

THE STRUCTURE OF STUDENTS' EDUCATIONAL MATHEMATICAL ACTIVITY AT THE INITIAL STAGE OF THE FORMATION OF INFORMATION AND COMMUNICATIVE COMPONENTS OF MATHEMATICAL COMPETENCIES

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Abstract. *This article examines the structure of students' educational mathematical activities at the initial stage of their education in order to form information and communicative components of mathematical competence. The main elements of this structure are considered, including the development of mathematical concepts and terms, working with mathematical models, problem solving, independent work and research, communication and discussion, the use of information technology, as well as the formation of critical thinking skills. The interrelation of these elements and their impact on the formation of students' information and communication competence are analyzed in detail in the context of the initial stage of mathematics education. The results obtained can be useful for developing effective teaching methods and improving the quality of mathematical education at this stage of learning.*

Keywords: *educational mathematical activity, information competence, communication competence, mathematical competence, formation of competencies, critical thinking, information technology, the educational process, teaching mathematics, pedagogical aspects.*

The development of higher education and training in accordance with international standards of competence require new approaches to ensuring the quality of education, taking into account modern knowledge in the learning system. The development of the scientific and innovative potential of educational institutions of higher education using new laboratory equipment and the development of educational laboratories based on them are of great importance, since this contributes to the activation of research activities and the development of the economy of the republic. In this regard, the Decree of the President of the Republic of Uzbekistan dated 06/21/2022 No. PD-289 “On measures to further develop the activities of higher educational institutions that train teaching staff and improve the quality of pedagogical education” provides for the systematic improvement of higher educational institutions that train teaching staff, the development of modern curricula, increasing the level of training of highly qualified professional personnel, as well as ensuring matching the level of training in the field of pedagogy, science and practice.”

A future mathematics teacher should be ready to realize the goals of mathematical training of schoolchildren, which provide, along with the formation of specific mathematical knowledge, also the formation of ideas about mathematics as a form of description and a method of cognition of reality, as part of universal culture. Therefore, the level of acquired mathematical knowledge, skills and abilities should be sufficient to substantiate the structural and logical construction of a school mathematics course, to understand its methodological and methodological problems, as well as to have a clear idea of how abstract mathematical science finds versatile application in natural science, sociology, pedagogy, engineering practice, etc.

The school is a developing pedagogical system. It is not enough for a mathematics teacher, as a subject of this system, only to possess a certain amount of mathematical knowledge, it is necessary

to constantly improve and replenish them. He needs knowledge about the structure of modern mathematics in general, about its connections with other sciences, about its practical applications.

When starting the formation of competence, which is the main goal of modern education, it is necessary first to determine the structure and content of the relevant competence, to identify criteria and indicators of its formation. One of the components of the professional competence of a future mathematics teacher is mathematical competence. Let's define the content of the mathematical competence of a future mathematics teacher. There are various approaches to the definition of this concept, and in our work we take as a basis the definition given in N. G. Khodyreva's dissertation [3].

Mathematical competence in our understanding is represented as an integral property of a person, expressed in the presence of deep and solid knowledge of mathematics, in the ability to apply existing knowledge in a new situation, the ability to achieve significant results and quality in activities. In other words, mathematical competence presupposes a high level of knowledge and experience of independent activity based on this knowledge.

In his dissertation, V. A. Adolf [1] identifies the following components of a teacher's professional competence: motivational, goal-setting, personal and content-operational.

Having studied a number of dissertation studies on the formation of mathematical competence/competence, we saw the following structural components of mathematical competence/competence: conative, cognitive, motivational-value; motivational, meaningful, activity-based, personal; meaningful, professional-activity, technical, motivational-value, intellectual; cognitive, operational, value-semantic; motivational-value, content-process, reflexive.

Despite the differences in the terminology used, different authors agree that the ability to achieve significant results in mathematical activity is determined by the presence of a system of knowledge and skills, motives for carrying out activities and value orientations in the field of mathematics, as well as the formation of reflexive and evaluative skills. Considering the above, the goals of our research are more consistent with the approach of N. G. Khodyreva, which combines substantive and procedural components. Thus, motivational-value, substantive-procedural and reflexive components are included in the composition of mathematical competence.

The content of the selected components of the mathematical competence of the future teacher. In order for the appropriate skills to be formed in a mathematics teacher, it was necessary, first of all, to identify the essential characteristics and main provisions of the activity-based approach and personality-oriented learning.

We consider the main provisions of the activity approach to be:

1. The components of the activity are:
 - motive (as a reason for activity);
 - goal (as a planned result);
 - an object (in this case, these are objects of school mathematics);
 - composition of actions (plan);
 - funds;
 - the result.
2. The management of the activity is carried out through its indicative basis
3. The activity approach is "responsible" for the success of the students' activities.

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