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METHODICAL RECOMMENDATIONS FOR STUDENTS IN THE FIELD ACTIVITIES IN BOTANY

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METHODICAL RECOMMENDATIONS FOR STUDENTS IN THE FIELD ACTIVITIES IN BOTANY Professor Khudargan Mavlonov, <u>mavlonov@jspi.uz</u> Head of the Department of Physiology and Ecology Surayyo Kadirova, <u>kadirova@jspi.uz</u> Senior Lecturer of Department of Physiology and Ecology Jizzakh State Pedagogical Institute

Abstract: This article provides methodological recommendations for students of biology in higher education institutions to conduct field practice (observation, experiments) in botany.

Keywords: system, credit-module, skill, qualification, knowledge, excursion, reform, innovation, species, biodiversity, press club, ecology, relief, landscape, abiotic, link, anthropogenic, nature reserve, dominant, subdominant.

INTRODUCTION

Every society puts its demands on learners at a certain stage of development. One such requirement is the development of independent learning for students today. [1.2]. (This is also taken into account in the credit-module system of education). One of the mottos of today's education is the "Knowledge-Skills-Skills" stage, and it is known that good skills cannot be achieved without practical lessons. Among the subjects taught in the system of general and higher education are such subjects that cannot be imagined without field practice. Such sciences include botany. In teaching botany to pupils and students, additional classes such as practice, seminars, laboratories, excursions, cultural trips, ecotourism are used to increase their literacy in botany. One of the foundations of independent education in botany is field practice. Indeed, the role of field practice training in the practical testing of the knowledge gained from botany in this regard is enormous. Current education reform requires the effective use of new pedagogical technologies and innovations. The system also includes training field practice courses. The curriculum of students of biology of pedagogical universities in the 1st and 2nd courses includes field practice in botany. (1st year from plant anatomy and morphology, 2nd year from low and high plant systematics). It is necessary to provide future teachers and educators with the most modern theoretical knowledge and good practical training. Field practice in botany will be a positive force in improving students 'skills in the teaching profession. During the field practice, students develop feelings such as caring for nature, protecting it, preserving the biodiversity of nature.

MATERIALS AND METHODS

Field practice is one of the most important types of training in a student's education. Field-related excursions and internships cannot be replaced by any other form of training. It is methodologically unique and practically unique. The advantage of field practice is that the student sees the living plant world in his habitat, space, and has a clear objective idea about it. Have a comprehensive knowledge of climate and soil conditions, landscape, distribution area and community species. The student develops a positive psychological and aesthetic outlook. The love and affection for Mother Nature increases. It is advisable to conduct field experiments in botany in the regions of the region or the Republic, which are rich in flora, colorful biodiversity and beautiful nature. [3]. Fieldwork is conducted in the spring, which is usually the usual day in botany. However, due to the climatic conditions of the region and other reasons, it is possible to pass the internship period (by the decision of the Academic Council of the Institute) in different seasons.

Although the role of practical lessons in education is important, the fact that it is given less attention on this day, less time is allocated for lessons, now requires more attention to this form of teaching. [4]. At special press club meetings held in higher education institutions throughout the country in 2019-2020, the questions asked by the majority of students acknowledged that less attention is paid to practical classes and fewer hours are allocated. This is evidenced by the fact that the number of teaching hours in the field of biology of summer field trips has been reduced by three times. In this regard, the Resolution of the President of the Republic of Uzbekistan dated August 12, 2020 No. PD-4805 is of special importance and relevance. This Resolution clearly states that the quality of teaching chemistry and biology in secondary schools today does not meet modern requirements, teaching methods, independent, practical and laboratory classes are outdated. For the development of biological and chemical sciences in each region of the Republic it is planned to open modern schools specializing in chemistry and biological sciences.

If today's student, who will have to teach biology (botany, zoology, ecology) in the future, does not see the beautiful, unique landscapes of our motherland in nature, does not study it in practice, if he does not have a good knowledge about it, how can he teach his students?

We are confident that now the focus will be on field practice training. Necessary conditions will be created for students to undergo a full field study. In general, the development of theoretical knowledge, the ability to apply it in practice is one of the main requirements of educational reform. [5].

Field practice in botany should first of all help students to realize a number of skills:

- To be able to further expand and apply in practice the theoretical knowledge acquired by students in the study of botany;

- To develop students' skills of observing nature, to collect and study herbariums and collections;

- to organize future excursions for future biologists with students, to organize extracurricular local history activities, to lead clubs, to carry out practical work on

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ecology and nature protection, to conduct practical training on the school's experimental site;

- Helps students to understand such concepts as caring for nature, protection of the environment, conservation of biodiversity, an objective view of nature and the creation of a positive psychological environment.

Field practice helps to strengthen not only the knowledge of botany and zoology, but also the knowledge acquired in such disciplines as pedagogy, psychology, ecology and nature protection.

