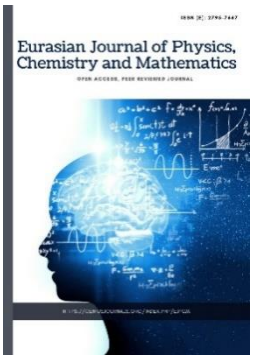

Methodology For Improving Professional Training Of Future Physics Teachers Based On Subjective-Reflective Teaching Strategy

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ABSTRACT

This article provides information on the methodology of improving the professional training of future physics teachers based on the subjective-reflexive teaching strategy.

Keywords: subjective-reflexive teaching strategy, professional training, physics teaching methodology, educational strategy, pedagogical process.

Introduction

Education can achieve its desired results only if it is able to connect its roots with science and production, social life, in a word, with life, and if it enters into comprehensive integration with internal and related sectors. A state that can provide continuous communication in all aspects and implement it in all spheres of society's life will achieve development. It is no secret that significant work is being done in the field of education of our country in this regard. The goal of fundamental improvement of the educational system is the level of knowledge of future physics teachers, the ability to apply the learned information in life and continuous improvement [3].

New concepts of educational development raise the issue of forming a person as a subject that serves as the main resource of cultural development of society, creates an internal space for the individual growth of an independent person. Quality change in professional pedagogical training involves creating conditions for the formation of a specialist's personality - having a unique internal self-esteem, selectivity, individuality and integrity, a dialogue of personal meaning and values. ready to install [2].

Research Materials And Methodology

The formation of a person as a subject capable of managing life and professional conditions and objectively solving the problems that arise should be directly related to his responsibility for his lifestyle, as well as turning to the inner world of the person, self- responsibility that develops on the basis of self-awareness, that is, reflection. In response to the challenges of the changed cultural and technological environment, the active renewal of the general education school creates an urgent need for a "new" teacher who can adapt not only to the new realities of educational practice ("educational mosaic"). resources, redundancy of regulatory documents, availability and rapid change of information, fast communication, etc.), but also self-development, embodying

one's personal capabilities, freedom of choice [4].

Social order, it is able to manage constantly updated flows of information, to quickly master advanced technologies, to see the systemic nature of objects and events, to solve problems of different scales and levels, to initiate personal meanings and to determine one's own destiny. educates people with a new kind of thinking capable of self-determination. in the world of spiritual values. Such a teacher is a professional subject who has the ability not only to perform activities, but also to "fully reflect his principles and tools in his normative structure."

Currently, there is increasing interest in studying the problem of forming a modern teacher as a subject of professional activity, a creative person, a well-rounded person, and an individual from the point of view of educational philosophy, pedagogy, psychology, and science teaching methodology. The teacher's professional standard directs the modern teacher to organize the process of teaching science in accordance with the requirements of the federal state educational standards and the basic general education program, most importantly, taking into account the history and place of the studied subject. in world culture. Connecting educational activities in teaching physics with the values of nature and culture, creating conditions for students to understand physical laws and giving them a personal meaning - this is a way of actively demonstrating one's own subjective position and it is the actions of the physics teacher that develop the subjective qualities of the student.

The system of methodical training of physics and astronomy students at the higher educational institution of pedagogy is considered as a subsystem of the integrated system of professional training and includes interrelated structural structures and the training of physics teachers. and is viewed as a functional component subordinate to the learning objectives. At the same time, the problem of methodological preparation that helps to form the subjectivity of a modern physics teacher and develop a reflex, which is very relevant in modern socio-cultural conditions, has not been separately studied in the researches carried out so far. The problem of the role of education reflecting the subject in improving the methodological preparation of future physics and astronomy students, based on the unity of methodological, theoretical and technological foundations and taking into account the generality of its purpose, content and procedural features, remains a problem. remained [3].

Research Results

We will discuss below what methodological requirements a physics teacher must meet today and what he should pay attention to when teaching science. Planning of one's work is a complex and responsible stage of preparing a teacher for teaching work, i.e. for lecturing, practical or seminar training. It consists of an annual or semester topic plan and a lesson plan. The main planning document is the curriculum and program. They indicate the necessary educational subjects and the hours allocated to them [1].

After getting acquainted with the curriculum, the teacher analyzes the curriculum and literature on his subject from a scientific and methodological point of view. It mainly consists of two parts: 1) analysis of educational material from a scientific point of view; 2) didactic or methodical analysis of educational material.

