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IMPROVING THE METHODS OF ORGANIZING AND CONTENT OF TRAINING PRACTICES IN THE FIELD OF BIOLOGY EDUCATION AT HIGHER EDUCATION INSTITUTIONS

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ABSTRACT

In this article, I investigate improving the methods of organizing and content of training practices as a field outdoor teaching practice in the field of biology education at HEI. We concentrate on the ways that have been used to include field outdoor teaching practice as part of in the field of biology education teachers who use fieldwork as an established practice. While teachers' views seem to be central to successful outdoor practices (Glackin, 2016; Rickinson et al., 2004), we argue that in order to understand the prerequisites of formalized outdoor education, it is valuable to consider the instruction in terms of institutionalized school practices (c.f. Davies and Guppy, 2010, 47–49). And also methods of organizing integral parts have been discussed.

KEY WORDS: ***method, field outdoor teaching practice, biology,teaching, higher education institution, fieldwork, modern educational process, orientation, mobilization, constructive, communicative.***

INTRODUCTION

As we know, the word "method" comes from the Greek "methodos" - the path to something, the path of research or the way of knowing. Its meaning was not always the same. The name of the subject "Biology" itself changed in accordance with the level of development of this science. The formation of the methodology of teaching biology can be traced back to ancient times. So on the Novgorod land, already in the 10th century, a folk school appeared, where the book of the Psalter was used, in it separate information on natural science was also presented.

It is clear that, Biology teaching methodology as an academic subject is of paramount importance for the preparation of a higher education biology teacher. In the learning process, students' professional knowledge and skills are formed, they master the ability to teach.

The academic subject does not contain all the knowledge accumulated by science in the course of research, but only their foundations. They are specially selected based on the learning objectives, age and preparation of the students. In contrast to science, the main function of a subject is educational. The subject is not an exact copy of science. In the design of a subject, the dominant tendency is to convey to students the system of knowledge and experience accumulated by science. This is not only a simple reproduction of scientific data, but also generalization, clarification of concepts, systematization of scientific facts and judgments.

The academic subject, taking into account its main educational function, is built according to a certain system. It integrates everything that is most productive, revises individual problems.

A university academic subject in its structure and content is quite close to science. It includes scientific data, and also draws attention to the so-called "blind spots" in science, considers various approaches to solving individual problems, notes the successful and unsuccessful results in the search for truth. This training course introduces the methodology and methods of scientific research.

A large place in the university subject is given to the history of scientific discoveries with a personified approach, which makes it possible to trace the tendency of the development of theoretical positions in science, the creative contribution of individual scientists who have enriched science and practice with their ideas. The academic subject "Methods of teaching biology" in the process of theoretical and practical training of students makes it possible not only to reveal the content and structure of the school course in biology, but also to familiarize them with the peculiarities of the

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organization of the modern educational process in biology in different types of schools of general education, to form stable skills and abilities the use of methods and means of teaching biology, master the requirements of the mandatory minimum (state educational standard) of the content of basic and complete secondary general biological education, acquaint with a variety of forms and methods, with innovative approaches in teaching biology and with the material basis of this discipline at school. Professional training of a future specialist is built in accordance with the teacher's professiogram, which characterizes his main functions (information, developmental, orientation, mobilization, constructive, communicative, organizational and research), which is a model of qualification training of a specialist.

The academic subject usually implements a system of organizational forms of education - the interaction of trainees and the teacher in lectures, laboratory-practical classes, in the process of field and pedagogical practice. Independent work of students (extracurricular and educational research) is also one of the organizational forms of education. Accounting for progress is carried out using a system of credits, exams, term papers and theses.

At the lectures, the first acquaintance with the academic discipline takes place. They introduce students to science, lay the foundations of scientific knowledge, give a general idea of the methodology (methods, techniques and research techniques), acquaint them with the main ideas, basic scientific theories, with the practical side of the studied subject and the prospects for its development. Lectures provide an opportunity to assimilate educational material only at the level of acquaintance, and nevertheless, they are largely decisive for other forms of education. Therefore, the lecture is characterized as a guiding line of the learning process.

