Organizing practical work in passing natural sciences in primary grades

Mekhriban Rayimberganovna Abdullayeva
Ilmira Sharibova
Go'zal Baktiyarova
Urganch State University

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

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Along with theoretical knowledge, practice plays an important role in the formation of young professional qualities of students. Natural scientific knowledge has been acquired for many years due to practical activities. Scientific experience and practical knowledge have been and continue to play an important role in knowing and understanding the environment. It is known that natural science is a science that studies the wide-ranging material world, various features of nature, and is formed on the basis of scientific experience, and practice is the foundation of this science. The practical activity of mankind based on the knowledge of the laws of nature determines the process of knowledge, the progress of science. Practice is the criterion of truth. The need for knowledge arises in practice, and their correctness is checked and confirmed through practice.

Knowledge does not appear in people's brain little by little, but is formed in certain work activities. Practice is the main factor in a person's relationship with nature, and this, in turn, plays an important role in the system of human relations and social production. The main types of practice are material production and scientific experience. Scientific - natural practice performs the following tasks [1].

1. Practice is a developmental factor of the cognitive process. He summarizes theoretical knowledge and does not allow them to be separated from life processes.

2. Practice is the order, application and goal of knowledge.

3. Practice is a criterion that shows that the process of knowing is real.

Practice in science is the main factor of scientific production. Practice leads to the emergence, scientific formation and development of theory.

The accuracy of knowledge is confirmed by the truth of information about a specific object. At the same time, if the circumstances are different, the reality may

be different. For example, water boils at 100oC under normal conditions and pressure. But if the pressure changes or there is heavy water, it is concrete.

The reality in a given system may change completely in other conditions. Confirmation of the idea in practice is the main factor of truth. It is advisable to start training for practical work from primary grades.

Practical methods are organized and directed by the teacher, and are aimed at developing students' thinking, showing that there is a complex connection between speech, demonstration and practical work.

The use of practical methods is related to the intensive activity of receptors and effectors of students. Practical methods provide an opportunity to deeply understand the studied material, to develop skills and competencies. The activity of students is the source of knowledge for the application of practical methods. Such methods include oral and written exercises, laboratory work, activities performed outside the classroom, on the school grounds, in the corner of living nature.

Types of practical methods [2]:

1. Pupils making different things with the distributed didactic material.
2. Drawing.
3. Works on recognition and identification of natural objects.
4. Observation and recording of incidents.
5. Experiments (experimental problem-solving) are included.

Students should answer the question, problem, and issue with their results before the beginning of the practical work.

Natural science classes are a type of practical methods of recognition and identification, which teach the characteristics of distinguishing and recognizing common plants or their parts.

Going to the difference in comparison develops the student's ability to identify. The work on differentiation and identification is not carried out only in the classes, the teacher also helps the students to find and collect plants, collect samples, their age, vegetative methods, soil cross sections, adaptations, variability during nature excursions. should be selected based on their ability to learn. Pupils do work on learning the shape of plants and their parts as homework. The age of plants can be determined in nature not only by annual rings, but also by annual branching of plants. The plant has a growth period from spring to autumn, and a rest period from autumn to spring. This means one year of planting, in the second year again growth and branching occurs. The distance between branches is the age of the wire, which should be explained to students in nature. Students will gain practical knowledge and learn that it is possible to determine the age of trees even without cutting them. It forms ecological and scientific concepts.

In the field of natural science teaching methods, practical work plays a major

role in acquiring knowledge about nature. Practical work is a method of training students in various labor operations in the course of their work. Practical activities include collecting natural materials during excursions, taking care of plants in front of the school and living nature corner, making herbariums and collections, preparing mock-ups, models, and visual aids.

Starting from the first grade, students learn by direct observation while reading the textbook “The world around us”. In these activities, various equipments are used to help organize students’ thinking activities, and first of all, visual aids. Visual aids include natural or real objects [3].

