

Specificity In The Modern Methodological Training Of Future Teachers Of Primary Education In Mathematics

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Abstract

Changing the objectives of the subject teaching of students and requirements for the educational results of their preparation allowed make changes and additions to the existing methodological preparation of students - future teachers of primary education in mathematics.

Keywords: methodical, preparation, students, mathematics, primary, education, competence.

Introduction

Methodological training of students - future teachers of primary education is closely related to the general education system. In the general education system of schoolchildren, there have been changes in all its components (goals, principles, content, methods, forms and means, result), which, in turn, have an impact and require appropriate additions to the methodological training of students - future mathematics teachers. In the formation of the subject-methodological competence of students - future mathematics teachers, special attention should be paid to the changes that have occurred in the content of education and in the professional training of students in connection with the implementation of the competence-based approach. To do this, we will reveal the specifics of mastering the subject content in the modern methodological training of the

future mathematics teacher. Mathematical education, thanks to the penetration of mathematical methods into all spheres of life, as well as the purposeful formation of certain universal properties of thinking, plays a leading role in the functioning and development of modern society. Currently, rethinking the goals, content and organization of the learning process is carried out on the basis of the principles of humanization, integration, differentiation, individualization, humanization, etc. In addition, the analysis of the literature showed that at present there has been a change in the benchmarks in the general education system - from knowledge, skills and abilities to competencies. At the same time, the main goal of general education is the formation of a diversified creative personality capable of realizing his potential in the modern economic conditions of the development of society and education [6].

The Main Findings And Results

In accordance with the educational paradigm of the 20th century, implemented in the standards of general education of the first generation, the content of education was determined by a list of didactic units. In accordance with the requirements of the new state educational standards, the teaching and educational process was redirected to the results of education - personal, meta-subject and subject. In addition, the goals of mastering the subject content have undergone a change. Thus, the study of mathematics in elementary school according to state educational standards is aimed at the formation of the following main results: - development of logical and mathematical thinking, getting an idea of mathematical models;

- mastering mathematical reasoning;
- the ability to apply mathematical knowledge in solving various problems and evaluate the results obtained;
- mastering the skills of solving educational problems;
- development of mathematical intuition;
- getting an idea of the main information processes in real situations;
- the formation of ideas about mathematics as a method of cognizing reality, which makes it possible to describe and study real processes and phenomena;
- development of skills to work with educational mathematical text (analyze, extract the necessary information), accurately and competently express their thoughts using mathematical terminology and symbols, carry out classifications, logical justifications, proofs of mathematical statements.

Corrections are also being made in the content of mathematical education in primary schools, which are carried out with the aim of bringing it in line with the new socio-economic conditions. The section "Building of Mathematics" is constantly being rebuilt, and even its most elementary sections are penetrated by new ideas and methods. This is reflected in the content of the school course: while maintaining the fundamental sections, their content and methodological implementation is updated over time, reflecting new life frames and pedagogical concepts. At the same time, the internal organization of the content of mathematical education is subject to changes on the basis of approaches to its description. G.V. Dorofeev proposed an approach, the essence of which is that the so-called target knowledge is distinguished from the entire body of mathematical knowledge -

large central ideas, the “core” of the course [2, p. 9]. The above confirms the need to make changes and highlight areas of improvement in the content and organization of the methodological training of the future teacher of primary education in mathematics.

During the analysis of psychological, pedagogical and methodological literature, the following set of directions for improving the system of methodological training of future teachers of primary education in mathematics was revealed:

1. Inclusion in the content of students' methodological training of components directly related to the peculiarities of students' activities in the development of mathematical content [7, p.123].

2. Organization of methodological training of the future teacher based on mastering the activity, which is due to the structure and functions of the methodology of teaching the subject as an independent scientific field.

3. Formation in future teachers of primary education in mathematics the ability to construct systems of tasks for a specific situation of the process of teaching schoolchildren [3].

4. Inclusion in the content of the methodological training of the future teacher of primary education in mathematics of the innovative components of the teacher's professional activity: design skills (designing the development process of students when working with mathematical content); predictive skills (prevention of cognitive difficulties and mathematical errors of students), etc.

5. The formation of methodological skills is carried out with the help of such techniques as: solving problems, drawing up tasks, demonstrating a sample of the performance of appropriate actions by the teacher, comparison [101].

6. Formation of methods of mental activity among future teachers of primary education in solving mathematical problems.

7. Formation of skills to exercise self-control and self-assessment of cognitive activity [1, p.63] and others.

However, in the listed areas of improving the organization of methodological training of students, the direction of developing students' ability to work with subject content as the basis for achieving metasubject results is not sufficiently reflected. We agree that further changes in the content component of the system of methodological training of students at the university should be focused on:

- great demand in modern society for applied mathematical knowledge in comparison with theoretical;

- consideration of mathematics in the education system not so much as the goal of study, but as the most important means of intellectual development;

- change in general guidelines in the system of general and higher education, expressed in the basic provisions of the competence-based approach;

- substantive differentiation of education at the senior level of general education school;

- development of students through the inclusion of innovative types of educational and cognitive activities [6].

Some researchers note that improving the system of methodological training of students - future teachers of primary education in mathematics should go along the path of deepening the knowledge of the school mathematics course, its scientific foundations

and methodological support. Since a new target task is set for the methodology of teaching mathematics - the formation in the structure of the subject-methodological competence of a primary education teacher in mathematics of the ability to highlight the meta-subject and developmental potential of mathematical content, aimed at the formation of universal educational actions and inter-subject concepts in schoolchildren, which are also necessary for learning, and for further professional activities.

In this regard, the teacher today must become a designer of new pedagogical situations, new tasks aimed at using generalized methods of activity and students creating their own products in the development of knowledge [4].

Conclusion

The modern methodology of teaching mathematics should highlight such types of student activities that will be aimed at the formation of universal educational actions in schoolchildren, primarily cognitive in connection with the specifics of mathematical content.

Therefore, we consider it necessary to include in the content of the discipline "Methods of teaching mathematics" situational tasks on the connection of the mathematical content of the school mathematics course with the metasubject content; awareness of the range of possible goals and justification of the correct choice of goals for working with mathematical content; to choose the way to achieve a certain goal; to master the techniques of self-assessment of the results of educational and professional activities with components of mathematical content.

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