International Journal of Education, Social Science & Humanities.
Finland Academic Research Science Publishers
ISSN: 2945-4492 (online) | (SJIF) = 8.09 Impact factor
Volume-12| Issue-7| 2024 Published: |22-07-2024|

APPROPRIATE USE OF TEACHING TOOLS IN "SCIENCE" LESSONS

https://doi.org/10.5281/zenodo.13624515

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Abstract

To introduce students to the world around them, to the nature around them, to form an idea about the structure of the world and natural phenomena, to form the buds of a scientific worldview, to educate them in the spirit of love for our motherland by introducing them to the beautiful nature of our country , teaching the rational use of nature is carried out through the subject of "Science". The article describes the means of effective organization of natural science lessons and their importance.

Key words

"Science", practical training, project work, textbook, visual aids, pictures, screen tools, models.

"Science" includes biology, geography, physics, chemistry and ensures their interrelationship. Educational subjects that are part of the science are important in the formation of natural-scientific, technical and ecological literacy in students, and in the development of critical thinking. The essence, causes and relationship of phenomena and processes occurring in nature; stages of development of nature, including the evolution of living organisms; natural scientific foundations of modern technique and technology; relationship and influence of nature and society; scientific basis for the economical use of Natural Resources; principles of effective conduct and management of economic processes; composing a system of theoretical and practical knowledge about the essence and importance of a healthy lifestyle is one of the main tasks of the Natural Sciences. The student's internal motivation plays an important role in his interest in mastering natural sciences, in understanding the state of the natural and social environment through them, in understanding environmental and human problems, and in being able to make decisions to find their solutions. The mutual integration of sciences creates the basis for students' understanding of nature as a whole, and the creation of a single natural-scientific view of the world in their thinking. At the same time, interdisciplinary integration is aimed at forming students' understanding of the

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opportunities and problems of modern scientific and technical development, the nature of environmental problems, the ways of rational use of nature, the principles of following a healthy lifestyle, and the formation of skills to use in everyday life.

Science is taught 1 hour per week for a total of 33 hours in the 1st grade, and 2 hours per week for a total of 68 hours in the 2nd grade.

The experience is in the national curriculum that is being tested

- ✓ the weekly study hours allocated to "Science" were increased (in 2-3-4 grades it was set to 2 hours (actually 1 hour);
- ✓ the percentage of practical training was increased to 50%;
- ✓ special hours were allocated for small project works to apply the students' theoretical knowledge in life, to work with assignments that correspond to international assessment standards;
- ✓ qualification requirements for students were determined by grade level;
- ✓ interdisciplinarity was ensured, complex topics were transferred to the relevant upper class educational programs;
- ✓ directed to spiral (from simple to complex) teaching.

The structure of the practical training includes the order of the training and the names of the training equipment necessary for its implementation. The student observes, identifies and analyzes natural phenomena based on the assigned task. He allocated a separate hour for the practical training class.

Before organizing the project work, the teacher develops a system of assignments for the project work. Students in the class, individually or divided into groups, independently collect information from various sources (textbook, internet system), form the structure of the project, and conduct educational and research work. In project work, students plan work, perform it, make a conclusion, and make a presentation on the result of the work. Project work serves to develop proposals and form creativity in students. The content of the practical task is represented by a list of equipment related to the subject of training, text, picture, graph or table related to the subject of training. Pupils perform the assigned tasks using the recommended equipment, text, map, picture, graph and table and state their conclusions. Practical assignments can be assignments that cover the cross-section of the topics covered or interdisciplinary.

The teacher uses different forms of teaching methods (oral presentation, practical assignment, working with educational atlases and maps, etc.) in the organization of the lesson; in the organization of the lesson, different non-traditional methods of teaching (discussion, case-study, puzzles) and student-oriented, based on their activation and acceleration, problem-based learning,

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design, interactive, cooperative work, death it is recommended to use educational technologies based on effective organization and management of the educational process.

Man lives in the world of natural objects and phenomena, communicates with them every day. In order to correctly understand oneself in the world around, people consider some object or event (tree, stone, animal, etc.) and a complex of interrelated objects or events (street, park, avenue, photo, etc.) should also be able to accept.

