

MODEL DEVELOPMENT OF MATHEMATICAL COMPETENCE FUTURE PRIMARY SCHOOL TEACHERS

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ABSTRACT

The objective of this article was to analyze the Model of development of mathematical competence of future primary school teachers, the development of a structural and informative model for the formation of mathematical competence of future primary school teachers of a pedagogical university.

Keywords: Model, mathematics, competentist, teacher, primary classes.

INTRODUCTION, LITERATURE REVIEW AND DISCUSSION

Before proceeding to the description of the nature and content of the model under study, it is important to determine the methodological basis of its study, and we proceed from the philosophical understanding of methodology as “a system of principles and ways of organizing and constructing theoretical and practical activities, as well as teaching about this system” [1, with. 165].

The implementation of the methodological foundations of the scientific analysis of pedagogical phenomena and processes is carried out through the application of methodological approaches. In modern methodological literature, the concept of “approach” is either identified with a certain ideological position in the study (IV Blauberger, E.G. Yudin, etc.), or is understood as a strategic principle or their combination (I.V. Blauberger, N.A. Stefanova, E.G. Yudin), or associated with the use of a set of procedures and techniques that serve as a form and condition for the implementation of the relevant principles (A.P. Petrov, etc.). Summarizing these points of view N.V. Ippolitova considers this concept as a set of ideas that determine the general scientific worldview of the scientist, the principles that form the basis of the strategy of research activity, as well as the methods, techniques, procedures that ensure the implementation of the chosen strategy in practice [2, p. 8]. Joining this point of view, let us consider the methodological approaches that form the basis for the study of the process of the formation of mathematical competence in future primary school teachers.

The development of mathematical competence is a complex, multifaceted problem, so we believe that to solve it, it is necessary to apply various methodological approaches. Fundamental in our study is the competence approach.

It should be noted that the competence approach does not argue with the main goal of education - to give fundamental knowledge, otherwise such a formulation of the question will inevitably lead to a deadlock. YES. Ivanov, writes that the competence-based approach “in no way undermines and does not erode the aspirations of our education to give students fundamental knowledge in basic subjects, they constitute a different educational content, focused on the development of thinking. Knowledge is a necessary component of competence, and it cannot exist without them.

Competence-based approach complements the external control with internal self-control and self-assessment of all participants in the pedagogical process, as well as the importance of external expert evaluation of the alienated products of educational activities. Within the framework of education, rating, accumulative assessment systems, and the creation of a portfolio are the most adequate. Traditional education focuses on the "average" student. In competence-based training, the teacher does not claim to possess a monopoly of knowledge, he takes the position of an organizer, a consultant, he only organizes the process [3, p. four].

The position of the learner in traditional teaching is subordinate, irresponsible, i.e. the student is the object of pedagogical influences. In competence-based learning, he himself is responsible for his own advancement, a subject of his own development, and in the process of learning he takes different positions within the pedagogical interaction.

So, the competence approach has become fundamental for describing the process of the formation of mathematical competence in future primary school teachers. Its use allows us to identify the nature and structure of the mathematical competence of a primary school teacher and, in accordance with this, determine the goal, objectives and content of this process, as well as new methods, means and forms of organizing pedagogical interaction.

According to N.V. Ippolitova, integrative activity approach considers phenomena and processes as complex systems, the integrity of which is achieved through the integration of their constituent elements, which are in interconnection and interaction. The characteristic of activity and preparation for it from the standpoint of this approach implies consideration of the first as the main means of achieving the second goal [3, p. 105].

The main concepts characterizing this approach are "integration" and "activity". Integration, as a process of system development, is aimed at achieving a certain result - the development of the main integrative quality - integrity, i.e., as I.P. Yakovlev, "integration expresses the dynamics of the system, and integrity is the result of movement" [4, p. 67].

Since this approach operates with such concepts as activity, integrity, system, and is implemented in the process of preparing students of a teacher training institution, it inevitably relies on the synthesis of knowledge of such sciences as philosophy, psychology, and pedagogy. In our study, taking into account this situation is especially important, since the development of mathematical competence among future primary school teachers suggests reliance on the organic combination of knowledge in psychology, pedagogy, methodology, mathematics, etc., i.e. we see a practical solution to the problem under consideration in a targeted combination of subjects of the general professional cycle with the disciplines of the subject training cycle.

We join the opinion of N.V. Ippolitova, who believes that the formation of skills necessary for the effective implementation of specific activities is not the assimilation of each standard of action in the singular, but the study and concretization of possible and appropriate options for each standard in training. Such integration of various standards in educational activities, according to the scientist, allows for the formation of "variable, flexible structures of real skills, which is a necessary condition for successful pedagogical activity."

The integrative-activity approach in our research is focused on the development of the active personality of the future teacher, ready for professional educational activities - the teaching of mathematics at the primary level of the secondary school. The organization of the process of forming mathematical competence in future primary school teachers on the basis of an

integrative activity approach ensures the integrity of this process and the development in unity of the various components of mathematical competence as an integrative personality quality based on the inclusion of students in various content and forms of the training process.

So, making up the methodological basis of our research and complementing each other, competence-based, professional-personal and integrative-activity approaches used in the aggregate, allow us to consider the process under study in various aspects and ensure its integrity.

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