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MODERN APPROACHES AND INNOVATIVE TECHNOLOGIES IN BIOLOGY EDUCATION

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Abstract

This article reveals the role and importance of using modern approaches and innovative technologies in biology education in improving educational efficiency. Also, innovations, their history and the role of the teacher in biology classes based on innovative approaches, the importance of innovative technologies in regulating education and directing it in the right direction are revealed.

Keywords: educational system, biology education, modern approaches, innovations, innovative technologies, innovative processes, interactive methods, management, modern teaching tools.

In the 21st century, education on a global scale is recognized as the main factor that ensures sustainable development, and in the new concept of education set by



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most countries until 2030, the process of "creating the opportunity to receive quality education throughout life" is defined as an urgent task. For this purpose, in our republic, special attention is being paid to the further improvement of the teaching methodology, the gradual application of the principles of individualization to the educational processes, and the introduction of modern information, communication and innovative technologies into the educational system.

Due to the changes in the field of education that are taking place around the world today, it is necessary to improve the mechanisms of using electronic educational tools in the process of improving the qualifications of biology teachers, to organize the integrated presentation of information in natural and virtual form, and to develop a methodology for conducting multimedia training, biology It is urgent to establish the requirements for the content and quality of science education based on modern approaches.

On April 29, 2019, the President of the Republic of Uzbekistan approved Decree No. PF-5712 "On approval of the concept of development of the public education system of the Republic of Uzbekistan until 2030". qualitative renewal, improvement of teaching methodology, gradual implementation of the principles of individualization in the educational process, introduction of modern information and communication technologies and innovative projects. The priority tasks defined in this Decree require the improvement of the teaching of biology, along with all other subjects in the educational system, based on innovative approaches.

The use of innovative educational technologies in biology education is one of the urgent issues. Until then, in traditional education, students were taught to acquire



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only ready-made knowledge. Such a method extinguished independent thinking, creative research, and initiative in students. Today, the interest and attention to increase the effectiveness of education using interactive methods (innovative pedagogical and information technologies) in the educational process is growing day by day. Classes using modern technologies are aimed at helping students find the knowledge they are acquiring, independently study and analyze it, and even draw their own conclusions.

In this process, the teacher creates conditions for the development, formation, learning and education of the individual and the team, as well as performs the functions of management and guidance. In such an educational process, the student becomes the main figure.

In order to solve the problems faced by the educational system in the innovative processes taking place at the present time, we need people who are able to absorb new information and evaluate their acquired knowledge, who make the necessary decisions, who are independent and think freely. Therefore, the role and importance of modern teaching methods - interactive methods, innovative technologies in the educational process of educational institutions is incomparable.

The knowledge and experience of the use of modern technologies in education ensure that students acquire knowledge and advanced skills.

Innovation - (in English: "- in- prefix addition, "introduction", "absorption" and "novation" - "innovation, changing the internal structure of the system) is the process of introducing innovation into a certain process.



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Innovation - introducing new things into the educational process, adapting the educational process to the needs, desires and wishes of the student, creating the basis for their learning, formation of skills and qualifications.

If we look at the history of innovations, at the end of the 70s of the last century, American scientists: G.Gardner, K.Levy, L.Stross; Russian scientists: A.M.Arseneva, K.N.Volkov, M.N.Skatkin; Pedagogical scientists from Uzbekistan: J.Yoldoshev, N.Saidahmedov, U.Nishonov, R.Ishmukhamedov, M.Ochilov and others put forward innovative ideas to solve the problem of achieving success in the science and practice of pedagogy.

The active organization of innovative technologies depends on ensuring the compatibility of modern educational tools, teaching tools, types of education with educational tools.

Today, in a number of developed countries, methods that form the basis of great experience in the use of innovative pedagogical technologies that guarantee the effectiveness of the educational process are called interactive methods.

Innovative educational technology is a methodology for organizing educational and educational activities, which includes new or qualitative improvement of existing methods and tools in order to increase the effectiveness of the educational process and create the best conditions for education and educational activities.

Innovative technologies in education allow to regulate education and direct it in the right direction. People have always been afraid of the unknown and new things, they have a negative reaction to any change. Stereotypes that exist in the public mind, which affect the normal way of life, lead to painful events, prevent the renewal of all types of education. The reason people refuse to accept the



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innovations in modern education is because of the blocking of vital needs for comfort, security, and self-affirmation.

Effective use of innovative technologies in the teaching of modern biology depends first of all on the activity of the teacher, the level of theoretical knowledge, organizational skills and pedagogical skills.

Based on the requirements of today's educational system, the goals of selecting and implementing innovative technologies in biology lessons are divided as follows:

- to form students' love for the science of biology and through it for the nature of the country where they live,
- occupying an important place in their in-depth study of theoretical knowledge, their ability to think independently, and their ability to apply the learned knowledge in practice;
- helps to master the studied subject easily and undertakes other similar important tasks.

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