JOURNAL OF MULTIDISCIPLINARY SCIENCES AND INNOVATIONS
GERMAN INTERNATIONAL JOURNALS COMPANY
ISSN: 2751-4390
IMPACT FACTOR (RESEARCH BIB) : 9,08. Academic reserach index

IMPROVING THE QUALITY OF EDUCATION AND PERSONAL DEVELOPMENT OPPORTUNITIES FOR STUDENTS THROUGH THE USE OF INTERACTIVE METHODS IN BIOLOGY

Imamova Madina,
TPMI basic doctoral student

Abstract: This article provides an in-depth analysis of the impact of using interactive methods in teaching biology on improving the quality of education and on the personal development of students. These methods encourage students not only to actively participate in the lesson, but also to test their knowledge in practice. This approach develops creative and critical thinking in students, increasing their skills in effective cooperation and teamwork. Interactive methods also form students' independent thinking, decision-making and communication skills, which greatly contributes to their personal development. The article also provides detailed information on various forms of interactive methods and how they can be effectively used in biology lessons.
Key words: interactive methods, biology, improving the quality of education, personal development, student activation, innovative pedagogical methods

Main part. The introduction of innovative approaches and methods in the education system of Uzbekistan is greatly contributing to improving the quality of education and the personal development of students. Today, innovative approaches in education, especially the use of interactive methods, play an important role in improving the quality of education and ensuring the personal development of students.

One of the important tasks of teachers who act pedagogically in the system of teaching Biological Sciences is considered to be to gain students ' interest in mastering the basics of science, to ensure their perfection in the development of independent and creative thinking skills. Innovation technologies play an important role in solving these problems. Lessons using innovation technologies are rich in information, visual, interactive, providing a fertile use of time, obtaining knowledge of each student's own tempiramint, and in the teacher, the opportunity arises to carry out differentiated and individualized education with students, as well as provide the basis for controlling and evaluating their results in teaching.[1;840]

It goes without saying that new pedagogical, innovative, interactive technologies in teaching various subjects, including education based on the organization of problem situations, are increasingly proving to be much more effective than traditional education [2;95;5].

We consider it appropriate to use a number of interactive methods in teaching Biological Sciences – “Asisment”, “keys stadi”, “mental attack”, “Insert” and “organizer”, as well as “Energizer” methods[3]

In general schools, the provision of keys assignments to students in the lessons of a person and his health in Biological Sciences(in the 8th grade) is also considered important in the development of the knowledge received by students in primary education and the organization of non-traditional classes.

Keys question: why exactly the following letters were used in the Golovin-Sivtsev table?

Answer for the teacher: because these letters are the same in width and height, and they are not used when making words[4;843].

1. Interactive methods and their role in education

Interactive methods are pedagogical techniques that ensure the active participation of students. In

biology, these methods help students consolidate their knowledge, develop thinking skills, and teach them to solve problems. Interactive methods strengthen two-way communication between the teacher and students, and also encourage students to work together. Interactive methods ensure the active participation of students, which increases their interest in the lessons. The main goal of interactive methods is to turn the student from a passive listener into an active participant. These methods include games, presentations, group discussions, problem solving, and other forms.

2. Advantages of using interactive methods in biology

There are many advantages to using interactive methods in biology. Here are some of the most important ones:

Creative and analytical thinking: Interactive methods develop students' creative approach to understanding biological processes. Students strive to create new ideas in biology.

Improving teamwork and communication skills: Through a team approach to learning biology, students communicate, help each other, and develop group work skills.

Independent thinking and decision-making: Interactive methods allow students to learn to make decisions independently, which in turn improves their critical thinking skills.

Developing emotional intelligence: Interactive methods also help students develop emotionally as they learn to manage their emotions when working in teams, in discussions, and helping others.

Deep learning: Students learn important concepts of biology through their own experiments and research.

Developing critical thinking: Students analyze the material they have learned and develop new ideas.

Self-development: Students learn to freely express their thoughts, debate with each other, and justify their opinions.

3. Interactive methods: application of the mapping method

Basic rules for applying the mapping method

Centering the Key Word: A key topic or word (e.g., "Nervous System") is placed in the center of the map. This is the main concept, from which all the branches (components) emerge.

Creating networks: Networks are placed around the main word, describing the main components of the topic (for example, the central and peripheral parts). Each network emerges from the main word in a interconnected manner.

