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TO DEVELOP THE INVENTIVE COMPONENTS OF STUDENTS IN PHYSICS LESSONS

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Annotation. Forms of competencies. the article deals with issues related to the method of solving problems in physics. As well as the role of performing practical exercises in physics to increase efficiency in teaching the subject.

Keywords. Physics, subject teaching, problem solving, mechanics, laboratory classes, frontal laboratory work, learning effectiveness.

Basic and general competencies in science.

Based on the priority of continuity, belonging, personality and interests of students in the Republic of Uzbekistan, the following core competencies are formed in accordance with their age characteristics.

Communicative competence means the ability to communicate in social situations in one's native language and in any foreign language, adhere to a culture

of communication, develop social flexibility, and the ability to work effectively in a team.

Competence in working with information means the ability to search, sort, process, store and use the necessary information from media sources, ensure their effective use, ensure their safety, develop the ability to have a media culture.

The competence of self-development is the continuous physical, spiritual, mental, intellectual and creative development of oneself, the desire for maturity, independent learning throughout life, cognitive skills and life experience, involves the acquisition of skills of continuous self-improvement, evaluation of one's own behavior of alternatives and making independent decisions.

Socially active civic competence - the ability to feel ownership and active participation in events, phenomena and processes in society, to know one's civic duties and rights, to observe them, to develop the ability to behave and have a legal culture in the labor and civil sphere. relationship implies.

The spiritual, educational, socio-economic, technical and technological reforms of the 21st century are being carried out step by step. In particular, the purpose of the educational process is to conduct on the basis of pedagogical technologies, to cultivate a free personality, the process is complex and shows the need to transform a voluntarily constructed and put into practice a system of teaching that is strictly science-based pedagogy.

Irrigating this process in the spirit of universal and national values, improving its content is an urgent task for creative teachers. Does it require a great deal of skill on the part of teachers when teaching in a variety of non-standard forms based on pedagogical technologies? the question arises. To find a solution to this question, the teacher must follow the following: pedagogical technology must be pre-designed and be able to apply the finished project in practice. This requires great skill.

The purpose of the physics course, which teaches physics as a subject of

general secondary education, academic lyceums, professional colleges, is to provide fundamental knowledge of physics on the basis of general secondary education, physics to develop students' scientific outlook and philosophical observation through scientific explanation of events and the physical landscape of the universe, to reveal the dialectical connection between theory and practice, to increase their capacity to understand physical processes in nature and technology, to apply their knowledge in everyday life and the people. preparation for their activities in the field is to lay the groundwork for further education.

The teacher can use different forms of teaching methods (lectures, oral presentations, problem solving, practical work, demonstrations, etc.) in the organization of physics lessons. It is also recommended to use various non-traditional methods of teaching, such as discussions, statements, puzzles, electronic aids and multimedia. Demonstrate that covering topics in innovative ways is one of the most pressing issues facing teachers today. And it's about showing how important collaborative learning is for physics.

What are the teaching methods? Methods of teaching aimed at achieving the learning objectives used in the joint and interconnected work of teachers and students are called teaching methods. Different types of teaching methods in physics lessons: story, explanation, lecture, various conversations with students, demonstration of teacher experiences, presentation of a story or lecture with working and citation modules, posters, pictures, diapositives, etc. TV broadcasting, tape recording and video recording, educational films, textbooks, laboratory experiments, live observation, problem solving, handouts and printed didactic materials, individual from students and frontal inquiry, written independent and controlling work, knowledge programming, and more.

Each of the teaching methods is implemented through a system of methods. Teaching method is an integral part of the teaching method. For

example, problem-solving a) from a variety of ways in which a problem-solving situation is created (performing a task that contradicts students' knowledge as a result of demonstrating a problem-solving experience to determine whether life experience contradicts scientific knowledge during a conversation, etc.). b) various methods that guide students to intellectual activity in the way of hypotheses (assumptions) made by students about the causes of conflicts in a problematic situation (the method of updating the necessary knowledge, the method of analogy, etc.);) assumes the use of different methods of testing the hypotheses made by students during the conversation (checking the conformity of the hypothesis to the basic theoretical concept, testing the hypothesis in practice).

