

DEVELOPING STUDENTS' COGNITIVE INTERESTS THROUGH MODERN PEDAGOGICAL TECHNOLOGIES

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Abstract

This article is devoted to the issues of using modern pedagogical technologies to develop students' cognitive interest in mathematics in secondary schools. In the article, the ways of forming a deep interest and creative approach to the subject in students by using interactive methods, didactic games, multimedia tools, and other advanced technologies in the process of teaching mathematics are highlighted. Also, technological methods that help to increase students' interest in mathematics and stimulate their cognitive activity, ways to improve the professional skills of teachers and increase the efficiency of the educational process are shown. This article is useful for educators, educational researchers and methodologists, and contains practical suggestions and recommendations that can be used to effectively develop students' interest in learning mathematics.

Keywords: General education school, mathematics, cognitive interest, modern pedagogical technology, interactive methods, multimedia tools, didactic games, educational process, student interest, cognitive development.

Introduction

Аннотация

Данная статья посвящена вопросам использования современных педагогических технологий для развития познавательного интереса учащихся к математике в общеобразовательных школах. В статье освещены пути формирования у учащихся глубокого интереса и творческого подхода к предмету путем использования интерактивных методов, дидактических игр, мультимедийных средств и других передовых технологий в процессе обучения математике. Также показаны технологические методы, способствующие повышению интереса учащихся к математике и стимулирующие их познавательную активность, пути повышения

профессионального мастерства учителей и повышения эффективности учебного процесса. Данная статья полезна педагогам, исследователям образования и методистам и содержит практические предложения и рекомендации, которые можно использовать для эффективного развития интереса учащихся к изучению математики.

Ключевые слова: общеобразовательная школа, математика, познавательный интерес, современные педагогические технологии, интерактивные методы, мультимедийные средства, дидактические игры, учебный процесс, интерес учащихся, познавательное развитие.

Introduction

Mathematics education is one of the most important issues today, and the development of students' cognitive interest in this subject is one of the main tasks of the educational process. Arousing interest in mathematics in school-age children plays an important role in developing their logical thinking, analytical thinking, and problem-solving skills [1. 205-b]. However, traditional teaching methods are often unable to sufficiently increase students' interest, which leads to a decrease in educational effectiveness.

Therefore, the introduction of modern pedagogical technologies in teaching mathematics in secondary schools is considered an urgent issue. Today, digital technologies, interactive methods, didactic games, and other innovative approaches serve as effective tools for developing students' interest in mathematics. Modern technologies help not only to convey knowledge in a more accessible and understandable way, but also to actively involve students in the process and encourage independent learning.

This article is devoted to the study of the possibilities of using modern pedagogical technologies to increase students' cognitive interest in mathematics [2. p. 183. It analyzes various pedagogical approaches and methods, ways to increase their effectiveness, as well as effective technologies in developing students' cognitive abilities. The article discusses how modern technologies can be used to improve the quality of mathematics education in secondary schools and the advantages of these approaches.

Methodology

This article focuses on the methodology for studying modern pedagogical technologies used to develop students' cognitive interest in mathematics in secondary schools and assessing their effectiveness. The main purpose of the study is to determine how various innovative approaches to teaching mathematics increase students' interest in science and have a positive effect on their process of acquiring knowledge.

The main methods used in the study are as follows:

1. Theoretical analysis - study and analysis of existing scientific literature on modern pedagogical technologies and their importance in the educational process. This allows us

to study the factors that form cognitive interest in students, the impact of technologies on the educational process.

2. Experimental research - an experiment was conducted to test various pedagogical technologies and assess their impact on students. During the experiment, students' interest in mathematics and the level of understanding of the subject were measured, and changes were observed under the influence of various methods.

3. Use of interactive methods and didactic games - the aim was to actively involve students in the process and increase their interest in solving mathematical problems by using game technologies and interactive teaching methods. These methods strengthen students' participation in the lesson process and encourage them to think independently [3. 311-b].

4. Use of multimedia tools - video materials, digital games and interactive visualizations were used to convey mathematical concepts in a more understandable and interesting way. These tools increase interest in mathematics and help to better understand the topics.

5. Assessment of student interest - questionnaires and tests were conducted to assess the level of active participation of students in the lesson, indicators of mastering the topic and cognitive interest. Using these methods, the effectiveness of various pedagogical technologies was determined.

