Interactive Teaching Methods in Biology Classes

Turgunboev Sardor Karimjon ugli

4th year student of the Faculty of Natural Sciences Gulistan State University, Uzbekistan

Abstract: The article discusses the essence of interactive learning, principles, forms and methods of its implementation, conditions that ensure pedagogical results. Methods and techniques of interactive learning in education are described in more detail.

Keywords: requirements, creativity, child's personality, interactivity, cognitive activity, approach, venndiagram, reception.

The modern social order of the education system is aimed at self-development of the child's personality. The final result of training a school graduate should be: readiness for self-determination, the ability to reflect on the results of their work, as well as the ability to find a solution, a way out of various situations.

In this regard, the requirements for the work of teachers have changed: from the ability to translate and form a programmatic amount of knowledge - to the ability to solve creative problems, form a multidimensional consciousness, develop abilities for self-realization by combining creative, personality-oriented, research, project approaches, expanding forms of social and cultural practices based on the idea of the creative potential of the child's personality, by giving them the opportunity to choose (remembering the rule "There are no untalented, but there are those who are not engaged in their own business").

The word "interactive "is of English origin, from the words"inter" - together,"act" - to act. Interactive-means the ability to interact or is in the mode of conversation, dialogue with someone (a person) or something (for example, a computer). The essence of interactive learning is that the learning process is organized in such a way that almost all students are involved in the process of learning, they have the opportunity to understand and reflect on what they know and think. Joint activity of students in the process of learning, mastering educational material means that everyone makes their own special individual contribution, there is an exchange of knowledge, ideas, and methods of activity. Moreover, this happens in an atmosphere of goodwill and mutual support, which allows not only to gain new knowledge, but also develops the cognitive activity itself, transfers it to higher forms of cooperation and cooperation. In comparison with traditional learning, interactive learning changes the interaction of the teacher and students: the activity of the teacher gives way to the activity of students, and the task of the teacher is to create conditions for initiative.

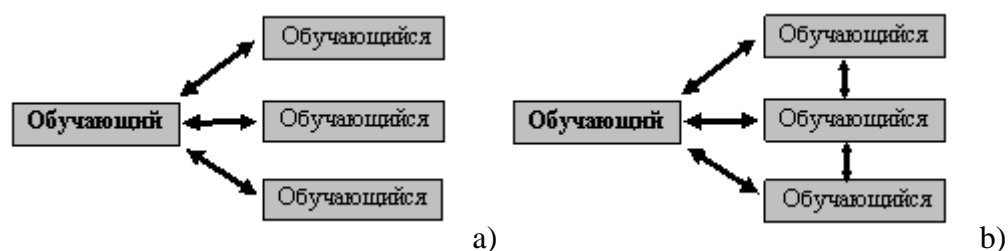a)   b)

Figure1 Active (a) and interactive (b) learning methods

In interactive technology, there are many techniques that help organize interaction in a group. It is very difficult to classify interactive methods, as many of them are intertwined with several techniques. Often, the same methods are found under different names or the same name is used to refer to different content. I want to share some interactive approaches that I use in my practice.

For example, at the beginning of a lesson, after determining its topic, I use **the "Waiting" technique.** Students give their suggestions about what they want to learn, how and for what purpose, and I write them down on the blackboard. By analyzing the "Expectations", I, as a teacher, can:

➢ Find out what questions children are interested in on the topic of the lesson.

➢ Identify the child's initial understanding of the topic.

➢ get information about the abilities of children, in order to know what difficulties in learning can be expected,

➢ помhelp children understand their motivation.

➢ feel like a person whose desire is taken into account;

➢ Compare the results achieved with "Expectations".

Good results **are obtained by working in pairs**, both in the field and at the board. An effective way to see your own and other people's mistakes, to be able to produce not only self-assessment, but also to evaluate others, that is, to learn mutual verification. So, in the classroom, after writing a biological dictation, students exchange notebooks andcheck each other's work in the same way. Andx совместнаяcollaboration becomes a tool for mutuallearning. Working in pairs of a strong and weaker student on a common topic of a report or message teaches children to jointly select the necessary material, organize it and present the results of their work, interacting with each other. After the presentation, other students ask questions to the speakers, which they answer together, sometimes each with their own point of view. The next example of accepting work in pairs is the Venn Diagram. Two intersecting ellipses are drawn. The first and second ellipses contain distinctive features. In the intersection - common between two concepts. The participants discuss and write down the results obtained during the discussion together. For example, if and

Rice.2 "Venn Diagram"

When studying spore plants, the Venn Diagram is used to identify their common features.

An interesting **technique is "Catch an error"**, which can be implemented in different ways. The first option is to suggestan analysis in which there is a biological inaccuracy or error. For example, when studying the topic "Type of Coelenterates", I suggest finding an error in the-jerk from the book by J. I. Cousteau "In the world of silence". Or the second option is to suggest work done by one of the students, in which there are errors oromissions. Thusм, развивается внимание,, attention develops, the ability to analyze, compare, classify, and generalize is formed.

« Brainstorming » We actively use brainstorming with our students both at the stage of applying new knowledge, and for generalizing and systematizing knowledge. During collaboration, basic terms, concepts, names, and processes are recorded in clusters, which allow students to fill in gaps and better assimilate the material.

More complex in terms of organization, but very interesting method of interactive learning is conventionally called **"Saw "**(literally from English - "openwork saw", "machine hacksaw"). It was developed in 1978, but has not lost its relevance even now. At the initial stages, it is advisable to set aside a whole lesson for students to master this technique.

