Application Of Innovative Technologies In Higher Education Institutions Of Ukraine: Forms And Methods

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Summary

In the course of this article, the concept of "innovation" was considered and analyzed, which is considered not only as a subject, something new, but also as a process. The process of introducing something new into life, and in our case, into the educational process.

Innovative educational technologies are varied and plentiful. In this article, the most commonly used. Among them: the use of ICT, game techniques, the portfolio method, personality-oriented, information support of the learning process, educational and health-saving technologies, and others.

Key words:

learning process, technologies, education system, innovative educational technologies.

1. Introduction

Currently, Ukraine is undergoing significant changes in the national education policy. They are determined by the desire to move to the position of personality-oriented pedagogy. This becomes possible only if the variability of educational processes is realized, in connection with which various innovative types and types of educational institutions appear, which require deep scientific and practical understanding.

Novelties, or innovations, are characteristic of any professional human activity and therefore, naturally, become the subject of study, analysis and implementation. Innovations do not arise by themselves, they are the result of scientific research, advanced pedagogical experience of individual teachers and entire teams. This process cannot be spontaneous, it needs to be managed. Therefore, there is

great interest in this topic, the topic of introducing and applying innovative technologies in the education process in modern schools and obtaining high results from their use.

In the dictionary of S.I. Ozhegov, the following definition is given: "new - first created or made, appeared or emerged recently, instead of the former, re-discovered, relating to the immediate past or to the present, not familiar enough, little-known [1-3, 5].

The term "innovation" comes from the Latin "novatio", which means "renewal" (or "change"), and the prefix "in", which translates from Latin as "in the direction", if translated literally "Innovatio" - "in the direction of change ". The very concept of innovation first appeared in scientific research in the 19th century. The concept of "innovation" received a new life at the beginning of the 20th century. in the scientific works of the Austrian and American economist J. Schumpeter as a result of the analysis of "innovative combinations", changes in the development of economic systems.

Innovation is not just any innovation or innovation, but only one that significantly increases the efficiency of the current system [1, 4]. This means that innovation is, on the one hand, a process of implementation, and on the other hand, it is the activity of introducing something new into a certain social activity.

The concept of innovation can be divided according to a number of characteristics and specific subsections can be distinguished in each of them.

Based on the above classification, we see a variety of innovations used in various branches of science and technology, including education. Along with the concept of

"innovation" there is also the concept of "innovative technology". Let's consider its conceptual characteristics.

An innovative technology is a set of methods and tools that support the stages of implementation of an innovation. There are the following types of innovative technologies: implementation; training (training); consulting (consulting); transfer (transfer); audit [7].

To maintain such proportions in achieving goals, it is necessary to use innovative technologies. Here are some interpretations of the concept of "innovative technology": "innovative technology is a set of techniques and methods aimed at studying, updating and optimizing activities, as a result of which innovations are created and materialized that cause qualitative changes in various spheres of life, focused on the rational use of material, economic and social resources "[5].

Thus, we can come to the conclusion that new and innovation are two different concepts, which cannot be interchanged. It should also be noted that in the scientific and methodological literature and research of scientists such concepts as "innovative pedagogy", "pedagogical innovation", "innovative education", "innovative technologies in education" are revealed. More than one person and not even a group of people employed in one area are involved in the assimilation and implementation of innovative technologies in the educational process; this process covers many groups of the population involved in various areas.

2. Theoretical Consideration

They started talking about innovations in the educational system since the 80s of the 20th century. It was at this time that the problem of innovation arises in pedagogy and, accordingly, its conceptual support. This has become the subject of special research. The terms "innovations in education" and "pedagogical innovations", used as synonyms, were scientifically substantiated and introduced into the categorical apparatus of pedagogy.

Pedagogical innovation is the introduction of something new into pedagogical activity, changes in the goals, content, methods and forms of teaching and upbringing, the purpose of which is to increase the effectiveness of the joint activity of a teacher and a student [2].

Pedagogical innovation is an innovation in the field of pedagogy, a purposeful progressive change that introduces stable elements (innovations) into the educational environment that improve the characteristics of both its individual components and the educational system itself.

