

METHODOLOGY FOR DEVELOPING PRACTICAL COMPETENCE IN PHYSICAL EDUCATION FOR STUDENTS AT HIGHER MEDICAL EDUCATION INSTITUTIONS

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Abstract: In this article, several important pedagogical technologies and methods used to shape students' practical competence in physical education are outlined. Additionally, the article assesses the effectiveness of developing students' practical competence based on these instructional methods.

Keywords: physics, practical competence, teaching process, student, independent work, technology, methodology, *T-scheme*, *interactive*.

МЕТОДИКА РАЗВИТИЯ ПРАКТИКО-ПРОЦЕССНОЙ КОМПЕТЕНТНОСТИ ПО ФИЗИКЕ СТУДЕНТОВ ВЫСШИХ МЕДИЦИНСКИХ УЧЕБНЫХ ЗАВЕДЕНИЙ

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Аннотация: В данной статье изложены несколько важных педагогических технологий и методов, используемых для формирования практической компетентности студентов в физическом воспитании. Кроме того, в статье оценивается эффективность развития практической компетентности студентов на основе данных методов обучения.

Ключевые слова: физика, практическая компетентность, учебный процесс, студент, самостоятельная работа, технология, методика, Т-схема, интерактив,

INTRODUCTION

All the efforts carried out in medical institutions of higher education, including the educational process organized in physics, are aimed at training qualified personnel for this field, who can fully demonstrate their talents and abilities. , aimed at raising mature individuals capable of finding their place in life. In the future, these approaches will serve to ensure the high development of our country, increase the well-being of our lives, and develop the medical field. For this, it is necessary to implement the tasks of using innovative pedagogical and information technologies in the organization of this process.

In the concept of the development of the higher education system of the Republic of Uzbekistan until 2030, quality renewal of the content of the continuous education system, improvement of the teaching methodology, focusing on the in-depth study of basic subjects, provided for in the state education standards Tasks such as developing criteria for evaluating pedagogical activity based on competencies are defined. This justifies the need to clarify the content of education aimed at improving the teaching methodology in the example of these subjects and the structure of the necessary base and subject-related competencies in the development of students' competence, and to improve the model and methods

of developing students' competence based on general competency approaches related to the base and physical science [1].

In order to implement competency-based guidance in education, it's essential to have skills (competencies) that entirely differ from the methods used to teach students their subjects. Most crucially, creating a unique approach tailored specifically to the student is vital.

At present, intensive efforts are underway globally to enhance physics education: defining the goals of teaching physics, determining the content of study materials, modernizing textbooks and other learning tools, and developing effective teaching styles and methods. Any pedagogical technology implemented by a physics teacher in the course of the learning process should primarily aim to foster the student's independent and creative activities. Teaching methods are considered a fundamental part of the learning process. Without appropriate methods, effective pedagogical activities cannot be realized.

Interactive methods (strategies, graphic organizers) enable students to systematically and effectively assimilate learning information. These interactive methods facilitate students in analyzing, synthesizing knowledge, organizing essential concepts, and articulating the overall essence of objects, processes, activities, and events while working with learning materials.

LITERATURE ANALYSIS AND METHODOLOGY

According to S. Isamitdinov and A. Mavlyanov, interactive methods are based on enhancing the activity, independent thinking, and autonomy of students in higher medical education institutions. When utilizing these methods, learning becomes an engaging activity, fostering independent learning strategies and skills. Students acquire scientific inquiry, research, and experimental skills, which contribute to their personal development. This enhancement in their learning significantly boosts effectiveness. Below, let's discuss some important methods for shaping the preparedness of students in higher medical education institutions[2, 3, 4].

These authors suggest that the following interactive methods can be effective for teachers to use in their teaching activities.

RESULTS

The brainstorming method: method of generating ideas. Students try to solve the problem together: they put forward their personal ideas for solving. The task is to create new ideas with the help of small groups. This method encourages problem-solving students to generate fantastic ideas. The more ideas, the better. At least one may be appropriate.

The T-scheme method: is a universal organizer for comparative concepts (yes/no or agree/disagree), facilitating the visual representation of contrasting ideas in a structured and concise manner. For instance, after reading a text discussing traditional and non-traditional forms of education, the first group sketches a T-schema, listing the advantages of traditional education on the left and presenting them during the given time. Then, they present opposing thoughts, highlighting the drawbacks of this approach. The second group does the same, analyzing the merits and drawbacks of non-traditional education in a similar schema. The groups' diagrams are compared, and a discussion is held based on the T-schema created in collaboration.

