

## EFFECTIVENESS OF OUT-OF-CLASS ACTIVITIES AND USE OF MODERN INFORMATION TECHNOLOGIES IN SCIENCE LESSONS

**Saidova Dilsora Sulton qizi, Tolibova Oqila Yoqubovna**

is a 2nd-year master's student in the field of theory and methodology of education and training (primary education) of the Pedagogical Institute of Bukhara State University.

[saidovadilsora1011@gmail.com](mailto:saidovadilsora1011@gmail.com)

[tolibovaoqila72@mail.ru](mailto:tolibovaoqila72@mail.ru)

**Abstract:** *The article reflects on effective methods familiarization of students at the lessons of natural history and extracurricular activities organization and implementation of practical work.*

**Key words:** *National program, knowledge, skills, TIMSS, experimental work, logical thinking, brainstorming, method, method, concept, aesthetic, ecology, individual, cluster, object, hygiene, reception, sanitation, concepts, aesthetics, immunity.*

*“Our country has entered a new era of its development currently the Republic of Uzbekistan in 2017-2021 Actions on five priority areas of development large-scale changes in all areas based on the strategy is being implemented. The success of these reforms, Our country is one of the developed, modern countries in the world taking a worthy place among the ranks, first of all, with the development of science and education, in this regard, on our world scale is integral to our ability to compete...., Shavkat Mirziyoyev.*

Practical work and experiences are very important in forming children's worldview, in harmony with nature, observation, logical thinking and speech education.

**Experiment:** is a teaching method, with the help of which conditions are created that help to determine the regularity of the studied phenomenon. As a result of carrying out experiments, students develop ideas about natural science that cannot be acquired by other methods. In short, experiment is a practical method of teaching natural science.

A number of practical exercises are presented in the 1st grade "Natural Sciences" textbook based on the national curriculum. In particular, the textbook contains 9

practical exercises. Topic of the 1st practical session: Topic 2 "We study living and non-living nature". Students should find answers to the following questions:

- What are animate and inanimate nature?
- What is the difference between the movement of inanimate objects and living organisms?

The task of practical training for this topic is as follows: 3 bubbles are next to each child and they are inflated in 3 different positions. , is concluded by the teacher. Such practical exercises encourage students to be observant. If the movement of inanimate nature is observed above, the changes of rabbits, birds, flowers standing in the corner of living nature in the classroom are observed and recorded: for example, aloe in the state of October 4 the height and body size of the flower are measured. The next observation date is January 24-26. The last observation date is May 23-24. Observations for 3 seasons are an example of "Long-term observation work". After the last observation work, all three observation works are compared. Science extracurricular work expands, deepens, and clarifies the knowledge acquired in the course of the lesson in children, arouses a stronger interest in nature and the subject of study, cultivates the independence of students, and finally, in the future, this has the power of opportunity to fully guide the development of mature representatives of the field. Extracurricular activities are carried out directly in nature, in the educational experiment area, living nature corner, geographical area, local history corner. "Observation Diary" starts from 1st grade and continues in 2nd, 3rd, 4th grades. Content of extracurricular activities. It will be related to the study and protection of natural objects, growing plants, caring for animals. Children's attention to these activities will be in nature, school, living nature corner and educational experience section. focuses on observations.

**Practical methods** - organized and directed by the teacher, aimed at developing students' thinking, show that there is a complex interrelationship of speech, demonstration and practical work.

#### *Types of practical methods:*

1. Pupils making different things with the handout didactic material:
2. Drawing:
3. Works on recognition and identification of natural objects:
4. Monitoring and recording of events:
5. It includes conducting experiments (solving problems by means of experiments).

It can be concluded that the importance of practical work in natural sciences is very high. Because children should have the skills to apply their theoretical knowledge in practice. assesses and demonstrates the student's abilities on the basis of the experiences and practical work he has used in work and life.

*Samples from TIMSS.*

1. A carnivore is a creature that feeds on another animal. Which of these is considered a monster?
  - a. deer
  - b. wolf
  - c. a cow
  - d. goat
2. What do birds, bats and butterflies have in common have?
  - a. feathers
  - b. hair
  - c. internal skeleton
  - d. wings
3. Water freezes, melts and boils except in one case goes to the state. Which of these requires heat to occur?
  - a. just boiling
  - b. just melting
  - c. melting and freezing but not boiling
  - d. melting and boiling but not freezing
4. In soils rich in which of the following plants grow best?
  - a. sand particles
  - b. lumps of clay
  - c. gravel layers
  - d. plant and animal humus
5. A hedgehog is a small animal with thorns. If he gets scared, he curls up like a ball. How does this behavior help the hedgehog?
  - a. A hedgehog can roll quickly.
  - b. A hedgehog looks bigger if it is rounded.
  - c. The rounder the hedgehog is, the harder it is to see.
  - d. The hedgehog's soft body parts are protected.

