



## "INNOVATIVE ACHIEVEMENTS IN SCIENCE 2023"

### IMPORTANCE OF PROBLEMS AND EXERCISES IN THE DEVELOPMENT OF COGNITIVE ACTIVITY OF STUDENTS IN MATHEMATIC LESSONS.

**Sariyeva E'tibor Matchanboyevna**

*Trainee-teacher of Urgench innovatsion university*

*Phone: +998 (94)112-07-34 etiborsariyeva@gmail.com*

**Abdullayev Abdulla Quranbayevich**

*Trainee-teacher of Urgench innovatsion university*

*Phone: +998 99 967 92 70 abdullayev7092@gmail.com*

**Annotation:** *This article talks about the importance of problems and exercises in the development of students' cognitive activity in mathematic lessons.*

**The keywords:** *Problem, exercise, analysis, synthesis, comparison, generalization, small groups.*

During the educational process, the teacher organizes, manages, controls, evaluates the cognitive activities of the students and creates the basis for the comprehensive development of the individual by implementing the educational, educational and developmental goals envisaged by the teaching.

For the teacher, the educational process is inextricably linked with the activity of students, and it is considered a work process, a professional pedagogical activity that analyzes this process, summarizes it, and makes changes in appropriate cases. It is possible to achieve the intended goals of teaching only when the students' cognitive activity and the teacher's pedagogical activity are harmoniously organized in the lesson. When organizing students' cognitive activities, the educational process is integrated into a single system, knowledge, skills and competences are integrated with each other.

It is necessary to note that it should be formed.

The problem is considered to be solved using specific learning methods. In the process of solving the problem, it becomes possible to activate the students' cognitive activity.

There is a certain level of difficulty in any problem, and students must overcome it using their previously acquired knowledge, skills and abilities. The text of the issue includes its explanation and condition.

Explanation of the problem describes a specific situation and learning problem, is directed to find the unknown properties of this or that object. The



## **"INNOVATIVE ACHIEVEMENTS IN SCIENCE 2023"**

condition of the problem may end with a question in some cases requiring a full resolution of the unknown situation.

In the process of solving the problem, the students should be able to determine the unknown situation from the known situation while fully understanding the condition of the problem, and distinguish the characteristics of unknown objects from the characteristics known to the student need to find.

Solving the problem is considered the complete fulfillment of the condition given in the problem. In some cases, the teacher himself can create a problem, in which it is necessary to clearly define the explanation and condition of a particular situation. Exercises allow students to strengthen their previously acquired knowledge and develop skills.

In terms of the content of the exercises, it is required to strengthen the previously acquired knowledge of the students, to apply it in practice, to apply it in new situations, to carry out operations of logical thinking: analysis, synthesis, comparison, generalization, dividing whole objects into parts, summarizing, etc. can reach

In the process of solving problems and exercises, when students' cognitive activities are organized individually, students independently learn the explanation and condition of the problem, their mental development, interest, performs the problems and exercises independently, taking into account the needs, talent, level of knowledge acquisition, and becomes the subject of his own cognitive activity.

The individual organization of students' cognitive activity consists of the following stages:

Determination of the didactic purpose of the problem and exercises;

Determining the methods of solving problems and exercises and their implementation;

Organization of independent work;

Solving problems and exercises independently;

Design the result obtained from the problems and exercises, its purpose compliance check;

Analyzing the result, making changes to it in appropriate cases. In the process of individual implementation of problems and exercises, students' mental activity is engaged, confidence in their own knowledge, strength and abilities increases, and each person develops at the level of his potential. In cognitive activities organized in this way, time is used efficiently, efficiency increases. For this, problems and exercises of different difficulty can be recommended to the students.



## "INNOVATIVE ACHIEVEMENTS IN SCIENCE 2023"

The organization of students' cognitive activities in small groups includes the following stages:

Determining ways to solve problematic situations that arise in the lesson;

Didactic purpose of problems and exercises, tasks to be performed get acquainted with;

Implementation of the goal in cooperation with the members of the small group designing roads, organizing independent work;

Solving problems and exercises with previous problems and exercises comparison;

In conclusion, the issue plays an important role as a subject of development of mental activity of students, because in it students face a certain difficulty and their knowledge, strength, and talent are involved in solving the problem situation.

### REFERENCES:

1. Tolipov O', Usmonboyeva M. Pedagogik texnologiyalarning tadbiqiy asoslari - T.: 2006.
2. Umirbekov A.U., SHOabdalov SH.SH. Matematikani takrorlash – Toshkent: «O'qituvchi», 1989.
3. Temurov S.Y. Bo'lajak matematika o'qituvchilarida kasbiy kompetentlikni shakllantirishning nazariy asoslari. Toshkent-2014
4. Anapiyayev F. Kompetensiyaviy yondashuv: muammo va yechimlar.
5. Махмудов А.Х. Узлуксиз таълим жараёнига компетентлик ёндошувини жорий қилишнинг дидактик асослари // Узлуксиз таълим.