Scientific analysis covers:

- matching materials in educational literature with modern achievements and practical importance of physics;
- definitions of expressions and laws of concepts are defined and based on a scientific point of view;
- the state of writing the physics course and its sections on a theoretical basis;
- matching the content of some sections of the course with the basis of classical mechanics, molecular-kinetic, electromagnetic and quantum theories;
- presentation of scientific discoveries in a chronological and logical sequence and highlighting the activities of scientists who made a great contribution to them, etc.

When analyzing the educational material from a methodological point of view, attention should be paid to the following:

- to separate the content of the taught course according to its structural elements, i.e. to determine the facts, concepts, laws, theories and their practical applications that students will learn during the study of this course;
- to determine the logical connections of the materials to be studied and to place them in the form of a sequential graph-scheme and to demonstrate the implementation of consistency in terms of teaching stages;
- finding information from other literature that is not given in textbooks or basic literature and organizing it by combining it with basic materials;
- to find out whether there are weapons, materials and other demonstration tools necessary to perform the demonstration experiments presented in the literature in the laboratories and to take measures to find them;
- connecting the issues given in the educational literature and problem sets with the content of the educational materials;
- to determine the content of students' independent work for each paragraph and chapter and plan the tasks to be performed;
- to determine and put into practice the ways of teaching the taught section of physics in connection with other subjects.

The teacher creates a calendar-thematic plan as a result of the scientific-methodical analysis of the content of the subject's educational material, and it is approved by the head of the department after the department's discussion. The calendar-thematic plan shows the form of training, the name of the topic, hours allocated to training, that is, hours allocated to lectures, practical and laboratory training, and independent work.

Discussion

Preparation of the teacher for the lesson. The teacher's preparation for the lesson plays a key role in preparing students for teaching and organizing their educational activities. The main issue here is to determine the type of lesson. It should correspond to the content of the studied topic and the didactic purpose of the lesson. Accordingly, a short plan or a full plan-summary of each lesson is created. Young teachers must make a complete plan-summary. Only teachers with extensive pedagogical experience and a unique method of teaching the subject can limit themselves to writing a brief plan. But we must not forget that it is necessary for the teacher to plan the lesson in advance. It should be emphasized that since the teaching process is a creative process, there are unique positive elements in each lesson of creative teachers, and special attention should be paid to it [5].

What is the structure of the lesson plan? What elements should it consist of? It is natural that questions arise. As practice shows, most teachers approve of having the following elements in the lesson plan:

- course and group number;
- subject of the lesson;
- the purpose of the lesson (education, education and development);
- the type of lesson and the main method or method used in it;
- lesson equipment (used educational tools, information and computer technologies);
- type of connection between subjects;
- the content of the work to be done at the beginning of the organization of the lesson;
- strengthening of students' basic knowledge, identification and preparation for mastering new material (questions and their exact answers are written);
- the content of the process of explaining the new material (the content of the educational material is divided into parts according to the logic, the methods and tools used at each stage are defined and the technology is written, the ways of mastering the new material are shown to students, the content of independent work is determined);
- checking students' level of mastery of the content of new material;
- formation of necessary practical skills in students (problems and skills of conducting experiments);
- Conducting interviews and written work on students' mastery of current, intermediate, independent work and final control questions given to evaluate their academic work.

In order to regularly and purposefully prepare for the lesson, the teacher should create his own educational and methodological complex. They

are filled and updated every year. It should contain the following materials:
- the concept of teaching physics and the state education standard;
- physics curriculum;
- a collection of necessary educational literature;
- published teaching-methodical manuals on physics teaching methodology;
- current, intermediate, final control questions and tests and independent work topics;
- instructions and reports on conducting demonstration experiments and laboratory works and physical practices;
- a collection of information reporting on the achievements of physics and technology, new discoveries of scientists;
- a collection of articles and recommendations on new pedagogical and information technologies to improve the teaching process;
- educational-methodical information and manuals in electronic version.
If future physics teachers are familiar with these requirements and can implement them, the educational system will be able to achieve its goals.

Conclusion

The results of the research on the methodology of improving the professional training of future physics teachers based on the subjective-reflexive teaching strategy confirm the basic rules of the hypothesis, the correctness of the constructed conceptual rules, and the following conclusions on solving the problems allows to release.
The trends of humanization and technologization of teacher education are manifested in the personal orientation of the technologically developed educational process and the relevance and choice of a subjective-reflexive approach to the study of the methodical training system of students of physics and astronomy. defines. In accordance with the trends of humanization and technologyization of education, updating the methodological system of training students of physics and astronomy is being carried out on the basis of a humanistic-technological approach, which made it possible to advance the idea of science. Subjective-reflective teaching as a methodical training strategy helps to form and reflect subjective qualities in the professional activity of a biology teacher.

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