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## INTERACTIVE METHODS OF TEACHING MATHEMATICS IN PRIMARY EDUCATION

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### ABSTRACT

*The article is devoted to the issues of interactive teaching of primary schoolchildren. The subject of the research is interactive methods for use in mathematics lessons in elementary school. You need to start by gradually using these methods. Both the teacher and the students need to get used to them and gain some experience in using them. It is better to carefully prepare a few interactive activities in the school year than to run often hastily prepared "games". During this process, all participants in the educational process interact with each other, exchange information, jointly solve problems, model situations, evaluate their own behavior and the actions of others.*

**KEYWORDS:** *Primary Education, Mathematics, Interactive Learning, Interactive Methods, Primary School Age.*

### INTRODUCTION

With the introduction of new educational standards in Uzbekistan, the ability to build a teaching technology becomes necessary for every primary school teacher. In accordance with the requirements of the standards, the educational process is organized by the teacher, taking into account the characteristics of the students. In this regard, the teacher must know the technique of constructing the learning process for younger students, including the use of interactive means.

Analysis of scientific literature shows that the use of interactive tools requires compliance with certain approaches described by many scientists of various profiles (philosophers, psychologists, didactics, methodologists).

However, despite the fact that the educational standard directly indicates the need for the active use of interactive tools for solving cognitive problems, there are still no developments in the

practical application of interactive tools for teaching mathematics to junior schoolchildren. In this regard, the question of finding ways to use new technologies for teaching mathematics is currently relevant.

During the years of independence, the system of education and upbringing has been radically reformed in our country, all organizational and legal conditions have been created for the comprehensive education of the younger generation. The Law of the Republic of Uzbekistan - On Education and on the National Program for Personnel Training contributes to increasing efficiency, reaching new heights. Consequently, in accordance with them, educational institutions were updated in accordance with the requirements of the time, educational institutions equipped with modern equipment were created, and most importantly, a system of training and retraining of qualified pedagogical personnel was created. All this is incredibly important from the point of view of a happy future of the younger generation, focused on ensuring that it grows no worse than anyone else.

### **The Main Findings and Results**

Especially over the past 20 years, the teaching of mathematics in our country, especially in secondary school, has undergone tremendous changes, especially in the primary education system. This is evidenced, in particular, by the publication of the law on elections and other decrees after the independence of our republic. Setting fundamentally new goals for the school leads to a radical change in the content of teaching mathematics. Mathematics makes significant changes both in the content of the initial course and in the methodology of teaching it in textbooks and manuals. When entering school, a 6-7-year-old child has a minimum of knowledge and skills in organizing his activities at school hours. This problem has become relevant in modern primary schools. Interactive teaching methods require a certain change in the life of the class, as well as a lot of time for preparation, both from the student and from the teacher. You need to start by gradually using these methods. Both the teacher and the students need to get used to them and gain some experience in using them. It is better to carefully prepare a few interactive activities in the school year than to run often hastily prepared "games". Using interactive methods is not an end in itself. It is only a means to achieve the atmosphere in the classroom that best contributes to the understanding of the spirit of the law and civil society as a spirit of cooperation, mutual understanding, goodwill. Thus, the knowledge gained by the student is at the same time a tool for self-acquisition.

According to RN Buneev, "the school has lost its monopoly on the provision of knowledge. Much of the information today is acquired from "external" sources. But school education should take on an equally important function: to teach activities with the subject material, to stimulate the development of the child by means of the subject, and in general to create a basis (platform) for students in the learning process for the systematic development of subject material, which will further allow expanding and replenish your subject knowledge. Each subject has a different developmental potential (compare, for example, mathematics and literature) and, of course, involves specific ways of studying. But there are several strategic provisions that are common to subject learning.

Acquaintance with basic information on the subject and with key concepts (creating a picture of the subject) - all this is necessary as an indicative basis for organizing activities on the material of the subject.

Training in various operations with subject material.

Formation of universal educational actions on the subject material.

Formation of subject competencies (for example, teaching counting, solving problems in the study of mathematics, etc.). Acquaintance with active and passive vocabulary (terms) characteristic of this subject, and mastering them in speech situations.

Mastering reading texts on this subject, listening techniques, speaking and composing your own texts using lexical means and structures characteristic of this subject "

The most important task of the modern education system as indicated

The law on education is "the formation of universal educational actions that provide students with the ability to learn, the ability to self-development and self-improvement."

As part of the main types of universal educational activities, set by the key goals of general education, four blocks can be distinguished:

- personal;
- regulatory (including also self-regulation actions);
- informative; communicative".
- Regulatory actions provide students with the organization of their learning activities.

**These include:**

- goal-setting as a formulation of an educational task based on the correlation of what is already known and assimilated by students and what is still unknown;
- planning - determining the sequence of intermediate goals, taking into account the final result; drawing up a plan and sequence of actions;
- forecasting - anticipating the result and the level of assimilation of knowledge, its temporal characteristics;
- control in the form of comparing the method of action and its result with a given standard in order to detect deviations and differences from the standard;
- correction - making the necessary additions and adjustments to the plan and method of action in the event of a discrepancy between the standard, the actual action, and its result; - assessment - the allocation and awareness by students of what has already been mastered and what else needs to be learned, awareness of the quality and level of assimilation;
- self-regulation as the ability to mobilize strength and energy, to volitional effort (to make a choice in a situation of motivational conflict), and to overcome obstacles.
- Cognitive universal actions include general educational, logical, as well as posing and solving a problem.

