



## METHODS OF FORMING THE ECOLOGICAL ATTITUDE OF STUDENTS ON THE SCIENCE OF BOTANY OUTSIDE THE CLASSROOM AT SCHOOL

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<b>Received:</b> December 6 <sup>th</sup> 2023	In this article, it is explained that it is necessary to arouse students' interest in biology and botany in school outside of school, to attract students to botanical circles outside of school, to familiarize them closely with the world of plants of the place where they grow up, to introduce them to the morphology and ecology of plants growing on the soil of their country.
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The forms of extracurricular work in botany can be different depending on its purpose and content. It is most important that each form can form students' interest in knowledge.

Students' organization of their independent work outside of class is directly dependent on the teacher's methods of teaching in class, because it is determined by the uniqueness of the lesson material and the level of knowledge acquired by students in botany.

Methods that take into account the knowledge levels of students in botany: distinguishing plant types and external signs by observation, distinguishing the natural conditions in which it lives, working with literature and other methods. Pupils' recognition of plants growing in natural conditions by their external signs is an important task of extracurricular activities. Under the guidance of the teacher, studying the territorial nature of the country where they live, the world of plants found in it, is the basis for their acquisition of ecological knowledge. In the program on botany, the basic principles of recognizing and distinguishing natural plants are formed. This principle also guides the organization of extracurricular activities. Attention is paid to the interdependence of living conditions of plants in nature during the course and extracurricular activities.

Excursions are given an important place in the extracurricular work in botany, they allow to connect the formation of a rational attitude to nature, care, moral and interest in knowledge with outdoor walks. Extracurricular activities include nature studies and opportunities to interact with nature museums, farms, and research organizations.

Organization of trips, walks, group and private observations, collection of botanical materials and herbariums, filling in diaries, botanic circles, forms the study of plants of the area in which students live.

Under the guidance of the teacher, students visit nature, industrial facilities, parks, greenhouses and greenhouses with their own eyes and learn about their natural conditions and their impact on plants. will be a significant form.

Trips organized in accordance with the curriculum provide an experience of learning the material of the lesson, trips outside the program have primarily the quality of research. According to the quality of material study, tours can be thematic and complex, according to the location of the object, short and long-term.

The trip is carried out in three stages - preparation of the teacher and students for the trip, conducting the trip, and formalizing and finalizing the collected materials.

At the first stage, the teacher chooses the topic, the goals and objectives of the trip, the plan and the place of the trip. The teacher should study the materials planned to be used during the trip and, if it is possible to prepare them, consult with experts and consider their suggestions in the process of organizing the trip. In the botany class, the teacher introduces students to the topic of the trip, defines its goals, checks the necessary equipment with the participation of students, and checks their suitability. Pupils will thoroughly prepare for the trip and familiarize themselves with relevant literary sources. They get acquainted with the methods used in travel. Pupils are organized to prepare the necessary food. In nature, in objects, students follow certain moral rules.

During the trip, information is collected and planned activities are carried out. The information consists of conversations of the teacher, experts and students about a certain object. Activities during the trip will include taking pictures at botanical sites, collecting written materials and herbariums, performing descriptions and other tasks.

The teacher and students review the results of the work and make a conclusion. During the trip, the plan and what tasks the students will perform will be determined. In the botany circle, students prepare their collected materials, albums, diaries, photo booths, report on the work done.

Walks are a form of organization of long-term and good rest for students, during walks students get acquainted with life and national culture, nature and flora of the native land. These events awaken love for the country of birth.

Nature hikes are divided into one-day and multi-day hikes. Students go on one-day hikes usually on Saturday under the guidance of a teacher. These walks will expand students' knowledge of botany and help them build up their knowledge of botany for use in their studies. One-day walks are devoted to a certain theme. Multi-day tours are held on holidays. Its conduct requires thorough preparation.

The purpose of the walk is to educate, perform social activities, and improve health. The educational purpose of the walk includes familiarization with interesting places, conducting complex botanical observations.

The teacher plans the march, determines its topic, direction, and develops its route. The aim of the trip is to acquire a certain amount of knowledge while studying the region where the trip is organized. For the march to be successful, it is important to maintain the order and routine, to have special tasks for each participant of the march, to create conditions of mutual trust, friendship, comradeship, mutual support, and work during the march and preparation for it.

