

ORGANIZING SCIENCES IN UNIVERSAL SCHOOLS ON THE BASIS OF INNOVATIVE APPROACHES

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Abstract

In this article, the introduction of innovative approaches to the teaching of natural (Science) sciences in general education schools and the importance of innovative technologies in ensuring the effectiveness of education is highlighted. Also, the history of innovations, definitions of pedagogic scientists who conducted scientific research on innovative technologies, opinions on important aspects of using innovative technologies in teaching natural sciences are presented.

Keywords: Science education, natural-scientific literacy, teaching organization, innovative approaches, innovative educational technologies, pedagogical skills, educational efficiency.

Introduction

In the 21st century, global education has been recognized as a key factor in sustainable development, and the new educational concept, defined by most countries by 2030, defines the process of "enabling quality education throughout life" as a pressing task. To this end, there is a special emphasis on improving the teaching methodology in the republic, gradually implementing the principles of individualization in educational processes, and developing innovative information, communication and innovative technologies in the education system.

The future of each society is determined by its integral part and the extent to which the education system, which is essential to life, is developed. Today, reforming and improving our country's continuous education system, moving it to a new phase of quality, introducing advanced pedagogical and information technology, and improving the effectiveness of education have been elevated to the level of government policy. With the adoption of the Education Act [1] in the new edition, the basis for the training of modern personnel through a continuous education system has also been improved.

In particular, a number of reforms are being made in order to improve the education system in our country. For example, in the fourth priority direction of the New Uzbekistan Development Strategy for 2022-2026, the President of the Republic of Uzbekistan called "Just Social Policy, The Development of Human Capital", *develop and implement a national program aimed at improving the quality of education; improving the quality of education in schools, bringing the knowledge and skills of pedagogical personnel to an international level*" [2]. From these tasks, it can be said that the use of the most advanced technologies in the educational process established in schools and the preparation of qualified, highly skilled professionals in all aspects that meet international standards are relevant.

In order to modernize the education system and organize it in accordance with world standards, there is a need to use foreign experience in teaching all academic subjects in secondary schools, especially natural sciences, to adapt students' knowledge, skills and skills to the demands of time, and to develop skills to apply their knowledge in their vital needs.

To improve the effectiveness of teaching natural sciences in our country, the President of the Republic of Uzbekistan adopted resolution NO 4805 of August 8, 2020 "On measures to improve the quality and effectiveness of continuous education in the fields of chemistry and biology education." This Resolution states that *"the quality of teaching chemistry and biology in secondary schools does not meet the requirements of today's era, teaching methodology and laboratories are meaningfully outdated, there are no mechanisms for properly promoting the work of teachers," "improving the quality of teaching chemistry and biology in general secondary schools, and the activities of schools that specialize in these subjects in the regions The task of development and the establishment of new basic specialized schools and specialized schools"* [3].

The exercises used by modern technology are aimed at finding, independently studying, analyzing, and even drawing conclusions themselves.

In this process, the teacher makes it easier for individuals and communities to develop, form, acquire knowledge and upbringing, as well as act as managers and guides. In such a learning process, the student becomes the main figure.

Pedagogy - in the education system of scientists over the years

Why do we teach?

Nimani is Qitamiz?

How do we teach?

along with searching for answers to their questions,

How to teach effectively and effectively? They also searched for answers to their question [4]. This led scientists and practitioners to the idea that the learning process could be tried to technologicalize, that is, transform teaching into a clearly guaranteed technological process for manufacturing.

Data on innovation development and innovative work dates back to the 19th century. This term was formed within the framework of anthropology and ethnography, but later spread to the work of a number of social sciences [5].

N.I.Lapin emphasizes innovation as a comprehensive process of creating, distributing and using new practical experience to satisfy the needs of a person who is changing the way society develops, as well as changes in the social and material environment related to this innovation [6].

Repeat what innovation is known by M.S. Burgin's definition; repeat a certain thing with changes that are not so important; clarifying previously known; fill in the previously known with serious new elements; create a qualitative new [7].

N.Muslimov [8] advances the idea that innovation will bring innovation into the process, G.M.Kodjaspirova, A.Y.Kodjaspirov [9] stated that the words innovation meant synonyms for each other as "innovation, new regulations," while M.M.Potashnik [10], O.G.Khomeriki [11] considered the words "new innovation" and "innovation is innovation". In fact, innovation is the novelty of the same tool, method, method, and style, while innovation means that the system will move from one state to another by introducing innovations into the process, its components, and the environment.

I.L.Balabanov [12] believes that "innovation is a material result derived from the inclusion of capital in new technologies or technologies, in the organization of production, in new forms of labor, service and management, including innovative forms of control and accounting, planning and analysis.

The main reason for the emphasis on the use of innovative technologies in teaching natural sciences today is:

First, in the wide range of opportunities for individual development education in innovative technologies. The Education Act focuses exclusively on the implementation of developmental education.

Second, innovative technologies provide an opportunity to broadly develop a systematic approach to the teaching process of natural sciences.

Third, innovative technologies encourage the teacher to design a technological chain in advance, from the objectives of the educational process to the development of a diagnostic system and control over the course of this process.

The proper introduction of innovative approaches to teaching natural (Science) subjects will lead to the teacher acting as a key organizer or consultant in the process. This requires more independence, creativity and willful qualities from the reader.

To solve problems facing the education system in the innovative processes that are taking place today, new information needs individuals who are able to master new information and to evaluate by themselves the knowledge they have acquired, who make the necessary decisions, who are independent and who think freely. Therefore, the introduction of innovative teaching technologies to teach natural sciences will help students develop their ability to use their theoretical knowledge in their practical activities and to increase their level of natural and scientific literacy.

The organization of natural sciences based on modern requirements and the introduction of innovative approaches in it primarily depend on the level of knowledge, ability to organize, and pedagogical skills of a natural science teacher.

Based on the requirements of the education system today, the objectives of selecting and conducting natural (Science) subjects from innovative technologies in a suitable way are distributed as follows:

- to form a love for the natural sciences of the students and through it the nature of the land in which they live;
- take an important role in their in-depth study of theoretical knowledge, their ability to think on their own, and their ability to actually carry out the knowledge learned;
- to help you to understand the subject being studied lightly, and to take on other important tasks.

As a conclusion, innovative approaches will allow you to organize education and direct it in the right direction.

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