Similarly, students' laboratory work assumes that they are prepared for this work in different ways, that students' experimental skills are formed in the course of laboratory work, and that they use different methods to check the accuracy of practical actions and measurements. For example, the following methods can be used to prepare students for laboratory work. 1) Students review the theoretical material and learn the details of the laboratory work from the textbook.

In doing so, they try to understand and master the sequence of measurements and other practical work they need to do in class. They then write in a notebook the topic of the lesson, a table of results for measuring the necessary equipment, and so on; 2) students repeat the theoretical material and solve a textual problem in the context of "laboratory" (ie, the order of work is classified, the results of "experiments" are given and the calculation of the required error is provided). Based on this, they plan a measurement of the upcoming laboratory work; 3) Students review the theoretical material and try to plan a possible path to the future experiment, based on their laboratory experience and the knowledge and skills they have acquired.

Thus, each teaching method can be described and conveyed through the different methods used in it and their interrelationships. Improving teaching methods goes hand in hand with not only the introduction and application of new teaching methods, but also the improvement of teaching methods. They classify teaching methods to make them easier to analyze and describe. Teaching methods can be classified differently depending on the basis on which the methods are based.

In didactics, the classification of methods for the transfer of information from teacher to student is widely used. lecture) also represents work with the book, divided into visual (demonstration of experiments, working and static models, posters, pictures and movies, etc.) and practical (laboratory experiments, problem solving, etc.).

Comparative Analysis of Traditional and Technological Teaching

Criteria	Traditional teaching	Technology training
The goal	Education, skills development	Collaborative activity through knowledge, skills and competencies
The role of the learner	Follows instructions; Passive reception of; Information does; assimilates information; partly responsible for the learning process	Suggests his own ideas; Interconnected; actively participates; fully responsible for the educational

To read interest (motivation)	By the outside community pressure (family, religion, customs, etc.); the student does not see the immediate benefit of reading	Internal motivating factors. The student immediately realizes the benefit
Process	<ul style="list-style-type: none"> -directive approach -interprets and evaluates -knows more and better on the topic -speaks in a professional language 	<ul style="list-style-type: none"> democratic approach -listens, supports, is ready to accept everyone's thoughts and ideas
		- speaks the language of students
Methods	The student receives evidence, information	Teaching is based on students' knowledge and skills

Students have different levels of communication needs, and the role of the teacher is to create an environment to meet these needs. Some students have a strong need to communicate with each other, others with the teacher, and still others with the learning material.

Every student has a natural need for recognition and respect. The teacher's responsibility is not to discriminate or embarrass each other, but to create an environment in which students listen to each other, learn from each other's opinions, and thus show respect for others. The teacher should try to find an opportunity for each student to highlight their contribution to the collaboration during the lesson.

Humans have a natural need to do something and achieve better results. During the lesson, students want to achieve better results when they complete a

specific task. During the training, they want to know how the outcome can help them to complete the task they are doing. There is a growing line of such needs, first low and then high.

Improving the quality of education, increasing the intellectual activity of students is the main task of pedagogy today. The use of interactive methods in increasing intellectual activity gives good results. This requires innovation in the educational process.

Nowadays, there is a growing interest in the use of innovative technologies, pedagogical and information technologies in the educational process, one of the reasons for this is that in traditional education While students are taught to acquire only ready-made knowledge, modern technology teaches them to search for, study and analyze independently, and even draw their own conclusions. Therefore, in this course, the teaching of physics in an innovative way will help students to understand the topic on a scientific basis, to think independently. In this process, the teacher creates conditions for the development, formation, acquisition and upbringing of the individual, and at the same time serves as a manager, a guide. Students become key figures in the learning process.

New pedagogical technology is a process that we use in the classroom. Our task is to increase the knowledge of students using various methods.

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