

BIOPHYSICAL CONCEPTS ARE THE FOUNDATION OF CREATIVE ABILITY

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Abstract. *In the article, the main point of improving the quality of education in educational institutions is the professional knowledge and pedagogical skills of teachers, self-sacrificing, and passionate about their profession, to improve the quality of training of pedagogues to improve the quality of education in schools, and to work on and improve this quality throughout their entire pedagogical career, in school students. It is widely explained that in forming a scientific worldview, in developing creative abilities, it is important to organize an educational process that corresponds to the cycle of scientific knowledge, which leads to the methodology of forming physical concepts, experimental verification, or practical application of the obtained results. The positive experience of pedagogues in the field of education, application of modern methods of teaching and assessment of students' knowledge, identification of current problems related to the development of science and education, training, retraining, and upgrading of pedagogic personnel, improvement of educational programs and textbooks, measures to introduce modern pedagogical technologies it can be done, but it will take years to improve the quality of education if every pedagogue is not interested in his profession, works on himself, informs students about the latest news, and develops his pedagogical skills. In developing the creative abilities of each student, the pedagogue is different - district, deep and solid knowledge, skills and abilities, interest in learning, curiosity, initiative, enthusiasm, maximum independence, striving for a specific goal in solving problems, and demandingness are the grounds of creative abilities. Therefore, in the current period of rapid scientific and technical development, the traditional technologies of education are being replaced by advanced technologies aimed at the student's personality. The aim of this is to train fully mature personnel who can meet the requirements of world standards. The increase in the quality of education depends on the use of modern pedagogical technologies in various directions and purposes. One of the main ones is person-centered technology.*

Keywords: *education, student, quality, pedagogue, physics, understanding, methodology, laboratory, scientific, creativity, ability*

INTRODUCTION

When it comes to the content of education, it is necessary to pay attention to the important changes that have taken place. First, it is a new approach to the tasks of teaching physics, and it is emphasized that physics is an integral part of secondary education. Students must understand the relationship between physical phenomena and the theory of these phenomena.

Conditions are created for students' self-development, independent study, self-expression, experimenting in their practical activities, expression of new ideas and opinions, freedom to solve existing problems, and development of creative and critical thinking of the learner.

Teaches learners to think independently, develops creativity and curiosity, helps to refine acquired knowledge, and strengthens professional training. The concept of creativity is the highest form of human activity and independence. Creative abilities are the ability to understand the need and possibility of creating something new, to be able to express a problem, to be able to use the

knowledge needed to advance a hypothesis, to theoretically and practically confirm a hypothesis, to search for and find a solution to a problem, and as a result, scientific discovery, invention, and problem-solving skills. It is necessary to develop students' creative abilities without providing them with ready-made information, but to rely on their existing knowledge and experience, to introduce them to the research methods of science, and to develop them with the help of tasks that require independent thinking.

METHODS AND METHODS

By performing creative tasks, students acquire the skills of identifying problem situations, analyzing and making independent decisions, preparing visual aids, and being acquainted with the methods of solving problems that require research in the scientific description. Today requires the learner to be proactive, make independent decisions, and quickly adapt to changing life conditions. For this, the learner should independently acquire the necessary knowledge and apply it in practice; offer visions aimed at solving problems, identify and solve new problems; free and independent thinking; have the ability to create innovative ideas; should have skills and abilities such as independent work on the development of his intellectual competence. Not only educational content but also creative abilities play an important role in training students with these qualities. Because, in this process, both the pedagogue and the learner always test their intellectual, physical, and spiritual capabilities to solve learning and practical problems and lead to the formation of necessary qualities. The advantage of this teaching is that the pedagogue directs the activities of the learners with various methods and tools, and the learners play the main role. Teaching learners to think independently prepares them for real life. A learner who can think independently can easily find his place in life, solve problems by himself, and organize a way out of any situation because he prepares for life through independent thinking.