Field practice should begin with a comprehensive study of the nature of the place (area) where the practice is conducted (soil relief, landscape, geographical location, economic importance, etc.). Identify and study the interrelationships between plant and animal life. At the same time, great attention should be paid to the study of the structural features of the biogeocenos, the plant species, biocenosis, plant and animal components that make up the phytocenosis. Particular attention is paid to the current state of the plant layer at the site of practice. [6]. The degree, method, and variety of plant crises are studied. The presence of biotic, abiotic and anthropogenic influences from environmental factors is observed and the cause is determined. Plants planted by the local people of the area for economic benefit and family necessity are studied separately, and practical students should express their views in the report. If there are such endangered species listed in the Red Book in the area of practice, they should be controlled separately, using the literature, and generalized information about them should be included in the report. [7]. In addition to advocacy and observation work on these plant species, it is advisable to carry out practical work on the conservation and reproduction of the species.

RESULTS AND DISCUSSION

At the same time, knowing the importance of the place in tourism in the case of a place of pilgrimage, meeting and acquaintance with the houses about the customs of the local people, knowing their opinions also increases the effectiveness of the practice. In all regions of Uzbekistan, summer fieldwork is conducted in mountainous areas or along rivers.

If the practice is carried out in the mountains, the plant life forms, the distribution of plant species should be studied on the basis of altitude stems (altitude) created by academician Kadyr Zokirov, and scientific conclusions should be made. This study examines why plant species and their life forms change depending on altitude and identifies the cause.

It is expedient to study the flora of the environment on the basis of ecological and geobotanical principles. The life forms and phenophases of the main plant communities and components growing and occurring at each height (stem) are studied separately, and the number of trees, shrubs, bushes, halfbushes, perennials and annuals of the area is determined as a percentage. Species of ephemeral and ephemeroid plants of a similar location are identified and information on their biology is collected.

The following five requirements must be considered during the field practice: 1. Acquaintance with plants (flora) of the practice area under the guidance of teachers;

2. Carry out independent observation during the internship on a specific topic assignment;

3. Work on the observed, collected data, study, arrange, compare the obtained data with the scientific literature (approbation);

4. At the end of the field practice, each student must submit the following documents to the head of the practice (teacher): a diary of the internship and an album with written reports on the work done independently, herbarium materials, collections, drawings, diagrams, calculations;

5. An internship report written by the generalized unit (brigade) of the work done during the internship shall be submitted in writing and orally.

It is not advisable to plant dozens or dozens of plant balls so that there are no more than two or three copies for each link, while maintaining biodiversity in the collection and preparation of herbarium materials.

Depending on the total number of requirements, 3-4 to 6-8 students can be attached to each link.

Prior to the internship, the equipment needed to conduct the internship under the supervision of a practicing teacher should be laid out. Herbarium folder, net for press herbarium, paper (40-60), tesha, knives, rulers, cardboard, yarn glue and pins, label blanks, literature for plant identification, magnifiers, microscope, prep needles, tweezers, photo-video equipment. In addition, students should be provided with a hygienic organization of the whole nutrition process during the internship. A medical officer responsible for the practice must be attached.

Field practice classes must be conducted according to an agenda based on student health and hygiene.

Excursions are organized to observe and get acquainted with areas that are far from the student camp but of practical importance. Excursions require special requirements and approaches:

- creating a separate agenda;

- A road map will be developed, taking into account road safety;

- Stop during the trip to get acquainted with the rest area, and the type of meal should be mobilized with the location of lunch.

Excursions can be one-day or multi-day. In most cases it will be a day. The distance of one-day excursions should not exceed 8-12 km.

Prior to the start of the internship, the responsible teacher supervisors should familiarize the students with the work to be done during the internship, procedures, technical safety and agenda. During the internship, students should pay special attention to the following areas, prepare.

- The activity of the vegetative organs of plants;

- The plant community of the field practice (with the participation of dominant, subdominant plants);

- Cultivated plant species;
- River and tugai plants;
- Pasture, hill plants;
- Medicinal plants;
- Toxic and weeds;
- To trees and shrubs over a hundred years old.

CONCLUSION

Field practice should be created in areas where it is possible to complete the practice of botany in universities as much as possible:

1. The nature of the area to be practiced should be rich in flora and diverse;

2. The transition period should correspond to the time of mass growth and flowering of plant species (60-70%);

3. It is necessary to have a stationary (annual) place in the area with the conditions for full internship;

4. Roads leading to the practice site must meet traffic requirements.

Until now, students of biology of Jizzakh State Pedagogical Institute have been conducting their field practice in different regions, in different conditions. This year, the establishment of a stationary camp for 200 students, which will provide ondemand field training, was an example and an exemplary achievement in practical education. The more effective and meaningful the field practice, the more potential, well-educated and skilled we will be.

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