

METHODS OF TEACHING MATHEMATICS AND NEW PEDAGOGICAL
TECHNOLOGIES

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Annotation: This article emphasizes the importance of mathematics as a subject that plays a key role in developing students' logical thinking, computational culture, and problem-solving skills. The educational process actively incorporates scientific approaches, innovative pedagogical technologies, and practice-oriented methods aimed at activating students' cognitive activities, fostering independent thinking, and enhancing their creative abilities. The importance of applying modern pedagogical technologies in teaching mathematics is analyzed, including explanatory methods, practical exercises, problem-based, and interactive approaches. The effectiveness of using information and communication technologies, modular learning, the credit-module system, and an integrated approach is highlighted. The article also emphasizes the significance of the teacher's professional skills and individualized approach as factors that influence the improvement of mathematics education quality.

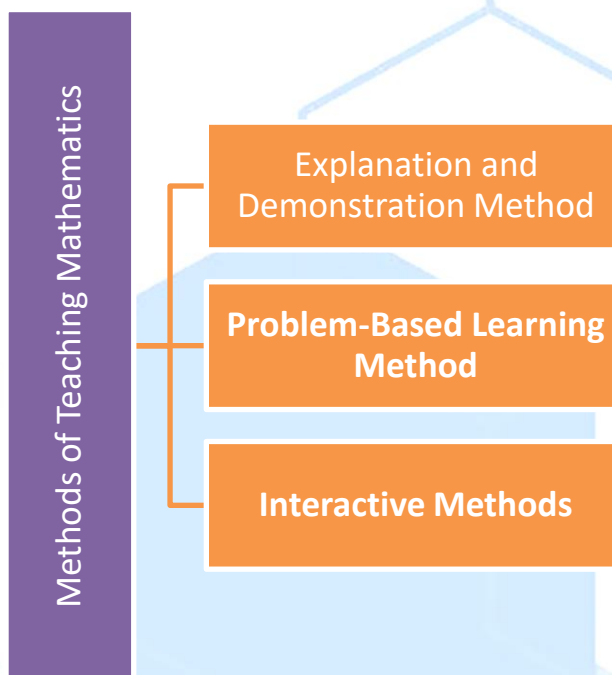
Keywords: Mathematics, logical thinking, innovative pedagogical technologies, teaching methods, interactive learning, information and communication technologies, modular learning, credit-module system, integrated approach, teacher's professional skills, individualized approach.

Introduction

Today, significant changes are being implemented in the education system. In particular, introducing modern pedagogical technologies in teaching mathematics, and teaching students to think independently, analyze, and draw logical conclusions are among the most important tasks. Mathematics is a subject that develops human thinking, forms logical reasoning, and, for effective teaching, teachers must wisely utilize modern methods. In today's era of globalization and digital economy, educating the younger generation to be economically conscious, financially literate, and proficient in digital analysis remains a priority. Economic thinking plays a crucial role in making informed life decisions, using resources effectively, and understanding economic processes.

Mathematics serves as the logical, analytical, and quantitative foundation of this thinking. Especially in math classes, using economic content problems helps students not only perform calculations correctly but also understand the essence of economic processes and learn concepts such as interest, profit, loss, taxes, credit, and inflation by relating them to real life.

Main Part



Interactive Methods

Explanation and Demonstration Method — The teacher explains a new topic and reinforces theoretical knowledge through examples.

Practical Exercises — Students apply their theoretical knowledge by solving examples, problems, and tests in practice.

Problem-Based Learning Method — The teacher creates problematic situations that encourage students to think independently. This method develops analytical and creative thinking.

Interactive Techniques — Methods such as "Brainstorming," "Quick Questioning," "Cluster," and "Venn Diagram" enliven the lesson process and increase students' engagement during class.

The Importance of Applying New Pedagogical Technologies

Pedagogical technologies are systems designed for effective organization of the learning process and development of the student's personality. Currently, the following new technologies are widely used in teaching mathematics:

Information and Communication Technologies (ICT) — Interactive whiteboards, electronic textbooks, online platforms (Khan Academy, GeoGebra, Quizizz, Moodle, etc.) make lessons interesting and understandable.

Modular Teaching Technology — Studying each topic as a separate module helps develop students' independent work skills.

