TEACHING PHYSICS ON THE BASIS OF PEDAGOGICAL TECHNOLOGIES

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Annotation:
Provides information about teaching physics based on pedagogical technologies

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Introduction

Physics is an experimental science. In the process of reading, Learning, Mastering physics, students may experience some kind of difficulties. At this time, students may experience a lack of confidence in their knowledge, resulting in a negative state such as boredom with science. Each lesson that the teacher has passed should be different from another lesson. If we organize the lesson on the basis of new pedagogical Technologies, news media, exhibition weapons, this lesson will turn out interesting, high-quality, and the effectiveness of education is guaranteed. One of the pressing problems facing the physics teacher today is the design of modern technologies of education and its application in the teaching process. The physics teacher should not only give students the necessary knowledge of the subject of physics, but also be able to arouse interest in science in them, so that, as a result, a good specialist in this field, mature personnel, are achieved. Each lesson that the teacher has passed should be different from the other lesson, perfect compared to the lesson night to be held today. We also need to pay attention to the following factors when teaching the lesson on the basis of new pedagogical technologies:

- use of media;
- efficient application of visual weapons;
- the use of interactive techniques.

If we correctly organize the above factors, the lesson to be taken Will well reach the student's mind and take up space in his memory. The student's scientific worldview expands, and the level of knowledge increases. The goal of organizing modern education, in contrast to traditional education, is to achieve high results in a short period of time without excessive mental and physical effort. The delivery of certain theoretical knowledge to students in a short time, the formation of skills and qualifications in them from a certain activity, as well as the control of students ' activities, knowledge, assessment of their knowledge, skills and qualifications requires a great pedagogical skill from the teacher of physics and a new approach to the educational process. Currently, in many developed countries of the world, a lot of experience has been accumulated in the application of new pedagogical technologies that increase the scientific activity, creativity of students and, at the same time, guarantee the effectiveness of the educational process. The methods that form the basis of this experiment are called interactive methods, and the ability to apply these methods to the course process is a high task assigned to the physics teacher of today's time. The successful design of pedagogical technology and the guarantee of the final result(effect)depend on the level of the teacher's understanding of the essence of didactic issues and the ability to correctly assess them in the lesson.

In the study of corpuscular-wave dualism of light and the energetic properties of light, the use of innovative technologies in the teaching of the optics department of physics in the educational areas of Physics and Astronomy in particular, makes it possible to easily absorb and qualitatively strengthen knowledge. One of the most urgent tasks facing our society today is to educate a harmonious generation with a new mindset, creative thinking, intellectual potential. Improving the teaching of physics is becoming an urgent issue to increase the activity of students, deepen the range of knowledge in their reserves of intelligence and introduce effective methods that rely on new opportunities.

In the teaching of the optics department of the physics course in general educational schools, professional education and higher education, innovative technologies are a pedagogical process and an innovation, changes in the activities of the teacher and student, and the main interactive methods are fully used in its implementation. Interactive methods are referred to as collective thinking, that is, it is the methods of pedagogical influence and is a component of the content of Education.

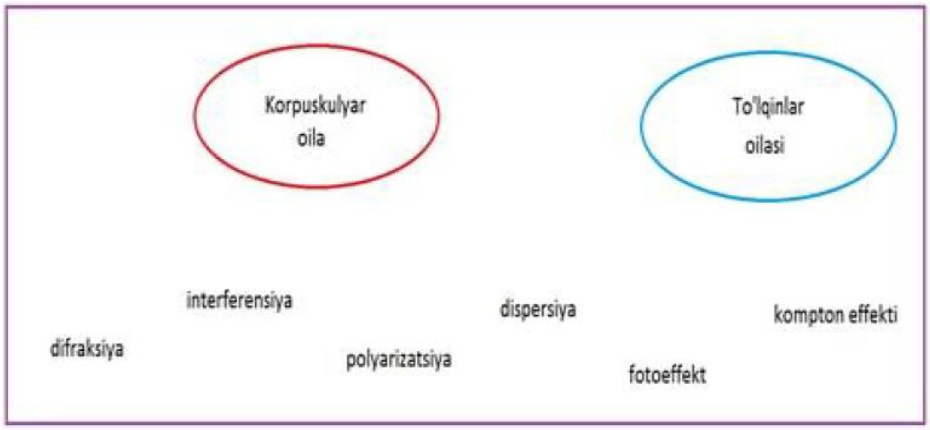

Figure-1

Their uniqueness lies in the fact that they are carried out only through the joint activities of an educator, a student and students. It is up to them to choose what technology the teacher and the student and the students will be able to achieve the result according to the goal, in which the technology used is selected depending on the circle of knowledge of the student and the students, the character of the group, the circumstances.

As an example, the method of “classifying processes into families”, which is used in explaining the corpuscular-wave dualism of light, applies. As a task in this, students are required to memorize the physical processes associated with light and include these processes in the wave or corpuscular family (Figure-1). In the image above, it is advisable to use different methods such as separating using colors, using connecting line-arrows, or writing in rows. Similarly, the phenomena of geometric optics and wave optics can also be classified into families, strengthening the concepts about them. Another example would be the use of the “loop” method, which allows the perfect assimilation of the system of interconnecting physical magnitudes and their units of measurement found in the photometry section of optics.

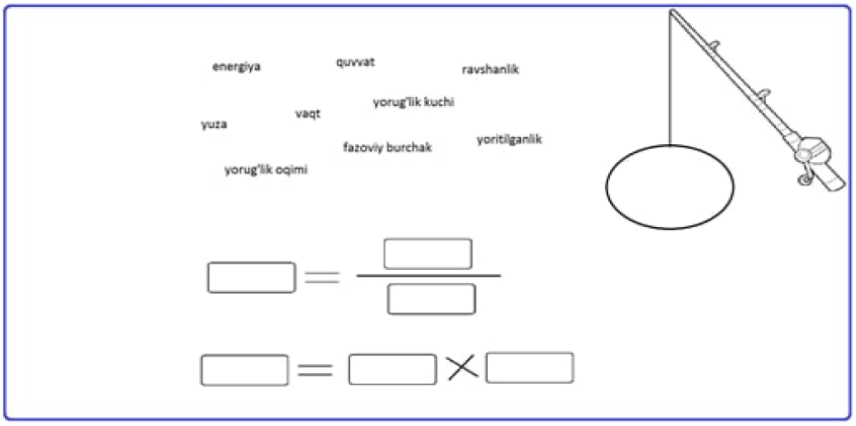

Figure-2

To do this, it will be necessary to use two methods of "fish bags" to record the physical magnitudes found in photometry and their units of measurement and place them(Figure 2).
By programming the above methods in the future, it makes it possible to automate and universalize the process of applying methods in strengthening other sections and topics.

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