The problem of the development of student abilities in the educational process is complex and multifaceted. Another characteristic of the development of creative abilities is that they develop in the period of activity, like other abilities. Therefore, the main task of the teacher in solving this problem is the forms of organizing creative activities of students in the process of teaching physics, the way and For this, to prepare students for life and develop their interest in science, the school physics course should reflect the knowledge system that shows students the laws, processes, and interrelationships of the general concepts of science, their interaction, and their mutual enrichment. The science of biophysics occupies an important place among modern scientific sciences that allow a better understanding of the complex picture of the connection between various phenomena. It is important to monitor the educational effectiveness and improve the teaching of the physics course. In modern medical practice, various physical tools are widely used for both diagnosis and treatment, and this situation puts before the schools the issue of training personnel who have a solid grasp of the fundamentals of physics and biophysics. The development of biophysics it leads to great achievements in medicine and agriculture. We need to study the processes that occur in living nature to preserve the health of humankind and use them in the way of happiness. As and identifies as an effective means of increasing students' interest in physics. Teaching biophysics to students will help students to consciously study the subjects of physics and biology in depth and make career choices.

In particular, our pedagogues try to use them without correctly and clearly understanding their content and essence, goals and tasks, principles, rules, and mechanisms of inclusion in the training session, to correctly place the stages, methods, tools, and technologies of teaching, small

group and individual forms for each stage. It is also necessary to pay special attention to the selection of stratified exercises and tasks for students of low and high connecting education.

Thus, the teacher should not forget that in the process of teaching, by developing the student's creative abilities, he would help to solve one of the most important problems of the present time - the problem of training creative and active people with high-level abilities. Therefore, organizations based on modern educational requirements the educational training increase the quality of this process develops the knowledge, skills, and abilities of students, creative abilities, and increases their interest in the profession. Laboratory work as a component of educational training takes a special place in preparing students for their future practical activities. Helps to form various educational skills. At the same time, it teaches them to consciously use their knowledge of physics in solving practical problems, but the following mistakes are observed in students' mastery of physical concepts:

1) Students use terms that define physical concepts but do not pay attention to the content of the concept.

2) They poorly master the connections and relationships between physical concepts

The presence of the specified deficiencies in mastering physical concepts leads to the fact that students have difficulty dealing with concepts and solving various types of educational and practical problems.

Students learn physical concepts in different ways. Some experiences activate students' attention and thinking, cognitive and creative abilities when learning concepts. For example, performing them in front of students accelerates the process of acquiring concepts. For this reason, in the student's understanding of physical concepts, generalization, in the development of laboratory work from physics of biophysical content, along with the general principles of choosing biophysical material, the following requirements are observed:

1. The works to be performed must be carried out within the time specified in the plan

2. In laboratory work, it is necessary to reflect such connections with biological subjects that students may need to know in the future

3. The content of laboratory work should correspond to the modern use of physics in medicine.

To avoid false generalizations, the following experiment can be carried out:

1-Laboratory work

Measurement of arterial blood pressure

Tools and materials: tonometer, phonendoscope, cuff.

Content of work:

The method of measuring blood pressure is to press the artery from the outside and stop the blood flow. Usually, the measurement is made above the elbow, in the artery of the shoulder.

Work progress:

The artery is closed using a cuff (a flat rubber chamber in a cloth sheath), and the cuff is wrapped around the hand. The cuff is filled with air to the required pressure with an air pump, and the pressure is measured with a manometer connected to the cuff. No sound can be heard when the artery is fully compressed. When the air is released from the cuff and the pressure in it decreases, the so-called initial tones begin to be heard. When these sounds appear, the manometer shows the maximum or systolic pressure. As the pressure on the cuff decreases, the noise becomes louder, and then they calm down and are replaced by pure tones, which are called continuous sounds. At

this point, the sounds stop, and the manometer reading corresponds to the minimum and diastolic pressure. Such experiences allow students to familiarize themselves with modern scientific problems while explaining the topic, form and grow the ability to work with scientific literature, make and prepare instruments for conducting experiments, and help students choose a profession in the future.

CONCLUSION

From the beginning of the 20th century, physics has been operating as a knowledge management field among natural sciences until now. In teaching physics and improving the quality of its education, the physics teacher pays attention to the scientific literature to provide wider coverage and improvement of the teaching methodology of physical exercises and laboratory work. Focus and use them.

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