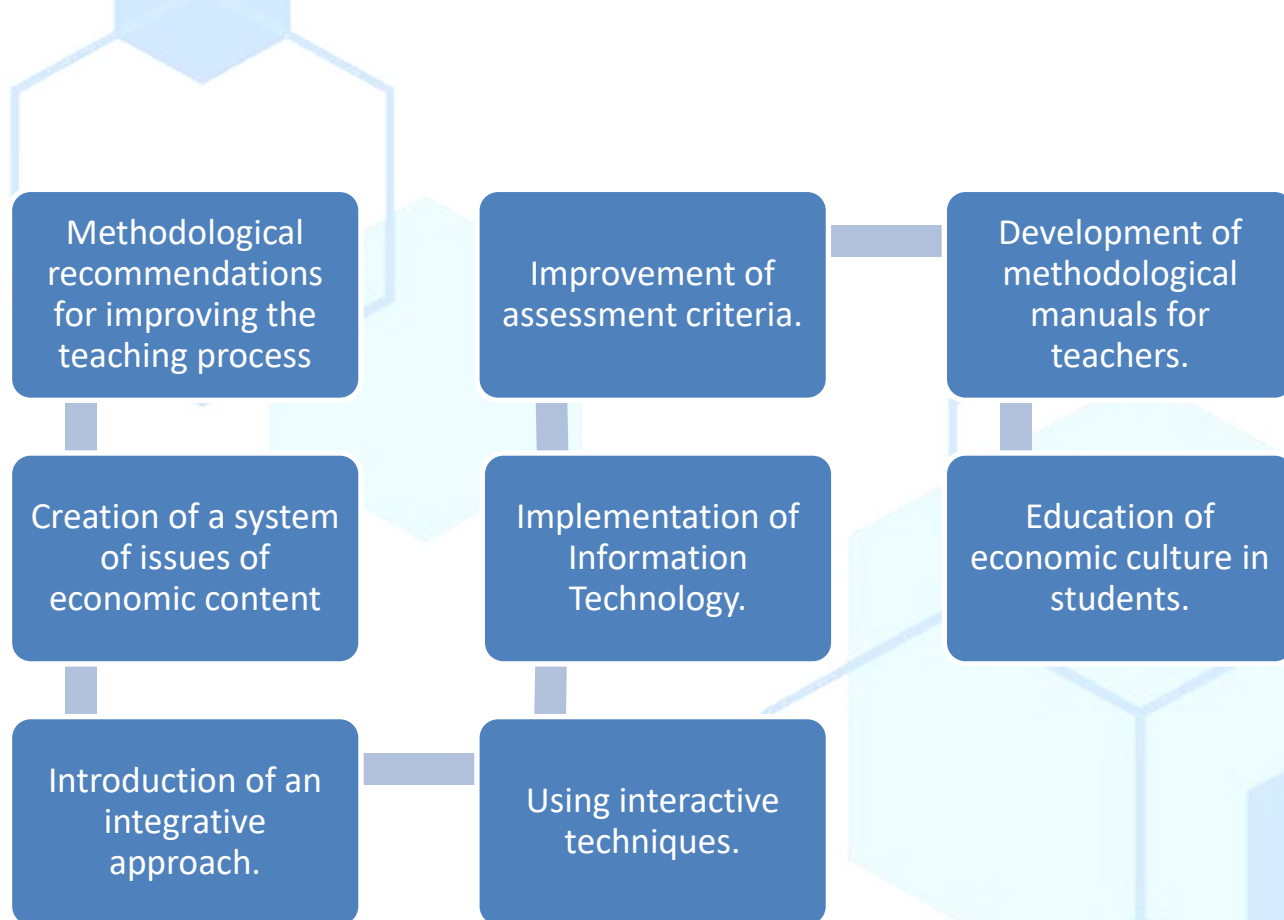
Credit-Module System — A system based on the individual learning pace and activity of students, aimed at enhancing autonomous learning.

Integrative Approach — Teaching mathematics in conjunction with subjects such as computer science, physics, and technology to ensure interdisciplinary connections.

Role and skill of the teacher The professional skills, didactic knowledge and creativity of the teacher are important in the introduction of new pedagogical technologies. The teacher should choose an individual approach in the lesson,

taking into account the interest, level of knowledge and personal capabilities of each student.

Methodological recommendations for improving the teaching process



The correct application of methods of teaching mathematics and new pedagogical Technologies is an important factor in improving educational efficiency, educating the younger generation of competitive and intellectual potential.

Conclusion

For effective teaching of mathematics, it is necessary to harmonize traditional methods with modern pedagogical technologies. When interactive methods, ICT tools and problematic teaching approaches are used in the lesson, students develop not only

knowledge, but also skills of independent thinking and creativity. Their research has shown that the use of issues of economic content in mathematics lessons is an effective tool in the development of students' Economic Thinking. The main conclusions include:

Economic thinking is a complex type of thinking that expresses the student's ability to logically analyze economic processes, evaluate quantitative and make rational decisions, in the formation of which the process of teaching mathematics occupies an important place.

Enriching mathematics education with economic content is the mathematical modeling of students' life problems, understanding economic concepts on the basis of Numerical Analysis, Percentage, profit creates an opportunity to understand real economic phenomena such as loss, tax, credit, inflation.

When problems of mathematical content are systematically applied as a result of experimental work, the students':

skill of applying mathematical concepts;

level of independent and logical thinking;

analytical decision making ability;

conscious attitude to mathematical processes has been found to increase significantly.

The results obtained showed that economically oriented classes serve to connect the mathematical knowledge of students with practical life, as well as to develop mathematical literacy and mathematical culture.

The methods used in the experimental process-Project, Case — stage, interactive games, group work, the use of Information Technology-prove their effectiveness in the formation of Mathematical Thinking.

Literature used.

1. Law of the Republic of Uzbekistan “on education”.
2. Decisions of the president of the Republic of Uzbekistan on the digitalization of the educational system.

3. Ziyomuhamedov B., Torakulov A. Fundamentals of pedagogical technologies. - Tashkent, 2020.
4. Jalalov J. Methodology of teaching mathematics. - Tashkent, 2019.
5. www.eduportal.uz
6. Khodjayev A. A., Paylaganov A. A. Methodology of teaching mathematics. - Tashkent: "Teacher", 2018.