
GENERAL CHARACTERISTICS OF TEACHING BIOLOGY THROUGH INTERACTIVE EDUCATIONAL METHODS AND TECHNOLOGIES

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Abstract. The role and importance of interactive educational methods and technologies in the organization of modern education, effective organization of biology lessons and raising the level of students' mastery are discussed in the article.

Key words: modern education, interactive education, interactive educational methods, biology education, innovative technologies, independent thinking.

Increasing the effectiveness of teaching natural sciences, especially biology, in the world's leading educational institutions, improving the theoretical foundations of science by means of modern innovative and information communication technologies, stimulating the creative thinking of students in teaching science, interactive, didactic possibilities of teaching expansion studies are underway. At the same time, special attention is paid to the implementation of activities based on a motivational, creative approach, independent thinking, improvement of educational and scientific skills, and the creation of scientific educational resources.

The use of innovative technologies, interactive methods and pedagogical technologies, and the introduction of new approaches to the quality of teaching are important tasks in improving the methodology of teaching biology. The implementation of these tasks requires high pedagogical skills from the biology teacher.

In order to effectively organize biology classes in secondary schools, the teacher must first perform the following several tasks:

formation of general and specific competencies related to the field in the process of mastering academic subjects in biology education, based on the uniqueness and content of this subject;

creation and implementation of a new generation of teaching-methodical and didactic support of the biology education process;

development and implementation of effective forms and methods of educational work on patriotism, hard work, loyalty to the country, positive attitude to nature, environment, rational use of natural resources in biology education;

use of modern educational technologies in the process of teaching biology;

acceleration of the teaching process of biological science using the module system, etc.

A necessary condition for the use of modern educational technologies in the teaching of biology is:

firstly, the amount of information on biological sciences, wide and rapidly updated;

secondly, the speed of technical development, the rapid development of modern tools and equipment; thirdly, various modern technical means of teaching are progressing;

fourthly, external influences, factors that are more interesting for students, the presence of telephone,

Internet, social networks. Such effects require that today's training be carried out at the level of the times.

In modern conditions, according to all the possibilities of the educational process, it is required to be directed to the development, socialization of the individual and the training of independent, critical, creative thinking skills. Education that can show these possibilities is called person-oriented education. Therefore, organization of biology education processes on the basis of person-oriented educational technologies also serves to increase the knowledge, skills and abilities of students.

R.Ishmuhamedov, A.Abdukadirov, A.Pardaev stated that the qualification of the teacher of the educational institution should have two sides covered by special and pedagogical disciplines, and he should always ask: "Why should we teach?" "How to teach?" find answers to the questions, should be based on knowledge that takes into account the characteristics of education. At the same time, organization of biological science on the basis of interactive educational technologies, creation of an interactive process creates a great opportunity for students to master educational materials perfectly and thoroughly.

If interactive educational methods are considered to be a process of rapid, active, information exchange between the pedagogue and students in educational activities, with the help of predetermined goals, then their appropriate use is necessary for each sub-section of the educational process. It creates an opportunity to further strengthen cooperation, activity, and interaction between students.

The organization of the teaching process of biology based on interactive educational methods shows the validity of several conclusions:

- allows students to thoroughly acquire the information and materials that must be mastered in the field of biology and to approach them based on their personal experience, the required knowledge, skills and abilities are mastered at a sufficient level;

- if the teacher uses educational methods and tools effectively and appropriately in these processes, they master this subject very well;

- the teacher can correctly choose effective forms, tools and methods of acquiring knowledge based on the students' existing capabilities, as well as the ideas and opinions expressed by the students, although they are true to their own views even if they do not come, if they are taken into account, the students will master the subject thoroughly.

Therefore, establishing an interactive learning process in the teaching of biological science helps students to evaluate their knowledge, skills and competences, identify achievements and shortcomings, denying the dominance of the teacher.

Innovative technologies are of great importance in increasing the effectiveness of biology education. It is the innovations that increase students' interest in biology, help them to independently master the educational materials and develop their knowledge, skills and abilities.

One of the most important aspects of modern education is the achievement of an innovative nature of the pedagogue's activity. V.A.Slastenin considers innovation to be a set of purposeful, directed processes aimed at creating, spreading and using new things. According to the author, any innovation aims to satisfy the needs of social entities and stimulate their aspirations with the help of new tools. The concepts of "new" and "innovation" are important in any innovation. The novelty introduced into various attitudes and processes is manifested in the form of private, subjective, local and conditional ideas.

R.N.Yusufbekova focuses on considering innovations from a pedagogical point of view. In particular, it is emphasized by the author that pedagogical innovations are the content of a pedagogical phenomenon that may change, leading to a previously unknown, unrecorded situation or result in the process of education and training.

The Russian scientist A.I.Prigozhin paid attention to the study of the innovative process and its components. Here they recognize that there are two approaches to the organization of the innovation process:

1) individual micro level of innovation (according to which some new idea is put into practice);

2) the micro level representing the interaction of separately introduced innovations (in this place, the interaction, unity, competition and replacement of one by the other are considered important).

The famous scientist N.A. Muslimov tried to justify the systematic concept of innovation in his research. Here, the authors distinguish the following two important stages of innovation processes:

1. Development of new ideas (planning of the development of a certain type of product by an enterprise, organization).

2. Large-scale development of the novelty (specific product).

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