

UDC 378

THE IMPORTANCE OF TEACHING HIGH SCHOOL STUDENTS WITH GAME TECHNOLOGY IN MATHEMATICS

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Annotation: The development of students' mathematical thinking, interest in the subject is one of the main problems in mathematics. This is especially important in adolescence, when stable interests and inclinations for a particular subject are still being formed. It is at this stage that we should strive to discover interesting aspects of mathematics.

Purpose: This article provides a comprehensive analysis of the importance of teaching high school students using Game Technology in Mathematics.

Keywords: game technology, math lesson, high school students, development.

At present, there are researches and innovations in the science of methods of teaching mathematics. The subject of mathematics is basically a single system of definitions, theorems and rules. Each new definition, theorem and rule is based on the previous proven rules. Each new task contains elements of a previously solved task. All the chapters of the discipline are in such a connection and complement each other, the lack of understanding of one topic leads to a decrease in interest in mathematics, sometimes a full section. But along with this, since mathematics is a system of problems, it also requires mental strength, perseverance, willpower and other personal qualities to solve each of them. Thanks to these features of mathematics, students' mental activity increases, but often this is the reason for the decrease in students' interest in the lesson. The monotony of daily lessons leads to a loss of motivation and interest of students. It is true that the emergence of a significant part of students' interest in mathematics largely depends on the teaching methodology, how skillfully the educational work is built. For such students who are not interested in mathematics, for whom it seems that this is an "uninteresting", "dry" science, it is necessary to conduct classes in an interesting, entertaining form, that is, in the form of a mathematical game. Initially, students are interested in the process itself, then they want to learn something new in order to achieve success in the game, to win. In learning through the game, it mainly ensures the achievement of emotional and rational unity.

A lot of research has been conducted on Game learning from an early age. V.A.Sukhomlinsky was one of the first to talk about the benefits of learning through this game for the child and is widely discussed in his work "On Education". In this book, he introduces his thoughts on raising children in the family and at school, in which the author writes about the use of the game as follows: "...The game is a large bright window through which the vital flow of ideas and concepts about the surrounding world enters the spiritual world of the child. The game is a spark that creates a light of interest and curiosity." Continuing the work of Sukhomlinsky, D. B. Elkonin noted in his work "Game psychology" : "The game affects the development of mental processes", "The essence of the game is not limited to the fact that the child has new substantive motives and related tasks. A new psychological form of motives appears in the game"-he writes. The famous French scientist Louis de Broglie also stated that "All games (even the simplest ones) have many elements in common." "The game is full of tasks and challenges that can be overcome, followed by the joy of discovery and the feeling of overcoming obstacles. That's why everyone, regardless of age, is interested in the game. "

It is believed that the older the child, the easier it is for him to focus on uninteresting and monotonous activities for a long time, a striking example of which is the solution of the same type of examples, equations and problems in mathematics lessons, however, progress in studying mathematics is almost impossible in this way. It is believed that the use of games is absolutely necessary for the education of preschoolers and young children. There is an opinion that high school students are more serious and able to learn without "pampering". However, some studies have shown that high school students are not as interested in the game as younger students, and have shown that in a lesson in a game format, tasks and tasks are solved with greater interest and in large quantities than in an uninteresting traditional form of learning. Classes conducted in a playful way allow, on the one hand, to set a very close goal for students – "to win over their classmates at the end of the lesson", and on the other to achieve the set educational goals. Currently, one of the problems in the education system is the lack of use of Game Technology for high school students, especially in mathematics. By using this game technology, we arouse the interest of high school students in the fading math.