Pupils' trips are widely used in extracurricular activities, and complex educational tasks are solved in walks.

The theme of the trip will be developed by the teacher. Student trips can be arranged to complete plant science assignments. These tasks include observation of natural phenomena, botanical exhibitions, herbarium corners, and a museum. In some schools, the club of young botanists has become a program. They are the culmination of work done during the academic year and promote plant science and tourism.

The botany teacher prepares and organizes the students for the circle. Conducting various competitions determines the main content of tourist circles. In this regard, during the circles, young tourists learn about the flora of their native country, explore the surrounding natural objects with the help of maps and compasses, overcome obstacles, and perform tasks of nature protection.

Botany clubs are a common form of extracurricular activities. As a result, they develop activity and independence, students' interest in knowledge increases, and they have the opportunity to deeply study the topic they are interested in.

Preparation of assignments for each member of the circle is an important stage of the work, and in order not to lose the interest of students in the preparation, theoretical and practical work should be done alternately in the circle.

Types of clubs according to the content: the main task of the clubs according to their interests is to attract students to the study of botany, to arouse interest in science. Circles whose content corresponds to the main course syllabus. Improving the knowledge and skills acquired by students during the lesson is part of the task of these circles. Circles that perform practical tasks that develop students' knowledge, skills and abilities on some important issues in the program. Circles aimed at in-depth study of some issues studied in lessons, for example, a circle of plant physiology, circles of studying human problems. They contribute to the in-depth study of a small branch of botany called agricultural plants.

The first group of circles favors strong interests in the study of botany and other subjects.

In the circles of the second group, the knowledge acquired in the lesson is improved. In order to preserve the interests of the studied botanical objects and natural phenomena, it is necessary to use interesting elements-competitions and forms of games.

Third group circles will have great opportunities to build and develop students' understanding of the importance of botany.

Circles of the fourth group deal with special issues of interest to students. They provide ample opportunities for the development of students' creative activity. The organization of the club begins with identifying the interests, talents and skills of the students. If the work plan is organized, it will be effective. The work plan of the club envisages the performance of various works of students.

In school practice, optional lessons have an important relationship with the content of the main program of the subject. The unique feature of the method of organizing and conducting optional classes has an impact on the development and improvement of course teaching and on arousing the interest of students.

Attracting various specialists to conduct optional classes arouses great interest among students. These lessons will be necessary and useful. The importance of lessons in environmental education deepens the knowledge of students compared to the program, develops students' ability to learn. Electives in nature protection make students believe that without studying the flora of their native land, it is impossible to organize its protection.

The purpose of organizing botanic courses is to promote knowledge in this field, to show the importance of botany in life, to deepen students' economic, ecological and aesthetic knowledge.

Electives in botany form worldviews, teach students about the laws of botany, the development of agriculture, and help them solve life tasks by summarizing various botanical information.

Facultatives are closely related to science lessons, increase their quality, and have a developmental effect. In facultative courses, it is necessary to be based on plant science materials, it is useful to use lecture-seminar methods in their organization.

In most schools of the republic, botany teachers organize museums of various profiles: museums of natural history, herbarium halls, nature corners and other various museums.

The school museum will be a source of ecological knowledge in the development of creative independence of students during the collection and research, preparation, formalization and promotion of ecologically significant materials on the development of nature and the history of society.

Collecting and searching are carried out during the establishment of the Botanical Museum. These events will be the basis of the organization of the local history museum. Work based on the initiative of students should be carried out closely with studies.

In the work of a teacher of botany, it is important to cooperate with tour guides and lecturers. Therefore, it is necessary to pay great attention to their selection and preparation. The botany teacher prepares a work plan, helps them conduct interviews, select literature, and compile materials. Attention is paid to the connection of the work of the botanical museum with the educational process. It is planned to use which exponents in which lessons or which topics can be taught in the museum's own room. This information is taken into account when drawing up the teacher's thematic plan in pilot classes.

Trips to the museum of local history are organized in order to deeply assimilate the information acquired in botany classes and get to know the useful plants of their native land. In order to organize lessons in the museum, they get to know its exponents. Additional advice on the necessary topics will be obtained from the museum staff, the procedure for reviewing the exhibits will be determined, the necessary showcases will be determined, relevant literature will be selected and analyzed.