Natural weapons are natural objects. They allow children to understand the nature of the subjects being studied. Because in the classroom there can be various indoor plants and branches, leaves, flowers, fruits and seeds typical for the trees of their place to study living nature. Natural science lessons use plants grown in nature, as well as plants brought from the herbarium and excursions. Natural objects can also be used to study animals. Although many animals can be shown to children in the classroom (in the corner of living nature), it is necessary to give preference to excursions, because in this the students will have the opportunity to get acquainted not only with their appearance, but also with their behavior. In the absence of live animals, their chuchelas (suits), puppets, or photos and pictures of them can be used. In the study of inanimate nature, natural distribution material, for example, granite of various colors, quartz, feldspar, clay, sand, calcite (chalk, marble, lime, samples of various coal, iron, copper ores, as well as metals and alloys) can be iron, cast iron, steel, aluminum, soil samples, etc. Shown weapons are used to create clear and correct ideas about natural objects and phenomena that cannot be directly perceived by students. It is possible to use wall pictures of local history in natural science. They help to form ideas and concepts about local history objects of nature. In classes, it is necessary to use "Observation diaries" with printed pictures, texts representing them, questions and assignments for students.

Drawing maps and diagrams plays an important role in the practical learning of science materials. In order to use them (determining the sides of the horizon), the first step is to draw a simple picture of the location of objects in the school yard. It is convenient to use map schemes to check students’ mastery of cartographic images.

In order to test students’ practical knowledge, the following problematic questions can be asked in the 4th grade. You are standing in the desert in the heat of summer. Based on your practical knowledge of observation, take a landmark from where you stand and determine the south direction. As a result of practical observation of nature, it is possible to determine the south based on the following factors: 1) reptiles always face the entrance to their nest to the south; 2) birds always place their nests in the south direction; 3) the branches of plants are always bent

towards the south; 4) the south side of the plant stem is always fertile; 5) one end of the sand bar lies in the north and the other end lies in the south.

He gives the students various objects, takes out pictures, photographs, and matchboxes, cubes, glasses, and asks them to find the similarities and differences, then distributes geometric figures, which the students put on a sheet of notebook paper and circle around them with a pencil. they draw on paper. After completing the task, it leads to the conclusion that the top view of the object is called a plan. After that, the plan of the table is drawn. If the students have difficulty with the size of the objects, he explains that the depicted object can be conditionally reduced in size. (For example 10, 20 times).

In programmed teaching, the activity and independence of students in the use of educational material increases, the possibility of individualizing the teaching process appears, teaching with technical tools is widely used, rational organization of teaching and student work is achieved. The principle of programming the control works is to write the students' oral answers with conditional signs and lines. Their advantage is that they can determine the mastery level of each student in a short period of time. The experience shows the advantages of using programmed teaching methods in order to activate the activity of learning in the lessons of acquaintance with the world. The advantage of these methods is that the students themselves can check the mastery of the educational material during the lesson. In the 2nd grade, it is possible to use handout assignments, numbers, handout tests, and graphic assignments in programmed teaching.

When completing graphic tasks, it is necessary to explain to students that "-" is the wrong answer, and "1" is the right answer. And the teacher should have a tool adapted to quickly determine the answers in the graphical method. For example:

March 21 - Nowruz holiday.

September 1 - Day of teachers and coaches. October 1 - Independence Day.

December 8 is the Day of the Constitution of the Republic of Uzbekistan.

"Find the word" game. This method can be used in all parts of the lesson. The teacher says a word about birds, animals, fruits, vegetables, students continue. The student must say the word that starts with the letter that ends with the word that the teacher started.

For example: fox - snake - dragonfly - dog - hedgehog - squirrel - sloth (panda) - bear - crow - bee, etc. This method helps students to think and answer quickly and to strengthen their memory.

"Cluster" method. This method creates conditions for the student to think freely about the given topic and express his thoughts freely. In this method, the student says and writes what he thinks. Written opinions will not be discussed, regardless of whether they are correct or incorrect, and will continue until the specified time. This

creates an opportunity to harmonize the ideas put forward by each student of the class and strengthen the ties between them. Before starting a new topic, the "Klastyer" method is conducted in order to interest the student in the lesson, to determine the previously acquired knowledge on this topic, and to strengthen the learned topic. For example, the topic "Houses and wild animals in our country".

"Mosaic", that is, creating a whole view from small pieces. Pictures of birds, animals, trees, and fruits are divided into pieces and distributed to each group separately. The participants of the groups make the pieces look like a whole. Group leaders talk about an animal, fruit or tree that has become a whole.