Pedagogical innovations can be carried out both at the expense of the educational system's own resources (intensive development path), and by attracting additional capacities (investments), new funds, equipment, technologies, capital investments, etc. (extensive path of development) [6].

Currently, much attention is paid to the ability of students to find the necessary information, process it and draw certain conclusions. At the same time, the skills of social interaction with a group of peers and the ability to make friends are acquired [3]. As a result of changes in the goals and objectives of higher education institutions, there is a need to use innovative technologies in the educational process.

Innovative technologies in education are represented by a complex of three elements:

1. Content that is passed on to students. It is aimed at the formation of competencies adequate to the modern world. This content should be well structured, visually presented in the form of multimedia and transmitted through modern communications.
2. A teaching method that should be aimed at actively involving students. Knowledge should be acquired not passively, but with the direct participation of children.
3. Means of training, including information, technological, organizational and communication components.

The main goals of modern educational technologies include:
- the formation of fundamental knowledge among students, which will allow them to receive new knowledge in the future, work and retrain;
- the formation of a creative personality type, the ability for group and analytical work, tolerance, the formation of project thinking.

So, it becomes clear that the use of innovative methods in the educational process is necessary. But in this case, questions arise: what should these technologies be and who should implement them?

Of course, the answer to the second question suggests itself. Teachers must be the people who innovate in education. But how can people who have not received the kind of education that modern conditions require, bring something new into the educational process? This means that it is necessary to initially retrain teachers. In a modern school, in our opinion, the entire teaching staff should undergo retraining or take all kinds of courses that allow them to get acquainted with new trends. Currently, there are many competitions among teachers at the local, regional and national levels, stimulating them to introduce innovative methods in education. Various seminars are held in telecommunication networks. In the global Internet there is a lot of information that also allows you to introduce innovations in the classroom.

The pedagogical activity of modern schools has a large arsenal of innovative technologies. The possibility of using them in the educational process depends on the

readiness of teachers to accept changes and, of course, on the technical provision of educational institutions. In many Russian schools, classrooms are provided with interactive whiteboards and multimedia installations, the teacher's place is equipped with a personal computer or laptop with Internet access.

Practical teachers apply innovative technologies and modern teaching methods in their daily work, which include active and interactive forms. Active methods involve the direct participation of students, their active position in the educational process. Interactive forms make it possible to better assimilate the acquired knowledge through auditory-visual perception. These methods relate to group forms of learning, when students are encouraged to work as part of a team, receive group knowledge, but at the same time bear individual responsibility. Teachers note the advisability of conducting such forms of lessons:

- meetings with famous people, specialists in various industries, creative people;
- watching movies and videos;
- solving various issues through games, such as "brainstorming" or "decision tree";
- group assignments.

As a result, students develop the ability to acquire new material and analyze it; they learn to draw conclusions from what they read, to generalize and systematize the data obtained, to discuss and debate. Of course, the use of innovative methods in the educational process is already becoming a necessity. Traditional methods are giving way to new ones, because innovations make it possible to form a "new" person who is quickly oriented and able to make an independent decision. But this transition from tradition to innovation should not be spontaneous. All changes must be carefully designed, and in several directions: psychological and pedagogical, socio-pedagogical and directly pedagogical.

Thus, innovative technologies are used in all spheres of human activity, including education. The passage of time and changes in the way of life dictate the need for the introduction of innovations. The introduction of any innovation is not spontaneous, it is a planned, carefully analyzed process.

The variety of innovative technologies used in the educational process. Let's consider them more specifically. Innovative technologies in subject learning can be divided into two groups:
1. General technologies:
- information and communication technologies (ICT);
- information and analytical support of education and quality management of education;
- didactic.
2. Technologies based on a personal approach to learning:

- personality-oriented;
- psychological and pedagogical support for the introduction of innovative technologies;
- monitoring of intellectual development;
- educational;
- technology of advanced learning.

The introduction of information and communication technologies in the education process implies the integration of various fields of knowledge with informatics. This leads to the informatization of the thinking of students and their understanding of the processes of informatization in the modern world.