If the lecture provides the foundations of scientific knowledge in a generalized form (and at the level of acquaintance), then practical exercises (laboratory-practical, field and pedagogical practice) are designed to deepen, expand and detail this knowledge. In the classroom, students master the general methods of studying nature, methodological skills, translate them into skills, that is, the mastery of educational material in practical classes in comparison with lectures is carried out at a higher level - at the level of reproduction, skills and abilities, transformation.Independent work is an important form of study, the final stage of all other types of educational work. The knowledge gained at the level of passive perception, which has not become the object of one's own mental or practical work, cannot be considered a real spiritual wealth of a person. Independent work expands and enriches knowledge and skills; it has an individual focus that corresponds to the student's creative abilities. Independent work develops the creative qualities of the individual and contributes to the formation of versatile specialists.

And also students learn biology science by practical activities and fieldwork tasks. Outdoor environments are considered important and authentic learning environments in biology education with several cognitive and affective benefits for students (e.g. Rickinson et al., 2004; Randler, Ilg, and Kern, 2005; Drissner, Haase, and Hille, 2010). Activities outside the classroom are believed to be helpful in connecting schoolwork with a changing society as well as in enhancing students' performance and attitudes towards school learning (Rennie, 2014; Resnick, 1987). In particular, the use of outdoor environments and fieldtrips allows students to engage in authentic science learning of different topics in biology, especially the structure and function of ecosystems (Braund and Reiss, 2006). In several countries, including Finland, there have been initiatives to increase the use of diverse learning environments, including the outdoors (FNBE, 2014; Department for Education and Skills, 2006).

Most studies focus on single field trips guided by teachers or outdoor educators or longer-lasting outdoor teaching projects. Fägerstam and Blom (2013) concluded that only a few studies focus on outdoor learning as part of ordinary school work. On the other hand, how the outdoor practices are to be implemented and to what extent they should resemble ordinary schoolwork and typical formal teaching practices are debated. Rea (2008) argued that 'the power of outdoor learning may also lie in the informality and deeply contextual learning activities engaged in, approaches to learning that traditional schooling struggles to do well'. Lavie Alon and Tal (2017) found that outdoor educators' use of the natural environment was primarily structured and teacher-led, and they also suggest that less structured activities and more free choice time could promote learning as well as positive attitudes.

Studies on teachers' perceptions have shown that obstacles to outdoor teaching relate to teachers' skills, confidence and fear of losing control and avoiding student risk as well as to an overcrowded curriculum and school practices that are constraining.The questions of how to overcome these obstacles in a continuous outdoor teaching environment and successfully include it in the curriculum and in formal biology education remains unanswered. Modern formal school systems around the world share common characteristics of institutionalized education practices. In order to understand better the use of outdoor education in practice and in the curriculum, it is therefore relevant to explore how formal outdoor teaching appears in terms of institutionalized schooling with its typical, specific characteristics. For our analytical approach, we borrow from Berger and Luckmann's (1966)

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theoretical insights of institutionalization as a social and interactive process.

RESULTS AND DISCUSSION

If analyse teachers teaching procedure, every teachers had different practices, various methods when they assessed the students' learning. The teachers used ongoing learning assessments throughout the courses by giving several small tasks that were evaluated. The tasks also contributed to the course grade. For example, when collecting invertebrates in the forest, the student groups would get points for different species and more points for identifying the invertebrates. The forest ecosystem course included six to ten evaluated activities, mostly carried out in groups, but some individually, each having an effect of contributing 10 to 30 per cent on the final grade. The teachers used ongoing learning assessments throughout the courses by giving several small tasks that were evaluated. The tasks also contributed to the course grade. For example, when collecting invertebrates in the forest, the student groups would get points for different species and more points for identifying the invertebrates. The forest ecosystem course included six to ten evaluated activities, mostly carried out in groups, but some individually, each having an effect of contributing 10 to 30 per cent on the final grade.

If compare a field outdoor teaching practice in the field of biology education at Uzbekistan's Higher Education institutions. They have their own teaching system,teaching methods and practical lessons.