Description: Step 1-define 4 topics/topic fragments/logical or semantic blocks for conversation and collaboration (at the initial stages, the teacher can suggest topics), assign time limits for working on each step.

Step 2-students are organized in groups of 4-6-8 people to work on the study material, which is divided into fragments (up to 3 minutes).

Step 3 - each member of the group finds the material in their own part (up to 7-10 minutes).

Step 4 - "meeting of experts". Students who study the same question but are in different groups meet and exchange information as experts on the subject (up to 5 minutes).

Step 5-experts return to their groups and teach everything new that they have learned themselves to other members of the group. They, in turn, report on their part of the task (like the teeth of a single saw) (up to 15 minutes).

Since the only way to master the material of all fragments is to listen carefully to your teammates and make notes in notebooks, and the teacher acts as a tutor, students are especially interested in their teammates performing their task conscientiously, because this may affect their final assessment. Reports on the entire topic individually and the entire team as a whole. At the final stage, the teacher can ask any student of the team to answer any question on this topic.

We must not forget about the feedback of the student and teacher. We call teaching and learning interactive if there is a high level of interaction between students, as well as between students and teachers, during the lesson. Reflection is a way to evaluate the student's own experience and give an overall assessment of the lesson.

"Telegram" is a method of updating subjective experience with the help of a very brief record. For example, briefly write the most important thing that you learned from the lesson with wishes to your neighbor at the desk and send (exchange). Write in a telegram a wish to the teacher, a wish to yourself from the point of view of what you learned in the lesson, etc.

"Signal color cards" can be used at the end of the lesson to evaluate your activity. "Green color "means" I was comfortable working "(or alternatively – "I understood the material I was studying completely")," blue color " - "something was bothering me, I was distracted" (or-"there were difficulties in studying the topic, there were incomprehensible moments"), "red color" - "I was tired, it was not interesting" (or – "I almost did not understand the topic being

studied"). During the lesson, the student can send such a color signal to the teacher or their partner and get timely help.

The use of interactive activities is an element of positive motivation of students, the manifestation of subject-subject relations, the development of creative abilities of the individual. In addition, interactive teaching methods are an integral part of the concept of modern learning and contribute to the formation of universal learning activities and metasubject results. The use of active methods of teaching and upbringing contributes to the development of priority values, such as independence, critical thinking, tolerance, and a positive active life position. Such lessons stimulate cognitive interest, bring variety to the educational process, expand the horizons, the general culture, liberate the individual, help in the development of creative abilities of students, and also create a favorable psychological atmosphere, a "success situation" in which children are ready to realize their abilities and opportunities. I was convinced that using interactive teaching methods in the educational process helps students achieve good results in academic and extracurricular activities, ensures personal development of the child, reduces the workload of students and improves the quality of knowledge.

References:

1. М.Умаралиева «Роль учебно - исследовательской деятельности в развитии самостоятельности учащихся» Преподаватель XXI век, Москва: 2010, №3. С. 91 – 95.

2. M.Umaraliyeva. Workbook as Didactic Mean for Forming Subject Competencies at Biology Lessons. (Деятельностный подход в преподавании биологии как основа формирования учебных компетенций) Eastern European Scientific Journal (ISSN 2199-7977) Düsseldorf – Germany. August, 2018. Pg-261-264

3. М.Умаралиева "Рабочая тетрадь как дидактическое средство формирования предметных компетенций на уроках биологии" Eastern European Scientific Journal (ISSN 2199-7977) 279-281 С

4. А. Гафуров, А. Абдукаримов, Ж. Талипова, О. Ишанкулов, И. Абдурахманова, М.Умаралиева «Биология». Учебник для 10 классов средних общеобразовательных учреждений и учащихся средних специальных и профессиональных образовательных учреждений. «Шарқ» нашриёт-матбаа акциядорлик компанияси, 2017 г ISBN 978-9943-26-712-1

5. М.Умаралиева «Контрольно-измерительные средства оценивания уровня сформированности компетенций» VII International correspondence scientific specialized conference «International scientific review of the problems of philisophy, psychology and pedagogy» (Boston. USA. November 11-12, 2018) International standard Serial number: ISSN online 2542-0798

6. М.Умаралиева «Роль учебно-методического комплекта в повышении эффективности учебно-воспитательного процесса» Фармацияда таълим, фан, ишлаб чиқаришнинг долзарб масалалари. Республика илмий- амалий конференцияси (халқаро иштирокда) материаллари. – Тошкент, 2012. – Б. 23 - 26.

7. М.Умаралиева « Компетентностный подход в биологическом образовании» Фармацияда фан, таълим ва ишлаб чиқаришнинг долзарб масалалари"

Республика илмий- амалий конференцияси (халқаро иштирокда) материаллари. – Тошкент, 2014. – Б. 194 - 195.

8. М.Умаралиева «Формирование функциональной грамотности учащихся на уроках биологии "» Институт управления и социально-экономического развития. Международный научно-практический журнал «Экономика и социум» № 4 (47)

9. М.Умаралиева «Ўқувчиларнинг билиш фаолиятини ривожлантириш йўллари" Низомий номидаги Тошкент давлат педагогика университети. Биология фанининг долзарб муаммолари ва уни ўқитишда инновацион технологиялар. Республика илмий- амалий конференцияси материаллари – Тошкент, 2017. – Б. 121 - 124.

10. F.Umarova, A.Ubbiyeva, F.Gaibnazarova, N.Jo'rayev "O'quvchi shaxsini rivojlantirishga yo'naltirilgan ta'lim. "Umumta'lim maktablari o'qituvchilari uchun o'quv modullari. 2-modul, 2-nashr. T., "Bekinmachoq-plyus".2013