The advantages of ICT include: clarity of the taught material, creative style of work, unhindered access to any source of information on various topics, efficiency in updating information.

Through the use of ICT, students take part in online olympiads of various levels up to international ones, prepare projects in various subjects.
The main positive aspect of using ICT in class is the ability to perceive the information conveyed through audiovisualization.

The use of these technologies in the teacher's activities allows you to reduce the time spent on data processing and preparation for classes.

However, when using ICT in the classroom, the teacher must forget that the technical means used do not replace him as a teacher, but only allow him to more clearly and clearly present the necessary material.

Information and analytical support of education and quality management of education. The use of this technology makes it possible to trace the development over time of students as a whole. This method has become an integral part of the processes of control over the assimilation of disciplines by students, control over the work of individual teachers. This technology works more effectively in conjunction with the use of ICT.

Timely study allows you to quickly respond to negative trends and, as a result, improve the quality of education through competent management decisions.
Didactic technologies include: games; group assignments; preparation of projects; independent work.

The method of games allows students to become interested, to lure. And as a result, get the necessary knowledge, assimilate information. Its application among students is very important.

Group assignments contribute to the development of students' ability to conduct dialogues, take into account several options for solving problems, and come to a consensus through discussion.

When preparing projects, a huge base of skills and abilities is formed that will need to be adopted in life. To create a work, students need to find sources of information,

study them, systematize the data obtained and implement in a concise form. At the same time, project preparation also requires a creative approach. The work performed is accompanied by photo or video materials created directly by the student.

Personality-oriented technologies. Their very name already has a meaning. These technologies are aimed specifically at a specific student, the development of his abilities. In such teaching, the student is viewed as a separate entity and his goals and needs are highlighted.

When applying these innovations, the teacher uses the methods of multilevel, modular training, "collective mutual learning".

The use of student-centered learning technologies is difficult at universities due to the large number of students in the classroom.

Psychological and pedagogical support for the introduction of innovative technologies. This principle implies a scientific and pedagogical justification for the introduction of certain innovations into the educational process. Their introduction is first discussed at pedagogical councils. In addition, you can consult with specialists in this field and employees who are already using such innovations, study foreign experience of their application.

Monitoring of intellectual development. The introduction of this technology allows you to analyze and diagnose the degree of assimilation of educational material by each student using testing. Based on their results, a graph of progress is built. This visual representation helps the teacher identify problematic topics for each student, and then apply student-centered technologies to each student.

New educational standards (hereinafter referred to as standards) introduced a new system of assessment activities. This is explained by the fact that all personal achievements of both students and teachers must be reflected somewhere. The introduction of such an assessment system allows you to motivate yourself to self-development, setting and achieving goals, and develop self-esteem and responsibility.

The best system for collecting this information is the portfolio. Portfolio technology includes many functions: motivation, goal setting, diagnostics, meaningful, corrective, training.

No educational process can be separated from the use of educational technologies. This is the key mechanism for the formation of the student. Upbringing is a fundamental factor in the modern educational environment. It is implemented by involving students in additional forms of personality development. It can be holding cultural events: organizing and conducting holidays, meetings with interesting people. Students can also realize themselves, get an excellent education and upbringing in various

centers of additional education. Working in circles and sections allows you to reveal your talent and abilities. It is only necessary to give him freedom of choice and the opportunity to replace one occupation with another, if necessary.

Each subject, to one degree or another, forms the student's personality, disciplines him, makes him better. The activities of modern educational institutions are aimed at developing a sense of patriotism among students. The main provisions of the technology of prospective-advanced learning are the interpersonal approach, focus on success as the main factor of the student's personality, prevention of mistakes, and not work on the admitted ones, the availability of tasks for everyone, the transfer of knowledge from the knowledgeable to the ignorant.

So, general innovative technologies include a whole arsenal of methods. Most of them are based on the application of the achievements of science and technology. Their use is based on the principles of technologization and informatization of the learning process. An integral goal is to develop the creative abilities of all participants in the educational process and the variability of thinking.