"Stop reading" method. In the process of introducing the text, the teacher stops several times and asks students questions. The questions must be related to the text. Or the student is stopped in the process of reading the text and asked what they read about. Through this method, students' attention is focused, independent thinking skills are formed.

"Chain" method. It is appropriate to use this method in lessons where poems, riddles, and proverbs are given. Students say a line of a poem or riddle given in order. When this method is used, the student is forced to memorize the given poem, proverb, riddle so that he does not get embarrassed.

"Picture rebus" game. Students are divided into three groups. Distributes pictures to each group. The name of the animal or bird should come from the initial letters of the name of the given pictures. For example, dog, stork, owl, dragonfly - bread, pomegranate, radish, porcelain flower, barley - juniper.

"Who will do it faster" game. Students are divided into three groups. Each group is given 5 pictures of animals or birds upside down. Within the allotted time (1-2 minutes), students divide animals or birds into groups of wild or domestic animals. The first group to complete the puzzle without mistakes is the winner.

"Find your group" game. Colored folded papers are distributed to students. 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 dividing into groups, they tell what they know about the animals or birds belonging to the group.

For long-term observation and experiments, a living nature corner should be established, where animals and plants can be kept and, if necessary, used in natural science studies. The corner is also a material base for students' extracurricular activities. Here they can work at any time of the year. An excursion can be the beginning of organizing a lively nature corner. With the life in the water basin, students are placed in aquariums, glass jars, molluscs, dragonflies, various beetles,

gambusia, peskar (coin fish), as well as aquatic plants. Fruit, berry and vegetable plants are often affected by fungi and worms in gardens and orchards. It is better to allocate a separate room for the living nature corner. If there is no such possibility, plants and animals are placed in the natural science room or classroom. For a corner of living nature, it will be convenient for the room to be bright, to place aquariums with aquatic animals and plants on various shelves opposite the window. The place reserved for animals in the corner should be in accordance with their living conditions in nature. It is best to get an aquarium from a zoo store. However, any glass container can be used as an aquarium, but keep in mind that fish look best in a square container. The number of fish in the aquarium should be in accordance with its size (size) and the number of plants in it. In this case, ensure the balance of absorbed and released oxygen. Residents of the aquarium need constant care, food can be purchased at the zoo store. Fish should be fed at a certain time so that they form a conditioned reflex. Children should learn to measure and check water temperature with a thermometer.

Terrariums of various shapes and sizes are included for both reptiles and aquatics. A typical terrarium is a box made of metal or wood, with side and top walls made of glass and mesh. The glass wall makes it possible to observe the inhabitants of the terrarium, and the mesh of the side wall and the top also provides ventilation.

Plants and animals of living nature are its basis. Depending on it, equipment is selected. The selection of plants and animals is determined depending on the natural science program, taking into account the characteristics of local studies. All houseplants must be labeled with their names and when and where they were taken. First of all, it is necessary to choose plants that can be used to reduce the differences in moisture, heat, light, and water consumption, including plants adapted to a dry climate (cactus, aloe), tropical plants (navrozgul), be able to display light-loving (henna) and shade-tolerant (aspidistra) plants. Then such plants are selected, which are used for various experiments, for example, with the help of different types of carnation, fuchsia, begonia, cactus, tradescantia, elodea, violet.

The school training ground should be located directly near the school, the ground should be flat, well-drained, and not in the shade. It will be necessary to surround it. Let the school experimental site be exemplary from the point of view of agrotechnics. In the organization of the experimental site, it is necessary to aim for a smaller room for training and storage of working tools. The work on the educational experiment site can be divided into compulsory work carried out during class with the whole class, compulsory work performed by students outside of class (in the form of homework or summer assignments) and work of members of the young natural science club.

Starting from the primary grade, they study their country, their place, observe

nature, and go on excursions. During their studies in primary school, they collect rich concrete material and this material is placed in the corner of local studies. Over time, the most valuable materials from the previous graduates of the primary school will be collected in the local history corner, which will be systematically used in the teaching of natural science. Local history corner is established in the science room or in a separate class. The material is divided into three sections: our country, weather and signs of nature.

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