

**USE OF INFORMATION TECHNOLOGY IN TEACHING OPTICS IN SCHOOL
PHYSICS COURSE**

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Abstract: *This article states about innovative technologies, non-traditional techniques, which can be used on the "Optics".*

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Today, schools are paying attention to the issues of physics through innovative methods, introduction of innovative technologies, organizing the organization. In particular, the Resolution of the President of the Republic of Uzbekistan dated 19.03.2021 "On measures to develop the quality of education in the field of physics and develop research" was set in this regard.¹ According to it, the fact that young people are not paid to strengthen their interest in physicisim, the study of educational programs are not focusing on and creating independent thinking, as the work taken to ensure the quality of education is not meet modern requirements a number of tasks were given.

Education reform in our country is entering a qualitative stage. The introduction of pedagogical technology and information into the educational process to increase the effectiveness of education is one of the most pressing issues today, as new technical and technological processes are used in industry. The management of these vehicles will be the responsibility of young people. In addition, in the field of medicine we often encounter optical phenomena, for example: The laws of optical phenomena underlie the study of the ability of tric organisms to see and treat them in various diseases. Therefore, the use of information technology plays an important role in the education of the younger generation in accordance with international standards.²

In pursuance of the Law of the Republic of Uzbekistan "On Informatization", the Ministries of Public Education, Higher and Secondary Special Education have developed and adopted a number of normative documents and programs, as well as the information network. A number of measures

¹ www.lex.uz

² Khudoykulov H.J. Pedagogical technology is the basis of education. Tashkent. Navruz. 2018.p.82

have been taken to form information resources, create information resources and use information and computer technologies in the educational process.

There are three main principles of new information technology:

- Work with a computer in an interactive (communication) mode;
- Integration with other software products;
- Allows you to change the initial data provided, as well as the parameters of the initial problem to be solved.

Objectives of using information technology:

- increase students' interest in computer learning;
- Encourage students to use sensory-emotional knowledge through the use of information technology.

In physics lessons, the physical experiment broadens students' pre-accumulated understanding of optical phenomena and processes, complements students' perspectives, and enhances their worldview. When students do laboratory work independently, during the experiment they understand the laws of physical phenomena, learn to work with methods of studying them, that is, learn to acquire knowledge independently in practice.

The departments of atomic and nuclear physics are not adequately equipped with the equipment and facilities required for laboratory work. As a result, students have very little understanding of physical phenomena, and the theoretical knowledge acquired by students cannot be supplemented by a practical experiment. Some experiments are difficult to perform because they endanger the lives and health of students.

Currently, the teacher requires all students in the class to work at the same time. The computer allows this, allows each student to work independently, increases the level of knowledge of students, can be used to solve problems or perform laboratory work, allows you to model some physical phenomena.

The subject of optics can be taught in physics at school in the following information methods:

Mental attack. The basic rules of mental attack are:

1. All the ideas expressed are equal in importance to each other.
2. There is no criticism of the ideas being introduced.
3. Not to interrupt the speaker while presenting the idea.
4. There is no evaluation component for the speaker.

In this method, all participants in the group are asked one topic and one question.³

There is often a need to help the audience identify important ideas and select the best of them. That is, like creating a small business in name only.

It is difficult to draw a final conclusion. This is natural, because each participant has the characteristic of "my idea is the best". The general position is found anyway, quickly, and the following method may help.

Brainstorming method. This method is at the initial stage of the process of ensuring the activity of students in the classroom, encouraging them to think freely and freeing them from the inertia of the same thinking, collecting colorful ideas on a particular topic and solving creative tasks which serves to teach them to overcome the ideas that arise.

Modified report. In this teaching method, the teacher conveys the content of the topic to the students through oral presentation. However, unlike traditional lectures, there is active communication between students.

Application:

- to provide general information to students;
- to introduce science and provide basic materials;
- before starting any activity, demonstration, role play and other methods;
- demonstrate the use of definitions, rules, formulas in a problem or laboratory.

Veer method. This method focuses on complex, multidisciplinary, and as problematic topics as possible. The essence of the technology is that it provides information on different areas of the topic, and each of them is discussed separately. The Veer method allows for the development of critical, analytical, clear and logical reasoning, as well as the expression and defense of one's ideas and opinions in writing and orally. This method teaches students to think creatively, independently, figuratively. Creating a work plan helps develop critical thinking skills.⁴

Cluster method. The cluster method is a specific form of pedagogical, didactic strategy that helps students to think freely, openly, and express personal opinions about voluntary problems. This method requires the identification of a structure that allows thinking about the connections between different ideas. — The cluster method is a form of thinking that is not clearly objectively oriented.

³ Sibirskaya M.P. Vocational training: Pedagogical technologies. -Saint Petersburg. 2012. P.23

⁴ Ishmuhammedov R.J. Education using innovative technologies Ways to increase the effectiveness. Tashkent: 2015.p.74

.This method serves to ensure that the thinking activity is consistent until the students have mastered a particular topic in depth and thoroughly. —Cluster method, developed in accordance with the idea of style, is a well-thought-out strategy It can be used with students individually or in groups. In group sessions, this method is a set of ideas expressed by group members. This is done by each member of the group. the ability to harmonize the ideas put forward by and find connections between them y aratadi.

The method of KKL (I knew, I want to know, learn, learned).

This method can be used in a new educational type lesson.

Step 1: A new topic is written on the board and the students' notebook "knew".

Write the fact that they knew on a new topic were invited. (3 minutes is given). The presentation will be held.

Step 2: "I want to know" to the students, "suggests writing what you want to know about the new topic. A presentation is carried out for (1 minute time).

Step 3: Wash students open a textbook and notebe the text - writing what they descate to write. (10 minutes is given). The presentation is carried out after the time. The new topic is described by students. In all steps, students are followed by a rule to listen to one. The teacher is supplemented by the parts left without a new topic using the additional literature using materials found.

Bermerang method. This method is aimed at studying the teaching material in depth and integrated state, creative understanding, and mastering. It covers the topics that have different meaning and character (problem, controversial, various meaningful) and fulfill students' assignments during a shchar It is possible to turn to the role of a teacher or student, economist or entrepreneur, and gather the required score.

Shidatt attack of ideas - destro-appreciated assessment dialog. The essence of the method changed by G.Yu. Bush is that creative opportunities of participants in the development of ideas are in the development of ideas and contradictory ideas.⁵

The development of information technology and its penetration into all spheres has led to the creation and development of "new educational technologies" in society, as well as new industrial production technologies. Endless opportunities for development are opening up for humanity. To take advantage of these opportunities, it is necessary to know the effective use of new information

⁵ Veklenko B.A. Applied Physics 2010. №3. 10 (RF). P.43

technologies. In particular, the use of new pedagogical technologies to increase the effectiveness of education will allow to achieve great success in this area.

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