

## IMPROVING THE METHODOLOGY OF USING ELECTRONIC EDUCATIONAL RESOURCES IN TEACHING PHYSICS IN HIGHER EDUCATIONAL INSTITUTIONS (ON THE EXAMPLE OF THE OPTICS DEPARTMENT)

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### ANNOTATION

This article contains a number of scientific observations on the example of the optics department of improving the methodology of using electronic educational resources in teaching physics in higher educational institutions, which we hope will be useful to many.

**Keywords:** physical science, educational resource, environment, optics, methodologies, scientific process, laboratories.

President Of The Republic Of Uzbekistan Sh.M.Mirziyoyev's decision "on measures to improve the quality of education and the development of scientific research in the field of Physics" on the basis of the resolution of March 19, 2021 no PQ-5032 proposed the idea of rapidly introducing information technologies and computers into the life of society, the lifestyle of people, schools of general secondary education, secondary special, vocational One of the promising areas of application of information and computer technology in physics education is computer modeling of physical processes and experiments. Computer models activate these traditional and non-traditional lesson processes and give the teacher a lot of relief to the course, clarify physical processes, provide great opportunities for maintaining effects, demonstrating to students on a monitor (screen) and showing them repeatedly. In computer-aided teaching, modeling is able to create opportunities for selecting time scales, parameters over a wide range and changing the conditions of the experiment, demonstrating situations that are not possible in the experiment. In some cases, it expands the possibilities of bringing the graph of the time dependence of the quantities characterizing the experiment to the screen. This will screen the graphs at the same time as the experiment being carried out, giving it special clarity and making it easier to understand the general law of the process being studied. At this time, the graphical representation of the results of non-traditional teaching using a computer will facilitate the assimilation of a large volume of information being received. In the process of covering this article, methods of objectivity, logic, analysis and synthesis of scientific knowledge were widely used. Teaching techniques include visual aids, technical teaching techniques, didactic materials and hakoza. Today, teaching methods are improving. With the rapid development of Information Technology, a new, computerized problematic type of teaching of the problematic teaching process has emerged. In the application of information technology to the teaching process, such as the application of other teaching methods, a number of problems associated with pedagogical and psychological

situations arise. Analysis of scientific knowledge eish provides an opportunity to systematize and isolate the following functions of the computer:

- technical and pedagogical programs;
- didactic.

Depending on this, the task of pedagogy is to determine and ensure the state in which the above functions will achieve a real result. The feasibility of using information technology in the educational process, the connection with the content, form and methods of teaching today, can be distinguished by the following goals:

- time saving;
- the level of "mastery" of students in the educational process;
- implementation of students ' solo approach;
- the degree of "mechanization" of pedagogical methods.

Non-traditional teaching using information technologies improves the content, forms and techniques of education, can develop students ' knowledge and skills through the use of fast, high – quality, active and advanced methods of teaching, including information technology, the creation of scientific and methodological foundations for increasing the possibilities of mastering science, the means of teaching technology.

Therefore, it is advisable to implement modern teaching technology, to use non-traditional educational resources. The computer user will be able to change the initial conditions of the experiment, conduct the necessary physical experiments and make conclusions based on the result. In addition to describing individual phenomena on the screen in the process of experimentation, it allows you to observe a diagram of the correlation of physical quantities. Video viewing of the experiments will help the course process pass unusually lively and interesting. It should be noted that the explanation by linking the physical laws observed in physical phenomena and processes using these instructive complex programs has a number of advantages.

The organization of physical education and educational process using information technologies in teaching physics in higher educational institutions on the basis of unconventional teaching methods and technology forms and develops in students the skills of independent acquisition of Polytechnic knowledge, further increasing their interest in mastering science. It also lays the foundation for the independent assimilation of the internet network and its approach to the study of new topics taken from it as a kind of research.

The possibility of improving the content of physics education is created by creating virtual laboratory work by enriching and activating them with modern teaching technologies and programmed pedagogical tools, without turning away from traditional methods of teaching physics. In conclusion, it can be said that one of the important factors was the improvement of physics teaching on the basis of information technology, analyzing textbooks, methodological

manuals and several completed scientific studies that can be used in physics education (in the field of Exact and Natural Sciences).

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