.

Demonstration teaching methodology of physics, like other disciplines, has special examination methods. In particular:

- Analysis of general problems of secondary education and the role of physics as a subject in their solution;
-study and generalization of advanced pedagogical experience;
- Comparative analysis of physical education and pedagogical practice;
-analysis of the specifics of student psychology and the process of demonstration teaching physics;
-analysis of the specifics of student psychology and the process of teaching physics;
- To determine the objective trends and laws of development of physics methods based on the analysis of the history of teaching physics;
- To determine the objective trends and laws of development of methods of visual teaching of physics in developing countries on the basis of comparative analysis of the results of testing the knowledge of schoolchildren, textbooks, manuals, etc., to make hypotheses and experimentally test them.

DISCUSSION AND RESULTS

Pedagogical software is a didactic tool designed to partially or completely automate the learning process using computer technology. They are one of the most promising forms of improving the efficiency of the educational process and are used as a teaching tool of modern technology. The structure of pedagogical software includes: software products (software packages), technical and methodological support, additional and auxiliary tools aimed at achieving specific didactic goals in the subject. Pedagogical software can be divided into:

educational programs - focused on the acquisition of new knowledge based on the level of knowledge and interests of students;
test programs - used to test or evaluate the acquired knowledge, skills and abilities;
Exercises - serve to repeat and strengthen previously learned training material; programs that create a virtual learning environment with the participation of teachers.

CONCLUSION

In short, as a result of the development of science and technology, in this century, when physics is constantly evolving, we need to create innovations. In this regard, there is a need to significantly increase the level of the educational process, to ensure that young people have a deep knowledge of the basics of science in teaching general subjects, to form in them such qualities as faith in their profession, diligence, moral purity, love for our country. and aims to educate students in the spirit of a perfect human being who is willing

and able to contribute to his or her future, while at the same time conveying to the reader the role of the subject in human life.

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