7th graders get specific tasks to complete. The purpose of the museum classes is to create feelings of desire to preserve and increase the useful medicinal plants of the Republic of Uzbekistan, their country, and to create feelings of appropriate pride in them.

Teenagers should pay attention to the useful plants found in the territory of the republic and their native country, the variety and color of useful plants, write them down, show which ones they like and don't like, what they think about the museum lesson, their own

the tasks of expressing one's opinion about other plants of one's country, writing not only familiar ones but also new terms and analyzing them will be solved.

Teenagers get acquainted with the useful plants of the country already in the 6th grade. They should have mastered it completely and comprehensively in the 7th grade. For this reason, it is important to create in them an ecological understanding of the wealth of plants of their country, feelings of joy, a careful attitude and love for the world of wealth of plants. The topic cannot be limited only to passing in the classroom, it is important to organize it in connection with practice.

In the museum, students listen carefully to the teacher, identify plants using cards, pictures, herbariums, the lesson is interesting and understandable for students, and they were asked the following questions:

Show desert climate plants on a map?

What are the changes in the ecological conditions of plants growing in water and desert?

In which areas are the forest zones spread?

What kind of plants does the plant world of its living area consist of?

Such methods activate students' thinking and observations, require them to concentrate. Students write and illustrate during the lesson. Homework is given: to write a short conversation about what you liked about the museum lesson and what new things you want to learn in the future.

It can be seen from the answers of the students that they liked and liked the museum classes: "In the museum we got acquainted with the rich flora of our country, we saw and observed them with our own eyes, and even learned by holding them in our hands", to the museum along the way fueled my interest in botany. "Before, I was not interested in botany, museum activities became interesting for me."

New information is a necessary factor that creates interest in students, and the demand for knowledge must be immediately satisfied with new information.

The results of our work were the increase of students' interest in botany, acceptance of botanical objects and events, real life and evaluation, and expression of opinions. Pupils get acquainted with the diversity of the plants of the native land, learned to distinguish the collected materials, various medicinal plants, and to look at them carefully.

A practical lesson organized in museums of nature and local history forms the ecological attitude of teenagers to the environment. Botany clubs and herbarium halls are promising and interesting forms of extracurricular activities for students. Their difference from other forms is that students of different ages, different specialists are involved in it, extensive information is provided, and relations with other organizations are established.

Activities of the club: club of nature lovers, club of interesting meetings, club of movie trips.

Nature conservation clubs unite all those interested in protecting plants and animals in nature. The cooperation of the teachers of botany and general biology is required in organizing the work of these clubs.

Tourist and local history clubs bring together people who are interested in the nature and history of their native country, going on walks and trips. Botany, history, geography and physical education teachers participate in the organization of clubs of this type.

The club of interesting meetings is distinguished by different themes. They will be meetings with scientists, specialists, cultural and artistic figures, leaders of the country's production and rare professions.

In club forms of extracurricular work, more attention is paid to students' practical work, their socially useful work, theoretical methods of working with botanical literature, identifiers.

In the clubs, it is necessary to show slides, films, slide films during each lesson and analyze them after each lesson. Science Olympiad is a unique form of extracurricular activities that develops students' interest in botany. The olympiads of the students of the botany school are engaged in the general work of these students. The goal is to attract a large number of students outside of the science lesson, to increase their interest in ecology issues in the botany lesson, and to develop the ability to do independent work. Along with developing interest in learning, Olympiads help students to study botany in depth and choose their future profession. Olympiads in botany should end extracurricular activities. Preparations are made before the Olympiads, which help to better organize educational work, increase knowledge in science, and arouse interest in botany.

Preparation of questions and tasks is an important stage of organizing Olympiads. When preparing the questions, attention is paid to the connection with the main reading material. Tasks in the organization of Olympiads should be meaningful, specific, non-standard, and students should use their knowledge positively in new conditions.

During the preparation and holding of the Olympics, it is necessary to ensure that all participants pass the knowledge test under equal conditions. Attention is paid to the fact that the participants of the student Olympiad are of the same age. The questions should be understandable and comprehensible, requiring comprehensive thinking, extensive use of knowledge.

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