Reinforcement of the subject by the method of T-scheme

If you agree with the opinion presented in the table, go to the first column

“ + ”, otherwise put a “ - ” in the end column.

+	<i>Studying the physical basis of blood pressure measurement in the clinic</i> <i>opinions on the subject</i>	-
	There are several ways to measure arterial blood pressure. For example: 1. It is measured by inserting a needle directly into a vein and connecting	

	<p>the other end of the needle to a manometer with a rubber tube. 2. A thin catheter (a thin polyethylene tube) is inserted into a large blood vessel and the other end is connected to a manometer and the pressure is measured. 3. Bloodless blood pressure measurement method used in the clinic is the Korotkov method. Below are examples of electronic blood pressure measuring devices</p>	
	<p>N.S. Korotkov's method is based on listening to sounds made when blood flows from an artery compressed by a cuff.</p>	
	<p>When the artery is completely blocked, no sound is heard. Tones are heard when the air in the cuff is slowly deflated. These sounds are caused by the vibrations of the artery and the walls of the artery.</p>	
	<p>When the pressure is equal to the systolic pressure, the blood is able to rush through the constricted artery, creating laminar flow.</p>	
	<p>The first tone in the artery corresponds to the maximum value of pressure and is called systolic pressure.</p>	
	<p>When measuring the pressure, the phonendoscope is placed on the artery at a distance from the cuff (that is, far away from the heart) and the tones and noises associated with the turbulent flow and created together with it are heard. By gradually reducing the cuff pressure, laminar flow can be restored, as can be seen by the sudden decrease in audible tones. The cuff pressure corresponding to the restoration of laminar flow in the artery is recorded as diastolic pressure</p>	
	<p>The device for measuring arterial pressure consists of the following parts: - a cuff, a tourniquet, an air driver, a membrane manometer - a sphygmotonometer</p>	
	<p>During systole, the high-pressure wave caused by the ejection of blood from the left ventricle and spreading through the aorta and arteries is called a pulse wave.</p>	
	<p>The pulse wave propagates with a speed of 5-10 m/s and more. So, during systole (around 0.3 s, it should spread to a distance of 1.5-3 m), and this</p>	

	distance is more than the distance from the heart to the hands and feet. This means that the pulse wave front reaches the endpoints of the arms and legs after the pressure drop in the aorta.	
	According to general concepts and experiments conducted on cardiac function, it's understood that the pulse wave is not sinusoidal (harmonic).	
	The heart expends energy to increase the pressure of blood flow and impart kinetic energy to the blood.	

Modeling method: involves a device or situation designed to recreate real life. Students perceive the events and events described by the teacher and reinforce the topic through the model they draw in their notebooks. For example, an internal combustion engine. The steam pipe theme can be displayed. Before moving on to this topic, the teacher gives and explains the model of the internal combustion engine to the group. The following questions are explained depending on the engine model: What kind of engine is called an internal combustion engine? It is called an internal combustion engine because the fuel burns directly inside the engine, in its cylinder.

What are the main parts of an internal combustion engine? The engine consists of a cylinder, inside which a piston moves, the piston is attached to the crankshaft by means of a connecting rod. For smooth rotation of the shaft, a weighted wheel is installed on the shaft. At the top of the cylinder are two valves that open and close automatically when the engine is running. The combustible mixture enters the cylinder through the first valve and is ignited by a spark plug. Combustion gases are released through the second valve. All this is shown through the model.

Work in small groups: the complexity of the work of a pedagogue is the ability to create conditions for the development of opportunities in the group. The most important thing is to create a need to understand their identity and life, and in order for them to succeed in their hard work on the path of learning, the pedagogue

needs to believe in the capabilities of each of them. Success in this way depends on the pedagogue's determination and ability to provide timely help. They should be divided into 4 groups. Then you need to give them a name. For example, atom, molecule, force, work, etc. *It would be more appropriate if it was named with important words of the topic to be covered.*

One of the effective methods used in organizing the educational process is training. In this, the ability to achieve the desired goal, active participation, and find a positive solution to tasks is encouraged. During the training, he learns to use communication methods depending on the situation, acquires skills and competencies. These serve to form professional skills and qualifications in the process of methodological training of students.