By switching to game forms of learning in the classroom, even the most passive students themselves join the game, making every effort. The main importance of the game is as follows:

- the use of a game form in the classroom contributes to the organization of interaction between teachers and students
- there is a lot of education and upbringing in the game
- the game develops the ability to identify observational and naive qualities
- interesting and fun, creates a fun working mood of students,
- helps to overcome difficulties in mastering educational material;
- the game has a great impact on the mental development of children;
- affects the improvement of their thinking, attention, creative imagination

Games and game forms are used not only for the purpose of entertaining students , but also to interest them in mathematics, awaken their ability to overcome difficulties and acquire new knowledge on the subject. The game teaches students to form good qualities, self-assessment and percentile of processes in social life, to communicate with people, increases attention and develops memory. Creating a game atmosphere in a math lesson develops students ' cognitive interest and activity , relieves fatigue.

In a math lesson, the game performs several functions:

1) In the course of a math game, play, study, and work activities occur simultaneously. Indeed, the game combines things that are not comparable in life and distinguishes things that are considered together.

2) A mathematical game requires the student to know the topic. After all, without understanding the topic, the student will not be able to solve tasks and participate in the game.

3) In the games, students learn to plan their work, evaluate the results of their activities not only by others, show ingenuity in solving problems, creatively approach any task, use and choose the necessary material.

4) The results of the game show students their level of preparation and training. Mathematical games help students to improve themselves, thereby increasing their cognitive activity and interest in the subject.

5) When participating in mathematical games, students not only get new information, but also gain experience in collecting the necessary information and using it correctly.

Thus, it is necessary to consider game and Game Technology as an independent pedagogical value and make the most of its pedagogical capabilities.

The work on teaching high school students by the method of Game Technology in mathematics lessons solves several important problems: first, students not only achieve equality with each other during the game, but also increase their relationships with each other, develop good taste qualities, which undoubtedly leads to the development of logical thinking of students; secondly, students study the materials presented in the textbook with interest and enthusiasm, which ensures high-quality assimilation of knowledge by students, thirdly, there is a competition among students, the formation of personal qualities of students, Fourth, students get used to creative thinking. Therefore, when teaching high school students, conducting a math lesson using Game Technology is one of the most important problems of high – quality teaching of mathematics.

The following is an example of a type of math game used for high school students.

MATHEMATICAL REGATTA

Scope of applicability. This game is good to use in a situation where it is important that students write down detailed solutions to problems

Complexity of preparation: minimal.

The complexity of the conduct: average.

Necessary equipment and conditions.

For the teacher: a printer for printing tasks and answers for the teacher, answer sheets for the number of tasks multiplied by the number of commands.

For students: paper, writing supplies, an auditorium with the opportunity to sit down as a team.

Preparation: You need to pick up three or four blocks of three or four tasks in which a differentiated assessment of the solution is possible. Within one block, the tasks should be of the same complexity, the blocks should be arranged in order of increasing complexity of the tasks; in the first block, the tasks should be of such complexity that all participants can solve them.

Tasks are placed on cards in blocks with the heading "First stage", "Second stage", etc. and indicating the cost of each task of the block and the time of solving the block. It is recommended to distribute the cost of tasks so that the cost of the task of the last round relates to the cost of the task the first round is like 3:2 (i.e. for three rounds, for example, the task of the first round is 4 points, the second – 5 points, the third – 6 points; for four rounds – 6, 7, 8 and 9 points, etc.). It is recommended to distribute the time so that the first stage has the least, the second – the most (for example, for three stages it can be 10, 15 and 20 minutes; for 4 stages – 5, 10, 15 and 20 minutes).

Teams of 3-4 people.

The goal of the game. Score as many points as possible by correctly solving and describing the solution of as many tasks as possible.

The course of the game. Each team receives tasks of the first stage and sheets for records solutions by the number of tasks and begins to solve them and write solutions to answer sheets. At the end of the time of the stage, the solutions are collected, the teacher tells the solutions of all the tasks of this stage and distributes the tasks of the next stage. While the students are solving, the teacher checks the solutions of the tasks of the previous stage and puts the results on the board. Checking the tasks of the last stage and announcing the results can be left until the next lesson if there is not enough time within one lesson.

The end of the game. The game ends when the time allotted for solving all tasks ends.

Scoring and win condition. Points are awarded after each stage, the results are recorded on the board so that all participants in their seen. The team with the most points wins.

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