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Improving the Methodology for Using Digital Technologies in the Formation of Professional Competence of Future Physics Teachers

Magsudali Qurbonov

Namangan State Pedagogical Institute, Undergraduates

Abstract: the article presents methodological ways to determine the qualitative characteristics of training in the framework of physics, taking into account the formation of professional competence of the future physics teacher as a qualitatively new type of Education.

Keywords: physics, creative thinking, competence, non-standard situation, physics educational experiment.

Today, issues aimed at organizing the content of education on the basis of universal international standards, the development of universal, special, professional and personal competence of specialists are of particular relevance and importance. The quality of educational activities of educational institutions is determined not by the essence of the planning, implementation of the educational process, the content of the educational plan, programs, but by the DTS requirements of the knowledge, skills and qualifications received by students and the quality of the educational result provided for by the national program. Therefore, pedagogy is an important stage in the absorption of their intellectual level into the educational system by improving the methodology for developing the competence of logical thinking of the future physics teacher in higher educational institutions.

Higher education, as a social institution operating in order to meet the needs of society, reacts in a timely manner to the changes and processes taking place in this society, because, as the president noted, highly qualified specialists, representatives of science are one of the leading factors in ensuring the level of development of social, economic, cultural and other spheres, its prospects. President of the Republic of Uzbekistan Shavkat Mirziyoyev at a meeting with heads of higher education and research institutions, academics, scientists, young researchers at the National University of the Republic of Uzbekistan on May 24, 2019, stressed the importance of Science in the development of the country with the words "if we correctly solve Science, Education, qualified specialists will develop all areas". As a result of this, in recent years, thanks to the foresight and direct initiative and activity of our President Shavkat Mirziyoyev, our Uzbekistan has become a modern and competitive participant in international cooperation. Naturally, National higher education systems seek to comply with the so-called "World Standards", which are being developed and increasingly improved by modern science and technology. In order for higher education institutions to successfully carry out their activities in the current society, they must be qualified to react in time to the changes taking place in the educational services market and the labor market, be able to adapt to rapidly changing conditions, as well as master more new, effective teaching technologies in education. In addition, on December 29, 2020, in his address to the Supreme Assembly and the people of our country, "based on the goals and objectives of the issue of further reforming the teaching of Physics and astronomy and treating it as a master direction, improving the methodology for the development of the competence of logical thinking of the future teacher of physics.

An extremely rapidly developing modern society, its needs and the constant development and transformation of scientific knowledge lead to the need to change the general educational strategy. Technologies that are



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being rapidly updated dictate the training of a new generation of specialists in the labor market who are mobile, active, capable of creative thinking, constantly replenishing their knowledge. The realities of modern society require a young specialist: mobility, willingness to act in a rapidly changing environment, having such qualities as creativity. Under these conditions, the need arises to understand in a new way the essence of the formation of professional competencies of future teachers. Including taking into account the formation of professional competence of the future physics teacher as a qualitatively new type of education, it is necessary to identify qualitatively new features of training in the framework of physical science. At the same time, the introduction of a competency-based approach in the professional training of future teachers requires serious adjustments to the content and process of training in special subjects.

A Bachelor in the field of physical education is a specialist who, in the future, has fully mastered his profession, is focused on continuous growth, and the basis of his professional competencies should be fundamental knowledge in physics, competence in the organization of a physical experiment. An undergraduate graduate in the field of physical education must acquire special competencies in accordance with the direction of education of his choice, which include, among others, knowledge of deep mastery of physics, as well as scientific and methodological competencies.

In particular, we consider that the Bachelor, who is preparing to carry out the educational process by embodying the developmental and educational specific functions of education with the science of physics, is obliged to know perfectly the conceptual-theoretical foundations of physics as a science, its place as a science. If future physics teachers has a clear idea of the fundamental foundations of modern physics, this allows them to solve various educational problems in any situation.

Mandatory mastery of physical knowledge is provided by the standards of Educational Directions: the ability to use natural and mathematical knowledge to direct in the modern information space. That is, the formation of creative competence of future teachers is possible in teaching physics to students of all educational profiles.

The principle of consistency of the model - a step-by-step model of the formation of the creative abilities of the future teacher, ensures the importance of taking and boorish as a logical continuation of the previous one. One of the main creative competencies of the future physics teacher is associated with his activities for organizing a learning experiment in Physics in the educational process. The organization and conduct of a school physics experiment requires the teacher to have a deep knowledge of physics, a correct interpretation of the laws of nature. This is a means of developing the thinking of schoolchildren, the emergence of practical skills and the formation of a physical picture of the universe in them.

In pedagogical universities, we consider it necessary to design the content of professional training of future physics teachers on the basis, teach the application of modular teaching technology in accordance with the Allotted Hours, take professional and creative competencies and organize the educational activities of students using case and ambiguous situational issues and exercises.

Now studying scientific heritage, socio-political activities and acquaintance youth charity of our above-stated ancestors is considered one of the main urgent objectives of the modern intellectuals.

Therefore, in the development of competence in logical thinking in students, it will be necessary to take into account the modern requirements for textbooks and teaching aids, to widely use the achievements of Science and Technology, their creative qualities. In this case, the pedagogical character of the directed assignments cannot be denied. Thus, from the analysis of scientific, scientific and methodological literature, it turned out that it was scientifically substantiated that the need to evaluate the concept of "logical thinking" in the context of modernity manifested itself as a social need.



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