Numbering components: Each network and its components are numbered in the map structure. This shows the reader in what order each element should be studied. For example:

Nervous system

Central department	Peripheral department
1.Spinal cord	1. 31 pairs of sensory nerves that emerge from the spinal cord
2. Brain	2. 31 pairs of motor nerves that emerge from the spinal cord
	3. 12 pairs of nerves that emerge from the brain
	4. Nerve ganglia around the spinal cord
	5. Nerve ganglia located in the internal organs

From this, it is necessary to write down the components of the brain by dividing it into sectors, just as it is necessary to write down the spinal cord in the same way. Thus, it is recommended to study the system not as a whole map, but divided into short and logical sectors. This approach is effective in mastering complex topics and helps students remember information more easily and quickly. This method creates an opportunity for students to divide topics into small parts and strengthen each part. The percentage of students remembering any difficult, superficial topics increases.

Write the words in the main and networks in colored pens: Writing the main word and its networks in colored pens helps to separate each section. This helps to visually remember and

understand the topic better. For example: Main word: Nervous system (in red), networks (in green), components (in blue). The map should not be too complicated. Only the most important and necessary elements should be included. Excess information can be confusing for the reader. The connections between the network and components can be shown on the map using lines. This helps the reader to visually understand what connections exist.

4. Impact on student personal development

Interactive methods have a huge impact on the personal development of students. Through these techniques, students develop their own personal skills:

Critical thinking: students learn to analyze the material they learn, to think critically. They learn not only to remember biological processes, but also to analyze them and express their thoughts.develop skills:

Adaptation to changes: interactive methods help students quickly adapt to changes and solve new problems. This is an important component of personal development.

Emotional development: as students interact, they learn to control their emotions and relationships while interacting with others. This increases their emotional intelligence.

Self-awareness: in the framework of the science of Biology, with the help of interactive methods, students realize their abilities, strengths and weaknesses. It helps in self-development and self-control.

5.Necessary skills and training for the teacher

In order to effectively use interactive methods, the teacher must have the following skills:

Knowledge of innovative pedagogical methods: it is necessary that the teacher is well versed in and adapts to modern pedagogical approaches when applying interactive methods.

Motivating students: the teacher should encourage students to engage in classes and encourage them to participate actively.

Use of technology: teachers are required to be able to use modern educational technologies, such as online educational platforms, interactive educational resources.

6.Difficulties that arise when using interactive methods

There may be some difficulties in applying interactive techniques:

Teacher readiness level: teachers must undergo special training to effectively apply these techniques.

Different levels of student knowledge: some students may be passive, which reduces the effectiveness of the course.

Lack of time: interactive methods often take longer, which can make it difficult to fulfill the plans of the lesson in time.

In conclusion, the use of interactive methods in biology is important not only in improving the quality of education, but also in ensuring the personal development of students. These techniques will not only help students to master biological knowledge in depth, but will also motivate them to develop their analytical thinking, creative approach and teamwork skills. For the successful application of interactive methods, teachers need to be perfectly aware of innovative pedagogical approaches and encourage students to actively participate. Techniques such as mapping make it easier to master subjects visually and allow students to learn more efficiently. At the same time, the training of teachers and the active participation of students is an important factor in ensuring the success of the educational process. As a result, interactive methods achieve high efficiency in education and the personality of students

Bibliography

1. M.N.Atakulova., "Effectiveness in using interdisciplinary techniques in teaching biology" Oriental Renaissance: Innovative, educational, natural and social sciences SJIF 2023 = 6.131 / ASI Factor = 1.7 (E)ISSN:2181-1784 www.oriens.uz 3 (11), November, 2023

2. Sohova Nodira Isomitdinovna “Studies in the educational method of relations of Furqat life and creativity” Jizzakh-2023 95 b

3. Bekpolatugli, Kulmamatov Bunyod. "THE WORLD OF PLANTS AND ITS PROTECTION IN UZBEKISTAN."Frontline Social Sciences and History Journal 3.05 (2023): 71-75.

4. M.N.Atakulova., “Effectiveness in using interdisciplinary techniques in teaching biology” Oriental Renaissance: Innovative, educational, natural and social sciences SJIF 2023 = 6.131 / ASI Factor = 1.7 (E)ISSN:2181-1784 www.oriens.uz 3 (11), November, 2023