Perception is a person's reflection of objects and phenomena of the world in direct impact on the senses. It is necessary to constantly work on the development of the reception of young schoolchildren, so that it becomes a goal-oriented and organized observation process. In the development of sensory perception, a great place is allocated to visual aids used in natural science classes for the purpose of correctly forming ideas and concepts of natural science.

Educational tools for natural sciences are very diverse. Some of them (natural objects and their visual images) are the object of study in lessons, others play a supporting role - they are not studied by students. Weapons, which are considered objects of study in lessons, can be divided into two groups: natural objects and images of objects and events specially prepared for teaching. Natural bodies include rocks, metals, soil samples, plants, animals.

Visual aids are divided into level (photos, slides) and volume (models, mock-ups, models). Both can be stationary and mobile.

Natural objects are especially necessary for teaching natural sciences, because they allow students to form imaginations and concepts based on the direct perception of natural objects (every student should have enough natural materials to be able to work independently with them - read must be collected according to the number of students).

The teacher demonstrates from a distance large objects that do not require skin sensation, sense of smell, or taste. Large plants, for example, corn, tomatoes, legumes (whole plant with leaves, roots, fruits) or animals (cats, birds, etc.) can be shown in this way.

It is placed on the classroom board or placed high above the teacher's desk so that all students can see it. Demonstrating live animals allows students to perceive not only their appearance, but also their character, actions, sounds, etc., which ensures the formation of more complete and clear images in the minds of children.

In order to better guide the observations, the teacher draws the students' attention to the characteristic features of the observed object (size, shape, color,

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main parts, method of movement, etc.), as well as its similarities and differences from other objects. they ask nagging questions.

In the teaching of natural sciences, the teacher gives information to students about many objects and phenomena that they have not yet seen. However, the most attractive and interesting story, if it is not shown in a good picture, cannot give enough, complete and bright images. Only looking closely at pictures can create impressions that come close to getting to know the body in its natural state.

Murals are often used in natural science lessons, and frontal class work is conducted on them. If there are no large pictures, smaller pictures can be used, which should be shown to each student. However, no matter what type of picture the teacher works with, his goal is to reveal the content of the picture in terms of natural science, and to make children learn to use it as a source of natural science knowledge.

When working with pictures, it is necessary to correctly use their content, correctly guide children's observations. Their number should not be large so that it does not erase the impressions before viewing the pictures. When there are several pictures, you can use a methodical method - comparison, which helps to better understand the content.

The picture can also be added to work with the textbook, for example, the definitions corresponding to the content of the picture are selected from the text of the textbook. Such an assignment forces students to look at the picture carefully and at the same time better understand the content of what they read. Telling the content of the picture by the students themselves forms generalization skills in them, develops the analytical-synthetic activity of young schoolchildren.

A great didactic role is assigned to the images in the textbook. They are closely related to the content of the articles and serve as a source of learning the studied material, so children should be taught to carefully look at each picture and carefully reach the bottom. Students should be able to analyze each picture in the textbook. This work goes along with studying the text. Sometimes it is conducted after studying the text, and in some cases it is before studying the text. All pictures correspond to the text, explain, clarify and complement their content.

The questions and tasks given to the pictures are also very important, because they guide the students' cognitive activities and help them work independently on the pictures in the classroom and at home.

The teacher should give questions and tasks to each subject that form the skills of independent work, stimulate and guide students' thinking activities. Questions and tasks are divided into the following groups:

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1. To strengthen knowledge.
2. To develop logical thinking.
3. To apply knowledge gained through observation.
4. To compare the concepts of natural science.

Screen media include slide film, slides, and motion pictures. In Uzbekistan, the slide film "Birds of the Land of Love" and the documentary film "Chotkal Reserve" were released as screen media. These weapons should be used in 3rd-4th grade science classes.