**General educational universal actions:**

- - self-selection and formulation of a cognitive goal;

- -Search and selection of the necessary information; application of information retrieval methods, including with the help of computer tools;
- -structuring knowledge;
- -conscious and arbitrary construction of a speech utterance in oral and written form;
- -selection of the most effective ways to solve problems, depending on specific conditions;
- -reflection of methods and conditions of auction, control, and evaluation of the process and performance results; - statement and formulation of the problem, independent creation of algorithms of activity in solving problems of a creative and exploratory nature.

**The main methods of interactive learning in primary school are:**

1. Creative task - it forms the basis and content of any interactive method, and also gives meaning to learning, motivates students;
2. Work in small groups - this gives an opportunity to practice the skills of cooperation, interpersonal communication, to participate collectively in the work;
3. Brainstorming - this method activates creative thinking in a group. In brainstorming, any student's answer to a question is accepted;
4. The "carousel" method consists in the fact that it is necessary to form two rings: external and internal. In the first case, students change places after a certain period of time, and in the second case, these are students sitting motionless;
5. Decision tree method - the class is divided into 3 or 4 groups with the same number of students. Then each group should discuss the issue and make notes on their "tree", then the groups change places and add their ideas on the trees of neighbors;
6. Method "mosaic" - the necessary material is divided into parts, to work with it, students are united in small groups. Each student in the group reads their piece of material, becoming an expert in its content and preparing to teach this content to others;
7. Method "aquarium" - for observation and analysis, the teacher distributes the roles of observers, critics, experts, and analysts among the students, but the remaining students act out the situation in a circle;
8. Method "puzzles" - a material or concept is divided into separate puzzles, which are put together piece by piece into one common picture. The teacher's task may vary depending on the goals and objectives set within the lesson. Students can assemble the final picture themselves, guess the coded answer or compose a story, build a logical chain, explain why the details of the picture were formed in this order, etc.

From my own experience, I can say that there are a large number of methods and they are all diverse, but each teacher should choose those methods that will be most appropriate and interesting for use in their class.

**Communicative actions include:**

Planning an educational collaboration with teacher and peers;

- Determination of the goal, functions of the participants, methods of interaction; - posing questions;
- Proactive cooperation in the search and collection of information;
- Resolution of conflicts - identification, identification of the problem, search and assessment of alternative ways to resolve the conflict, decision making, and its implementation;
- Management of the partner's behavior - control, correction, assessment of his actions;
- the ability to express their thoughts with sufficient completeness and accuracy in accordance with the tasks and conditions of communication; possession of monologue and dialogical forms of speech in accordance with the grammatical and syntactic norms of the native language.

**We can highlight the features of the formation of universal educational actions at primary school age:**

- 1) The younger student becomes the subject of educational activity, that is, the formation of universal educational actions ensures continuity in the transition from preschool to primary general education;
- 2) the formation of motivation for learning, the internal position of a younger student, since this age is sensitive for the development of stable cognitive needs and interests, it is necessary to ensure the student's conscious entry into the space of educational activity;
- 3) The level of physical readiness, manifested in the formation of basic skills and qualities used in any subject area, the ability to perform subtle movements appears, to master the skill of writing;
- 4) the level of psychological readiness is determined by the formation of arbitrariness and awareness in the management of perception, attention, memory, activity takes on an organized character, an important ability to express one's thoughts orally and in writing is acquired, thinking develops from emotionally figurative to abstract logical;
- 5) The formation of social and moral qualities, the elements of social feelings develop in the younger schoolchild, the skills of social behavior are formed (collectivism, responsibility for actions, mutual assistance, etc.) and the foundations of moral behavior are laid;
- 6) The assimilation of cognitive actions manifests itself in the formation of mechanisms for the transformation of educational material and its independent application in changed conditions and in the implementation of control;
- 7) The level of communicative actions, is considered in the formation of the relationship of a younger student with others, it is included in the whole system of collectives (all-school, classroom).

The development of universal educational actions ensures the formation of psychological neoplasms and abilities of the student, which in turn determine the conditions for high success in educational activities and the development of subject disciplines. Interactive teaching methods allow you to develop students, critical thinking, creativity, communication skills, and abilities, to establish emotional contacts between students, to provide educational tasks, as a result of which creative self-development of students occurs. The use of interactive teaching methods in

mathematics lessons in primary school makes it possible to conduct lessons at a high aesthetic and emotional level, to provide positive motivation for students' learning and a high degree of differentiation of learning. Also, significantly increase the efficiency and volume of work performed in the classroom.

Practice shows that interactive methods involve learning in collaboration, that is, students and the teacher are subjects of learning. During this process, all participants in the educational process interact with each other, exchange information, jointly solve problems, model situations, evaluate their own behavior and the actions of others. Students are immersed in a real atmosphere of business cooperation in solving problems, thus the lessons will be very exciting and informative.

As a result of our research, we came to the following conclusions. The analysis of psychological and pedagogical literature made it possible to consider the concept of interactive learning - this is a process of cognition, where knowledge is obtained in joint activities through dialogue, a polylogue of students between themselves and the teacher.

We have revealed the essence of interactive learning, which is that the interaction of a teacher and a student is understood as direct interpersonal communication. The most important feature of such communication is the ability of a person to "take on the role of another", to imagine how the communication partner (or group) will perceive this role, and to interpret the situation and construct their actions accordingly.

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