Innovative pedagogical technologies are often personalized. This is justified by the fact that new requirements are imposed on the modern education system; educational institutions are faced with the task of educating an individual. Therefore, any technology is focused on the development of personality, its creative potential. To use such technologies, the teacher must be highly qualified. Important tasks are: training of qualified personnel capable of creative and innovative activities [8]. To help teachers with this goal, a large amount of literature is created, which orientates them, helps to cope with difficult situations.

And of course, having analyzed all the variety of innovative technologies in the educational process, it can be argued that the introduction of one technology entails the emergence and development of many others. In practical application, it is necessary to combine several methods, then the training will be brighter, richer and more easily perceived.

The introduction of educational standards has entailed colossal changes in education. The names of the subjects were changed, the goals and objectives of the training were adjusted. And as a result, it became necessary to introduce innovative technologies into the education process.

The integration of natural science and social and humanitarian knowledge within the framework of one subject allows you to successfully solve several problems at the same time: to form a system of positive national values, mutual respect, patriotism in students, based on ethnocultural diversity and general cultural unity of society.

Conclusions

Having familiarized yourself with teaching methods in educational institutions, we can say that time does not stand still, including the process of education. New time dictates new rules; new educational programs contribute to the introduction of innovative technologies in the educational process. Modern education does not stand still, it is moving forward and must keep pace with the times in order to fully meet the emerging needs of humanity.

The learning process is radically changing and shifting its priorities: now the teacher is faced with the task not to teach, but to create an environment for students in which the opportunity for independent study of subjects and the disclosure of creative potential will be realized. Information and communication technologies have already become an integral part of every lesson, and a teacher is a highly qualified worker who applies the achievements of modern science and technology in his activities.

In the course of this article, the concept of "innovation" was considered and analyzed, which is considered not only as a subject, something new, but also as a process. The process of introducing something new into life, and in our case, into the educational process.

Innovative educational technologies are varied and plentiful. In this article, the most commonly used. Among them: the use of ICT, game techniques, the portfolio method, personality-oriented, information support of the learning process, educational and health-saving technologies, and others. What I would like to pay special attention to: the development of many teaching methods began a long time ago (mainly in the 90s of the twentieth century), but only now they are widely used. These include, for example, advanced learning technology.

The main goal of education at the present time is the formation of a personality that quickly orientates itself and adapts to changes in the surrounding world. While solving one of the tasks, we presented the pedagogical experience of using innovative educational technologies. The existing experience of the teacher in the application of innovative technologies in the educational process shows that this cannot be achieved using only traditional teaching methods at universities. The use of new forms of teaching in the classroom makes it possible to solve a number of problems: to form an active civic position among students; change the nature of the interaction of the subjects of the educational process; to increase the motivational component of students.

The need for innovative technologies is undeniable. Classes with their use become more interesting and vivid. Students are motivated to achieve certain learning outcomes, which ultimately improve the quality of education.

References

[1] Gofen A., Blomqvist P. Parental entrepreneurship in public education: a social force or a policy problem?, Journal of education policy, 2014, № 29 (4), pp. 546–569. 61.

[2] Grant W. Pressure Groups, Polities and Democracy in Britain. Homel Hempstead, Harvester Wheatsheaf, 2011, 230 p.

[3] Meera N. S. Quality education for all? A case study of a New Delhi government school, Policy futures in education, 2015, № 13 (3), pp. 360–374.

[4] Sosenski S. Financial Education for Children: School Savings Programs in Mexico (1925–1945), Historia Mexicana, 2014, № 64 (2), pp. 645 – 662.

[5] McMillan R. Man Builds Twitter Bot That Humans Actually Like. Wired. URL: wired.com/2012/06/twitter_arm/

[6] Ktepi B. Deception in political social media // ed. K. Harvey. Encyclopedia of social media and politic. Vol. 4. Thousand Oaks, CA: SAGE Publications. P. 357-359.

[7] Kotler P., Lee N. Corporate social responsibility: Doing the most good for your company and your cause. Hoboken, New Jersey: John Wiley & Sons, Inc., 2005.

[8] Rampton S ., Stauber . J . Trust us! We're experts: How industry manipulates science and gambles with your future . Tarcher. 2002.