To display the screen tools, it is necessary to have a special class with the screen set and darkened. The time spent on showing slides, films, and slides depends on the subject, purpose, and type of the lesson. During the demonstration, the following requirements must be met: each frame must be viewed, analyzed and understood, for this the teacher will ask guiding questions, the answers obtained from them will be filled in, all the notes on the screen must be read it is necessary to alternate viewing of slides with the teacher's story, work on the map, examination of herbarium specimens of minerals and other tools, reading of the textbook article. It is not appropriate to show many slides at once, as this will tire the children. After reading the teacher's story and the article, a general conversation should be held to consolidate the knowledge gained.

Movies should be widely used in science classes. They provide a landscape of different corners of the globe and a true picture of the life of the population, in which all events are shown in action. With the help of educational films, students get a real idea of natural phenomena that cannot be seen in the classroom.

The teacher should be familiar with the stock of movies stored in the school. While making a plan, the teacher predetermines the classes in which films will be shown. Before showing the films to the students, the teacher himself should review them, determine what the students should focus on, what should be added during the story, and give them to the students before watching the film. It is required to compose intended questions. When preparing for the lesson, it is necessary to use the assembly sheets attached to the film, in which the content of the film is consistently described. The film is shown directly in the study of the topic or in its repetition. In the introductory interview, maps, pictures, tables, herbariums, collections, photographs are used, experiments are shown, as in a regular lesson.

For example, in the 4th grade, it is good to show a movie to facilitate the understanding of the phenomenon being studied in the "Weather. Water circulation" practical activity.

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Fragments or a part of the film are usually shown in the lesson. If the film is silent, the teacher will read the notes without continuous narration, because the continuous narration distracts and distracts the students, and they will not perceive the main content of the movie. The use of films in the natural sciences lesson creates a bright, clear and complete image of things and events.

Compared to other visual aids, movies better help to create ideas about dynamic (moving) processes and events, about people's activities.

The organization of classes based on new approaches using the multimedia application helps to improve the quality and efficiency of the students' education.

Volumetric images in the form of models are also widely used in science classes. A model is a three-dimensional image that reproduces all the details of an object or device. The cognitive value of models is extremely high, because they give a spatial idea of what is being studied, unlike level pictures.

The models necessary for mastering the program material in natural sciences can be divided into two groups. The first group includes geographical models of the earth's surface: mountains, hills, river valleys, rivers and their tributaries, slopes, ravines. These models are of particular importance if the subject whose image is represented is studied on an excursion. The second group includes models of various devices and structures: mines, furnaces, water and wind turbines.

In science lessons, models made of sand, plasticine or clay are used, which help children to develop volumetric and spatial imagination. This is especially important if the object cannot be rendered natively. Models can also serve as a means of strengthening perceptions about what is built in nature.

Modeling exercises can be conducted in science and technology lessons in the classroom or geography field. Modeling can be used to reinforce what has already been mastered and to introduce the material, as well as to consolidate the knowledge gained during the excursion. For example, giving children the task of gluing those shapes of the earth's surface observed during the excursion with plasticine (on paper or cardboard). The teacher can represent a hill with plasticine, show its bottom and top, its bed and slopes, or show a plain: a ravine, a river and its parts, and offer to prepare models of the sea. As a homework, it is possible to offer to glue the relief of the place and to place the models of plants and animals made of paper or cardboard in the layout. Parts of the layout can be done in technology classes.

In the study of the topic “Travel through our homeland” in the 4th grade, students can prepare layouts and models of sand dunes, steppes, deserts with plants and animals, applecations of flora and fauna of what they want from the

studied natural zones. Such works increase students' interest in the subject, activate their thinking, help to visually imagine the studied phenomenon, and consequently, reliably strengthen knowledge.

In the process of primary education, the formation of the child's ability to think logically, mental development, worldview, communicative literacy and self-awareness is envisaged. Elementary school students are taught to be physically healthy, to feel the beauty of material existence, to enjoy beauty and sophistication.

By organizing lessons based on advanced educational methods and tools, students can be encouraged to activate, think independently, find new concepts in the text, and try to understand its content. If the child does not strive for new things, then his abilities, his own opinion and point of view will not be formed. In today's modern education, knowledge and skills are of decisive importance. Although the organization of lessons on the basis of various tools requires a lot of work from the teacher, it encourages students to be ambitious and creates a basis for quick, clear, concise and concise expression of ideas using time effectively.

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