In her research, Sh. Shodmonova emphasizes the resolution of problems related to real situations in formulating tasks for independent and creative work, highlighting the development of practical competencies in students through various methods, illustrating the significant relevance between the content of tasks and events, identifying solutions, and emphasizing the importance of reinforcing connections between events or processes in the minds of students.

The practical method is considered the most important in the formation of practical competences. This method involves the organization of exercises. During the exercise, the student repeats practical and mental actions several times. They are offered assignments, they work independently with handouts. Both collective and individual forms of exercise are used. In addition to mastering and strengthening knowledge, group exercise can also be used for supervision. Individual exercise serves to guide students to group activities while performing the same function.

DISCUSSION

Studying these issues from a scientific-pedagogical point of view is necessary to take into account the need of students for independent education and to create sufficient conditions for independent education; lack of preparation of

primary education teachers for organization, implementation and control of independent education of students in taught subjects; lack of formation of knowledge, skills and qualifications for independent education among teachers; Issues such as the inadequacy of educational and methodical literature, recommendations, developments, instructions, and instructions related to the organization, implementation, and control of students' independent education are particularly relevant.

"Project" technology provides for the collection of information, research and implementation of the work of students individually or in groups for a specified period of time on a specified topic. This technology forms the skills of students to participate in the processes of planning, decision-making, implementation, verification and conclusion and evaluation of results. Project development can be individual or group. Group development of a solution to a problem situation. Provide a description of the problem situation. Divide into groups. Groups to determine the causes of the problem situation and think about the consequences. Choosing the right solutions is a coordinated result of joint activities. The project should serve learning, apply theoretical knowledge to practice, create the possibility of independent planning, organization and implementation by students.

Below are the stages and known methods of "Project" technology. Stages of the "Project" method: the stages of the method are as follows: the students of medical institutions of higher education develop assignments on the project work. Students independently collect information about the assignment based on textbooks, schemes, handouts; students develop a work plan independently. In the work plan, students should plan the stages of work, the time allocated to them and the technological sequence, material, equipment; small groups present their work plans. Students make a decision on completing the assignment based on the work plan. Students discuss the results of the decisions made together with the students of medical institutions of higher education. Different solutions are compared and the most optimal option is selected. Develops the "Evaluation form" of students of

medical higher education institutions together with students; students perform the task independently based on the work plan. They can work individually or in small groups; verification, implementation, conclusion works are carried out.

In addition, small groups are involved in checking each other's work results. The results of the inspection are recorded in the "Evaluation Sheet".

Method of problem-based education. Activation of cognitive activity of students during the educational process and high level use of their intellectual capabilities depends on the following general factors: creation of a system of problematic questions on the subject being studied; teaching the topic materials explained by the interview method based on the system of set problematic questions and revealing its essence; setting research tasks based on a problematic question.

The learning process created on the basis of solving problem situations is called problem-based education. In problem-based education, the teacher's activity consists in the fact that, in necessary cases, he explains the content of the most complex concepts, regularly creates problematic situations between students with the subject material being studied, informs students of facts, as a result, students independently draw conclusions based on the analysis of these facts. extract and summarize.

Problem situations are based on the improvement of students' independent works, which are based on the formation of scientific concepts, practical skills and qualifications, and deep logical analysis of other materials. It is necessary to know well the ways of creating problem situations before passing the problem training session. Attention is paid to the following: asking specific questions: encouraging generalization, proof, clear logical thinking; asking students questions that encourage thinking and offering them to find their solution independently; encouraging students to compare, generalize, draw conclusions, and compare given facts through theoretical and practical assignments; explain the need to look at the same question from different points of view and encourage to justify the given

answers; to offer students to consider the phenomenon through different situations and inform about the contradictions encountered in the process of practical work.

Thus, the problem is not directly posed without any preparation. It is presented as the main issue in the training session. The complexity of the problems should naturally correspond to the level of the students. The materials presented should not be complicated. Only if students can solve the material, especially problems and assignments, their problem-solving potential will increase.

CONCLUSION

Any pedagogical technology introduced by the physics teacher into the educational process, regardless of whether its components are passed through the content of the lesson, the curriculum, the textbook or the activity of the teacher, the student's free and it is required to be aimed at the development of creative activity. Teaching methods are the main part of the training process. Pedagogical activities cannot be carried out without appropriate methods.

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