In the teaching of natural science, attention is paid to the formation and expansion of students' scientific and natural worldviews, and to the explanation of each lesson topic in teaching logical thinking. In the process of students' individual performance of tasks, their mental activity is involved, confidence in their knowledge, strength and abilities increases. As a result, each individual develops at the level of their potential. Time is effectively used in cognitive activities organized in this way. As a result, the effectiveness of education increases. Students' cognitive activities are organized individually in classes conducted using modern educational technologies.

**BBB (knew, knew, wanted to know) game.**

This game can be played after completing topics such as "Water is the source of life", "Hygiene and cleanliness". Students are divided into three groups. All three groups will be given a schedule. In the first column of the table, which consists of three columns, it is recommended to independently write what you know about water. In the second column, they write what they learned during the lesson and from the textbook.

In the third column, as much as possible, they write about today's needs, problems, and necessary knowledge.

**For example:**

I knew incomplete	I knew Odorless	I want to know Can be damaged?
Clear Liquid	Steam Ice-Solid	Can you tolerate dehydration?
is drunk is washed blurry	There is air . There is sand formless	Are there many rivers in Uzbekistan?

**"Energyner" game.** It can be used for topics such as "Weather", "Winter", "Years". Students can stand in a circle. In the middle, the teacher shows the phenomena of hand movement and quality, first slowly, and then in an accelerated state. Students follow these movements clockwise without saying a word.

1. Wind (hands slowly rub together, then this movement accelerates).
2. Rain (hands are folded).
3. Jala (hands are clasped and hit on the shoulders).
4. Hail (slaps on the knees).

The movement is gradually reversed.

**"Find your group" game.** Colorful for students folded papers are distributed. The names of animals and birds will be written on them. The teacher explains to the students that they will find their group by making the same sound as the animal or bird given a picture on the paper.

1. Cat (meow-meow).
2. Puppy (wow-wow).
3. Rooster (qu-qu-qu-qu).
4. Cow (mo'-mo').

After they have joined the group, they talk about the animals or birds belonging to the group.

**"Cluster" method.** This method helps to create conditions for students to think freely and openly about problems (topics) and freely express their personal opinions. The "cluster" method requires identifying a structure that allows thinking about the connections between different ideas. This method is a form of non-objective thinking. Its use is carried out in connection with the principle of human brain activity. The "Cluster" method can be used in the process of training with students individually or in groups. In group-based training, this method is manifested in the form of a set of ideas expressed by group members. This creates an opportunity to harmonize the ideas put forward by each member of the group and to find connections between them.

**"6 x 6" method.** With the help of the "6 x 6" method, it is possible to solve a certain task or issue by involving 36 students in a certain activity at the same time, as well as to determine the capabilities of each member of the groups, to learn their views. In the lesson organized on the basis of this method, 6 groups with 6 participants in each discuss the problem raised by the teacher. At the end of the set time, the teacher regroups 6 groups. Each of the newly formed groups has one representative from the previous 6 groups. The members of the newly formed group report to their teammates the conclusion presented by the previous group as a solution to the problem and discuss these solutions together.

Advantages of the "6x6" method include:

- encourages each member of the group to be active;
- ensures the expression of personal views by them;
- develops the skills of listening to the opinions of other members of the group;
- teaches to be able to summarize the proposed idea, as well as to defend one's own opinion.

The most important thing is that for a short time (15-20 minutes) each student acts as both a participant in the discussion and a speaker. In the classes where this method is used, there is an opportunity to discuss one or more topics (tunammo) by groups. The use of the "6 x 6" method in the educational process requires the teacher to be active, have pedagogical skills, and have the ability to form groups according to the purpose. Incorrect formation of groups can cause tasks or tasks not to be solved correctly.

*Using this method, training is organized in the following order:*

1. Before the lesson, the teacher places 6 chairs around 6 tables.
2. 6 different tasks are written on 6 sheets. Roman numerals from I to VI are written on the sheets. These sheets are placed on each of the 6 tables.
3. Pupils are divided into 6 groups by the teacher. When dividing students into groups, the teacher proceeds as follows. Each student is invited to take one of the sheets numbered from 1 to 36. These sheets will show the table number with Roman numerals. Each student takes a seat around the table indicated by the Roman numeral on the sheet of his choice.

4. After the students have settled down, the teacher sets a certain time (5-10 minutes) for completing the tasks placed on the table, announces the beginning of the discussion process.

5. The teacher monitors the activities of the groups, gives advice and guidance to the group members in the necessary places. When the allotted time is up, ask the groups to finish their discussions.

6. When the time for the discussion is over, the teacher re-forms the groups. Special attention is paid to having one representative from each of the previous 6 groups in each newly formed group. Within the specified time (5-10 minutes) after the students change their places group members tell their group mates about the task assigned to their previous group and its solution.

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