

USE OF INTERACTIVE METHODS AND MODERN PEDAGOGICAL TECHNOLOGIES IN BIOLOGY COURSES

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ABSTRACT

Modern education cannot be imagined without interactive methods. Proactive ways of explaining lesson content serve as practical support for both the student and the teacher. Unlike traditional lessons, the methods inspire the learning process and, most importantly, develop the student's consciousness. The student can now express their views to the public rather than in the shadow of their partner. This means that interactive methods become the lifeblood of the lesson. The article also analyzes the importance of these techniques through sample-based research.

Keywords: interactive method, student, seminar, lesson, teaching.

INTRODUCTION

It is well known that all science teachers are increasingly using interactive methods in the classroom. With this in mind, the use of interactive methods develops students' ability to independently think, analyze, draw conclusions, express their opinion, defend it on the basis of this, develop healthy communication, discussion, polemics. So what is the point of interactive methods and what is their significance? First of all, the interactive method is aimed at enhancing the acquisition of knowledge by students, the development of personal qualities through the interaction of students and teachers in the educational process. We must understand that the use of interactive methods can help improve the effectiveness of the lesson. This means that the main criteria for interactive learning are: informal discussions, the ability to freely present and present educational material, a small number of lectures, but a large number of seminars, opportunities for students to take the initiative, a small group, a large group, a task to work with a class team, written work and other methods of particular importance in increasing the effectiveness of educational work. In the analysis that follows, we will focus on the practical relevance and benefits of the most advanced pedagogical interactive methods.

1. Method "Rainbow".

This method can be applied to a chapter or section. The main concepts in the first column are highlighted in different colors. The rest of the table will have mixed words. Students must express these concepts in colors corresponding to the colors of the main concept. The advantage of this method is that the knowledge of 9 students is simultaneously tested.

2. Domino method.

This method can be applied to a chapter or section where students associate the next word with the last letter of a term or biological word.

3. Method "Mailbox".

This method can be used in groups or in small pairs. Students are given mixed terms and concepts on various topics. After the mailbox is distributed, students are asked to sort the words or terms in the box accordingly.

You will be prompted to select plants with both open and closed seeds. Depending on the number of words, time is given to complete the task, it can also be used to separate from each other.

In teaching biology, the individual organization of the cognitive activity of students in extracurricular and extracurricular activities is mainly used. For example, students have the opportunity to approach homework in different ways. These include observations and experiments on specific topics, preparation of reports and essays, materials for competitions on a variety of topics. In the educational process, taking into account the content of the topic studied in the lesson, independent work of students in small groups, organization of educational debates, brainstorming, didactic games, presentations, independent work, assessment, use of visits, etc., and problem solving should be in teacher's focus.

These include the use of all methods of collaborative learning technology in teaching biology, as well as the use of modular learning technology programs designed for students to work in small groups. The cognitive activity of students in biology lessons is very effective when combined with general education with forms of work in individual and small groups. With the method of teaching in small groups in cooperation, general learning is combined with small groups, and with the method of "saw", the student learns first individually, and then in small groups.

Depending on the didactic goal, tasks, content of the subject being studied, it is recommended to use appropriate and effective forms of organizing the educational activities of students individually, in small groups and as a whole in biology lessons. For the effective organization and rational management of students' educational activities, a biology teacher must solve the following tasks:

1. How to organize the educational activities of students, based on the educational, pedagogical and developmental goals of the subject;
2. Designing educational activities of students;
3. Determine ways to achieve learning goals;
4. Analyze the results of students' learning activities in the classroom and check its relevance;
5. If necessary, make appropriate changes to the project of students' educational activities.

Activate the cognitive activity of students in the study of biology, determine the knowledge, skills and abilities of students on the previous topic, systematize the knowledge gained, control the acquired knowledge, skills and abilities on a new topic and assessment, as well as the use of local technologies in the process of studying a new topic. Local pedagogical technologies in teaching biology include "Keys", "Insert", "Expense", Venn diagram, "Brainstorming", "Work in small groups", "Chain of terms", "Terminological sheet", quick games and it is recommended to use various forms of play exercises. Using the Keys in teaching problem solving in the context of a biology course is very effective. Case studies are derived from the English word case, meaning a process or situation.

Initially, this technology was used in the training of businessmen and entrepreneurs. In the teaching of biology, evolutionary concepts were in the lead in the content of the program, and

can also be used in teaching debatable topics such as “the appearance and development of plants”, “the appearance and development of the animal world”. To use the case in the educational process, the teacher:

- identify problematic topics in the content of the program, create problematic assignments for teaching these topics;
- determine whether the solution of the problem will be organized individually or in small groups of students, depending on the level of complexity during the lesson;
- plan ways to review students' learning activities and engage them in discussions through academic discussions;
- to form a final opinion in educational discussions organized on the basis of tasks for solving problems. It is recommended to use the Insert on topics designed to study only factual material on the content of the program. An insert is a local-level pedagogical technology used by students to understand the main idea and the actual material of the curriculum. Students will be provided with a syllabus and program to help them develop their reading skills. Students are invited to study each sentence and mark it on a special table using certain symbols.

The function of the source of information in the pedagogical activity of the teacher using the insert is somewhat reduced, and the functions of managing and controlling the cognitive activity of students are increased. Therefore, the teacher must carefully plan and implement this issue. The use of clusters is important in teaching biology in order to systematize and consolidate students' knowledge. Waster - cluster - translated from English means a tree. This local technology sets the stage for the development of analytical and critical thinking skills, allowing students to understand the relationship between ideas, theories, laws and concepts that have been mastered and assimilated. Cluster creation is done in the following order:

- a concrete idea of the content of the biology course is written in the middle of the board or piece of paper;
- Laws and concepts related to this idea are determined by an interrelated indicator, then the actual data of these laws and concepts are graphically recorded and a network is formed;
- A conclusion is made about the relationship between the previously studied topic and the topic under study.

In lessons using a cluster, students are divided into an equal number of small groups, and after explaining the didactic goal and the order of completing the task, they are given the opportunity in the allotted time to generalize their ideas, defend the created cluster and prove their point of view. Clustering as a whole around one topic or chapter gives students a foundation for systematic thinking. The cluster is based on the main idea or concept, for example, the cell structure is arranged as follows:

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