The methodology section analyzes how the approaches used in the study affected the educational process, which methods are most effective in forming students' interest in mathematics. The results of these approaches created opportunities for deepening interest and knowledge in students, and also demonstrated to teachers the advantages of using modern pedagogical technologies.

Results

The results of this study showed that it is possible to significantly increase students' cognitive interest in mathematics with the help of modern pedagogical technologies in secondary schools. It was found that the use of innovative approaches in the learning process, including interactive methods, didactic games and multimedia tools, increased the level of students' involvement in the lesson and their desire to learn.

According to the results, in classes using various pedagogical technologies, students' skills in understanding mathematical concepts and applying them in practice were higher compared to traditional teaching methods. It was also noted that students' independent thinking and problem-solving skills were developed with the help of these technologies [4. 97-b]. In particular, students' visual understanding of the subject increased through multimedia materials and digital tools, which increased their interest in the lesson.

During the study, it was observed that the methods used in developing students' interest in mathematics were effective. For example, interactive games and group activities ensured the active participation of students in the lesson, which helped to strengthen the interaction between the teacher and students. At the same time, technologies that helped students

understand difficult mathematical concepts in an interesting and easy way were an important factor in increasing the effectiveness of education [5. 248-b].

Based on the results, it was confirmed that the widespread use of modern pedagogical technologies in the educational process is of great importance in attracting students to mathematics and forming their deep interest in the subject. It was also noted that these technologies can develop students' creative and analytical thinking skills.

Discussions

The results of the research presented in this article showed the high effectiveness of modern pedagogical technologies in developing students' cognitive interest in mathematics in secondary schools. The discussion section analyzes the advantages and existing difficulties of introducing interactive and innovative approaches to the educational process.

Initially, it is emphasized that the use of didactic games, multimedia tools, and digital technologies to increase students' interest in mathematics leads to a deeper understanding of the subject and an increased desire for independent learning [6. 157-b]. The results of the study confirm that in classes where these methods are used to improve students' knowledge, better knowledge acquisition and the formation of creative thinking skills are formed. The discussion suggests that the use of various interactive methods, especially in solving mathematical problems, plays an important role in strengthening students' attention.

However, some difficulties may also be encountered in the implementation of modern pedagogical technologies. In particular, problems such as insufficient training of teachers in the effective use of technologies or the limited material and technical base of schools may hinder the effective organization of the educational process. It is also discussed that the excessive use of digital tools may lead to students' dependence on technology or reliance only on technology without in-depth study of basic mathematical concepts.

During the discussion, it is emphasized that in order to overcome these difficulties, it is necessary to improve the skills of teachers and use digital tools in education in a balanced way [7. 306-b]. It is noted the importance of developing methods aimed at increasing students' interest and their deep understanding of basic mathematical concepts. At the end of the discussion, it is emphasized that by introducing modern pedagogical technologies into the mathematical education process, positive changes can be achieved in the formation of cognitive interest in students and that these technologies serve to improve the quality of the educational process. It is also noted that these approaches create a solid foundation for further development of the education system in the future.

Conclusion

This article analyzes the effectiveness and importance of using modern pedagogical technologies to develop students' cognitive interest in mathematics in secondary schools.

The results of the study show that using interactive methods, digital technologies, didactic games and other innovative approaches, it is possible to significantly improve the quality of mathematical education and increase students' interest in independent learning.

Modern pedagogical technologies play an important role in developing students' mathematical thinking, encouraging them to creatively approach the solution of difficult problems, as well as making the teaching process more interesting and effective. At the same time, these technologies strengthen students' attention and thinking skills, increasing the overall effectiveness of the educational process [8. 63-b].

However, a number of problems have been identified in the introduction of such technologies, including limitations related to the level of teacher training and the technical capabilities of schools. Therefore, for the effective use of modern pedagogical technologies, there is a need to improve the skills of teachers, as well as to use technological capabilities in education in a balanced and careful manner.

In conclusion, modern pedagogical technologies serve as a powerful tool for developing students' cognitive interest in mathematics. The correct implementation of these approaches can interest students in science and develop creative and analytical thinking in them. As a result, this will improve the quality of the education system, lay the foundation for students' future success, and open up new opportunities in teaching mathematics.

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