In teaching training practices in the field of biology education have several benefits:

The first benefit is named kinesthetic learning.In this learning some students excel in university or institutions with just practice diary,worksheets and lecture. But most students have better comprehension of academic concepts when they are able to touch, feel, and do. They want to see the leaves, do the experiments, touch the insects. Active, kinesthetic learning is not only more memorable, but has also been proven to improve concentration and behavior.

Students who get to experience an outdoor learning environment tend to be more attentive and, therefore, have a better recollection of the information that was shared.

The second one is team work learning. Outdoor projects naturally lend themselves to group work. However, in the less controlled setting outside the classroom, students need clearly designated responsibilities.

When working outdoors, I regularly assign specific roles to each student in the group. This cooperation and teamwork encourages peer relationships and team problem-solving while students work towards a common goal. The type of teamwork and critical-thinking skills that are encouraged in a group setting are some of the most important skills that employers look for later in life.

Consistent exposure to nature decreases stress and anxiety, helps elevate mood, and helps with emotion.

The third benefit is community stewardship. Outdoor education allows students to see that they are part of a whole. Exploring their local environment gives students an appreciation and awareness for their community, which causes them to act more consciously. Perhaps seeing that polluted stream will make children take pause before dumping things down their storm drain, and they can inspire others in the community.

Students can also be encouraged to work with their community organizations to provide important data, discuss environmental impacts in public forums, and write to their legislature about issues to which they are committed.

Students often have too much exposure to digital screens via televisions, computers, and cell phones. This can result in a "nature deficit disorder," which may lead to obesity and possible psychological and academic issues. Outdoor learning allows students to put their focus back on nature.

The fourth benefit is academic performance. It probably comes as no surprise that outdoor lessons and environmental education programs are shown to boost understand of scientific concepts. In a nation that is increasingly asked to better prepare students for STEM careers, we cannot afford to overlook this information.

Perhaps, though, you're more concerned about your students gaining ground in math and language arts. Results also show that students that are regularly involved in outdoor education have marked improvements in basic skills and reading. Standardized test scores including ACT also improve with the use of environmental education.

Outdoor environments naturally inspire children to be more physically active.

The fifth benefit is real world problem solving. Life often appears black and white to children and providing standardized tests with multiple choice answers is continuing this idea. Unfortunately, the real world does not exist in black and white, especially when discussing environmental issues. Students need to learn critical thinking skills in order to help society solve a plethora of issues in which there is no "right answer".

Exposure to bright sunlight found in nature is also healthy for vision. Bright sunlight is necessary for the eyes to develop properly, lowering the risk of nearsightedness.

The sixth benefit.In outdoor settings, children are more motivated to work together in groups, which can improve their social skills. They learn to manage conflicts, communicate, and

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cooperate with their peers in a more effective manner.

The seventh benefit. Outdoor learning provides children with hands-on experiences in nature. Most children learn better by using their senses. Outdoor environments provide the perfect place to do this. Instead of viewing different types of plants or wildlife on a computer or TV screen, they can see, smell, hear, and touch them in nature. Students can even start a garden and grow fruits and vegetables, which may have them wanting to sample their harvest. These hands-on experiences cultivate a love of nature and get them interested in our natural resources.

Considering all these benefits, outdoor learning may be something all schools should try to incorporate. If you'd like to see more outdoor learning opportunities for your child, consider speaking to the school leaders about incorporating nature into the lessons. Or talk with other parents of school-aged children about the benefits of outdoor learning and discuss ways to implement outdoor learning in your community.

CONCLUSIONS

In conclusion, we encourage our students training practices in the field of biology role-play as citizens with different viewpoints and debate issues such as land use, endangered species, and global warming. Throughout these situations, students research the impacts of each viewpoint on the community and society. These societal problem-solving experiences provide them with skills they will need to tackle real-world issues later in life as well. Thus, outdoor teaching practice is an important part of biology as well as science and biology education. However, teachers perceive several reasons for the limited use of fieldwork in schools. Further, outdoor education is often organised as a single fieldtrip guided by outdoor educators, and little research has been done on fieldwork as a regular part of formal biology education. However, I support this teaching way. Even for the smallest experiences have great knowledge. The benefits to our students will be evident and results for years to come.

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