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Research Article

MODERN TRENDS IN THE DEVELOPMENT OF MATHEMATICS TEACHING METHODS

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ABSTRACT

This article discusses modern trends in the development of mathematics teaching methods. The activation of educational and research activities of schoolchildren is impossible without the formation of a positive attitude towards this type of activity. Project work can be a collective work on the implementation of the solution of any issue. The advantage of this technique is the development of communication skills, increasing independence. While working on the project, students themselves solve the problem and draw up a plan for solving it, and in the course of implementing this plan, everyone gets their own role and forms their own point of view.

KEYWORDS

Modern trends, development of mathematics, teaching methods, research activities, positive attitude, type of activity, project work, collective work, implementation of solution, communication skills.

INTRODUCTION

The education system is one of the most important social institutions of society. In public life, processes are constantly taking place that lead to some changes. Among them, the following can be distinguished: a

change in the nature of professional activity, a high rate of deepening and expanding knowledge that is necessary for the successful implementation of a

person's personal qualities, and new requirements are put forward for the training of future specialists.

THE MAIN FINDINGS AND RESULTS

The system of mathematical education is a system of acquired knowledge, forms and methods of mathematical activity, the development of which affects the structure and inner world of the student. The most important tasks of mathematical education are the intellectual development of students, the formation of the qualities of thinking necessary for mathematical activity and a full life in society, as well as the education of a person in the process of mastering mathematics, which must comply with the new requirements of the State Educational Standard.

One of the main tasks of mathematical education is the following: mastery of various types of activities by students;

- formation of communicative abilities of students;
- individual approach to each child in the study of mathematics;
- organization of educational activities of students, etc.

One of the options for solving these and other issues of further development of general mathematical education in Uzbekistan is the need to change the content of education, the development of new methodological tools, the diversity of teaching styles, the change in the idea of mathematics as a complex and uninteresting science.

There are five main trends in the development of mathematics teaching methods.

The first trend is to study mathematics without the usual memorization that was so popular in the past. It

is necessary not only to memorize and memorize numbers, but also to know the concept of numbers and then they will appear as separate objects. This idea put forward by Hans Freudenthal, a German mathematician. He believed that learning should always be based on life experience in order to appear for a person in a more accessible form.

The following technique is a special case of Freudenthal's idea, but it can be distinguished as an independent one, due to its relevance at the moment. It lies in understanding the mathematics from the financial side. In addition to the usual tasks, students are faced with tasks that cannot be solved without knowing percentages and proportions. This type of task allows us to be more oriented in the realities of our life, to understand the basics of the economy, the concepts of supply and demand. In addition, most of these tasks cause discussions, as a result of which students form their own point of view on the use of their own budget resources.

The next trend is the development of project activities. The activation of educational and research activities of schoolchildren is impossible without the formation of a positive attitude towards this type of activity. Project work can be a collective work on the implementation of the solution of any issue. The advantage of this technique is the development of communication skills, increasing independence. While working on the project, students themselves solve the problem and draw up a plan for solving it, and in the course of implementing this plan, everyone gets their own role and forms their own point of view. The teacher is only required to create a suitable environment that motivates students to carry out such work. Approximate topics for such project work could be the origin of algebra and geometry, the history of the

appearance of negative numbers, the history of famous mathematical discoveries, etc.

The concept of a chessboard is very interesting. The game of chess is very ancient and quite closely related to logic. For a skilled teacher, chess can become a visual representation of the theme of evenness, oddness or symmetry, or perhaps an illustration of a coordinate system. In math classes, chess sometimes becomes practical illustrations of mathematical concepts. This method is not used always and not everywhere.

Increasingly, everyone meets computers and gadgets in everyday life. It is impossible to imagine life without a phone, online services and social networks. This was the reason for the creation of a methodology that is based on the interaction of children and all kinds of devices connected to the Internet. Thus, the modern generation receives information more easily and is more willing to process it. With this teaching method, the Internet and online services are the best assistants to the teacher.

Now it is worth analyzing how the current trends in the teaching of mathematics are being implemented in our country.

If we trace the dynamics of the development of Uzbekistan education, we can see that the trend “without rote memorization” has not fully taken root in Uzbekistan. Most teachers continue to put memorization at the forefront. Children are not explained the basic essence of mathematics and its main tasks and issues. As it was said, children need to be taught to work in a team, as a whole, so that when interacting with peers and teachers, they can not only learn the solution to the problem, but understand its essence and disassemble it from beginning to end.

However, as it was said, “mechanical memorization” has not yet left the system of teaching mathematics in Uzbekistan, which worsens the process of assimilation of this material. If children are taught to work in a team, then they will be able to analyze mathematical problems from the inside, which will significantly increase not only the level of knowledge of students, but also provide them with a foundation of knowledge in the financial sector, which of course will help them in later life.

Project-based learning, as well as the teaching methodology “without rote memorization”, has not yet been fully introduced into the system of teaching mathematics. Teachers believe that mathematics is an “exact” science, and, accordingly, tasks must be clearly set, within certain deadlines. Therefore, in most lessons about such concepts as: self-examination, development by students of the topic of further activities, independent finding the right sources of information and determining the timing of these projects, in most cases, the students did not even try.

Every year, more and more often, special services are introduced into the process of teaching mathematics: online encyclopedias, electronic journals, cloud storage, online conferences and many more endless opportunities that this area can give us. Already, interactive whiteboards, projectors, audio devices and computers have been installed in most classrooms and auditoriums in our country. Thanks to all this, the work of the teacher is somewhat simplified, and the interest of the students only increases. Thanks to all this, the work of the teacher is somewhat simplified, and the interest of the students only increases. Cloud technologies allow the teacher to work with students' assignments, both at home and at their workplace, to give them material in electronic form, explaining the most important aspects of the material without

reading it completely. Electronic journals allow you to store all data on one resource, as well as set grades so that parents of students can always check their progress. Interactive whiteboards and projectors make it possible to receive information from video lessons and online conferences, and special online learning resources help students to study the material even at home. And this is only a small part of what the field of technology can do for teaching both mathematics and the entire education system as a whole.

Summing up, we can say that these trends are still not fully implemented in our country, but some of them are already actively “working” for the benefit of students. These trends are not just certain methods that will improve the teaching of mathematics, but they are a “treasure” that will take the methodology of teaching mathematics to a new level.

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