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THE INFLUENCE OF INFORMATION AND COMMUNICATION TECHNOLOGIES ON MATHEMATICS INSTRUCTION IN PRIMARY SCHOOLS

Maftuna Sagdatdinova
2nd year student, Faculty of Primary Education,
Nukus State Pedagogical Institute

Abstract: The article discusses ways to improve the effectiveness of mathematics teaching in elementary grades based on the resources that students can learn from. At the same time, the effective use of several methods is shown as an example.
Key words: method, discussion, explanation, induction, deduction, analogy, analysis, synthesis, comparison, problematic, explanatory, illustrative, reproductive.

INTRODUCTION

Rapid and rapid development of science, technology and production sectors, raising the quality of education in all educational institutions to a new level in terms of content, especially improving the quality of primary education, educational standards , the issues of wide introduction of advanced pedagogical and information and communication technologies demand urgency. This, in turn, imposes higher responsibilities and duties on primary school teachers.

LITERATURE REVIEW

It is known that the issue of teaching methods, their systematic enrichment and renewal is one of the most important aspects in achieving high results in teaching and the education system in general. Learning and teaching methods are methods of joint activity of the teacher and students, with the help of which new knowledge, skills and abilities are gained. The ability and thinking of teachers will develop. Therefore, enriched teaching methods based on the advanced achievements of modern science and technology and information technologies are of great importance in increasing the effectiveness of education.

Teaching methods involve organizing, encouraging and controlling the joint activities of teachers and students. Therefore, they are divided into three groups:

- methods of organizing educational activities;
- methods of stimulating educational activities;
- methods of controlling the effectiveness of educational activities.

RESEARCH METHODOLOGY AND EMPIRICAL ANALYSIS

In today's digital era, the fusion of technology with education has become not only a trend but a necessity. Mathematics, often considered a subject that demands abstract reasoning and structured logic, benefits substantially from the visual and interactive affordances of ICT. At the primary school level, where learners are forming their earliest conceptual understanding of numbers, patterns, and problem-solving, the use of ICT enhances both instructional delivery and student outcomes. The question is no longer whether to integrate ICT in teaching mathematics but how effectively it can be implemented to foster meaningful learning.

Children in primary grades are naturally curious and responsive to colorful, animated, and interactive content. ICT-based lessons capture their attention better than conventional chalk-and-talk methods. Digital games, for instance, can turn mundane arithmetic drills into exciting challenges.

Many digital platforms allow teachers to assign differentiated tasks based on students' performance levels. This individualization helps struggling students catch up while allowing advanced learners to move ahead at their own pace.

Examples of ICT Tools Used in Primary Mathematics

ICT Tool	Application in Math Instruction	Learning Outcome
Interactive Whiteboards	Dynamic presentation of math problems and visual demonstrations	Increased engagement and visual learning
Math Learning Apps	Gamified problem-solving (e.g., Prodigy, Khan Academy Kids)	Reinforcement of skills through practice
Virtual Manipulatives	Digital counters, base-ten blocks, fraction bars	Conceptual clarity in arithmetic and fractions
Video Lessons & Tutorials	Animated explanations of math procedures	Accessible support for diverse learners
Google Classroom / LMS	Task assignment, digital quizzes, collaborative problem solving	Blended learning and formative assessment

Methods of organizing educational activities are divided into several groups, these are:
1. According to the sources from which students learn: oral, instructional, practical methods.
2. According to the direction of the student's thinking: induction, deduction, analogy.
3. The level of pedagogical influence management, according to the level of independence in students' studies: the method of educational work performed under the leadership of the teacher and the method of independent years of students.
4. According to the level of students' independent activities: explanatory-illustrative, re-productive, enigmatic presentation of knowledge, partial search and research method.
Now let's analyze separately the group divided by the sources from which students get knowledge. It is known from the above that these consisted of oral, instructional and practical methods.
Verbal methods provide the most amount of information in a short period of time, put puzzles in front of students, help them find ways to solve them, and generally develop the student's ability to work verbally. These methods create unique conditions for the development of students' thinking. If we consider them separately, that is, oral methods:
Explanation. The method of explaining knowledge consists in the fact that the teacher explains the material, and the students receive the knowledge ready. The description of the educational material should be clear, understandable and short. The method of explanation is used to introduce theoretical materials in the form of information, to give instructions to students on the use of educational tools.

It is necessary to explain a number of problems of the elementary mathematics course by the method of oral explanation. Modern information technologies and special gadgets can also be rationally used in the oral explanation method, which can greatly help students imagine and understand mathematical figures.

Conversation. One of the most common and leading teaching methods, it can be used at different stages of the lesson, for different purposes, that is, it can be used to explain, reinforce, repeat new material, check homework assignments, and independent work. possible

The story. The teacher can explain knowledge in the form of a story (tale). It is mainly used to provide information about the development of the history of mathematics, the development of measurement systems, and other information related to the history of mathematics.

Practical methods. Methods related to the process of formation and improvement of qualifications and skills are practical methods. It can include written and oral exercises, practical laboratory work, and some types of independent work. Exercises are mainly used as a method of strengthening and applying knowledge.

CONCLUSION

Based on the experience of organizing mathematics lessons in elementary grades based on modern pedagogical technologies and on the basis of our research, we offer the following in this direction:

- the teacher should have basic knowledge of modern pedagogical and information technologies, and should constantly work on himself methodically in this field;
- using didactic games that are close to each other in content in each lesson, adding some new elements, paying attention to the correct interpretation of the conditions of didactic games.

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