The Role of Innovative Activities in Training Students Using Computer Technologies

Antonina Minenok[1], Ihor Donets[2], Tetiana Telychko[3], Hanna Hud[4], Pavlo Smoliak[5], Angelika Kurchatova[6], Tetiana Kuchai[7]

khrolenko81@meta.ua

[1] Doctor of Pedagogical Sciences, Professor, Preschool and Primary Education Department, T. H. Shevchenko National University "Chernihiv Colehium", Ukraine

[2] Candidate of Pedagogical Sciences, Head, Department of Physical Training, Lieutenant of Internal Service, Academy of the State Penitentiary Service, Ukraine

[3] Doctor of Philosophy, Assistant, Department of Preschool Education, Mukachevo State University, Ukraine

[4] Candidate of Psychological Sciences, Municipal Institution of Higher Education "Mykhailo Hrushevsky Bar Humanitarian and Pedagogical College", Ukraine

[5] Doctor of Philosophy, Assistant, Department of Pedagogy, National University of Life and Environmental Sciences of Ukraine, Ukraine

[6] Doctor of Philosophy in Education, Senior Lecturer, Department of Preschool Education, V. O. Sukhomlinskyi National University of Mykolaiv, Ukraine

[7] Doctor of Pedagogical Sciences, Professor, Department of Pedagogy and Psychology, Ferenc Rákóczi II. Transcarpathian Hungarian Institute, Ukraine

Summary

Innovation is considered as an implemented innovation in education - in the content, methods, techniques and forms of educational activity and personality education (methods, technologies), in the content and forms of organizing the management of the educational system, as well as in the organizational structure of educational institutions, in the means of training and education and in approaches to social services in education, distance and multimedia learning, which significantly increases the quality, efficiency and effectiveness of the educational process. The classification of currently known pedagogical technologies that are most often used in practice is shown. The basis of the innovative activity of a modern teacher is the formation of an innovative program-methodical complex in the discipline. Along with programmatic and content provision of disciplines, the use of informational tools and their didactic properties comes first. It combines technical capabilities - computer and video technology with live communication between the lecturer and the audience. In pedagogical innovation, the principles reflecting specific laws and regularities of the implementation of innovative processes are singled out. All principles are elements of a complex system of organization and management of innovative activities in the field of education and training. They closely interact with each other, which enhances the effect of each of them due to the synergistic effect.

To improve innovative activities in the training of students, today computer technologies are widely used in pedagogy as a science, as well as directly in the practice of the pedagogical process. They have gained the most popularity in such activities as distance learning, online learning, assistance in the education management system, development of programs and virtual textbooks in various subjects, searching for information on the network for the educational process, computer testing of students' knowledge, creation of electronic libraries, formation of a unified scientific electronic environment, publication of virtual magazines and newspapers on pedagogical topics, teleconferences, expansion of international cooperation in the field of Internet education. The article considers computer technologies as the main building material for the entire society. In the modern world, there is a need to prepare a person for life in a multimedia environment. This process should be started as early as possible, because the child's contact with the media is present almost from the moment of his birth.

Keywords:

innovative activity, student training, computer technologies, multimedia technologies, education, educational institution.

1. Introduction

The strategic direction of the evolution of educational systems in modern society is the intellectual and moral development of a person based on involvement in various independent activities in various fields of knowledge. Rapid updating of knowledge, in particular basic knowledge, in the field of technical sciences sets the higher school the task of training specialists capable of:

– adapt to rapidly changing realities, independently acquire the knowledge and skills necessary for successful work, apply them in practice to perform various tasks;

– think critically, be able to notice problems, choose rational ways to solve them, using modern technologies;

– competently work with information, process information, as well as effectively use information resources, in particular global ones, to fulfill assigned tasks;

– to be able to work in teams that unite specialists from different fields of knowledge.

This direction of development is recognized as the main one in the course of reforms of educational systems in the

Manuscript received August 5, 2022
Manuscript revised August 20, 2022
https://doi.org/10.22937/IJCSNS.2022.22.8.14

leading countries of the world - USA, Great Britain, Canada, Germany, France, etc. At the same time, the main task of the reform process is to prepare the personnel needed by society in the right amount, for the minimum time and costs [9].

The historical analysis of the problem of the use of innovative technologies in the practice of higher education shows that the socio-theoretical foundations and development of technology in the world educational space were formed under the influence of humanistic ideas of advanced thinkers of different eras. Every year, attempts were made to increase the effectiveness of teaching by raising the information level when using mass communication tools, audiovisual methods of learning, manuals, didactic material, distance learning, and multimedia technologies. Subsequently, innovative technology claims a leading role in the planning and organization of the learning process and combines the logic of the process, the interconnection of parts, the structural and substantive integrity and intensity of all processes.

Innovation should be considered as an implemented innovation in education - in the content, methods, techniques and forms of educational activity and personality education (methods, technologies), in the content and forms of organizing the management of the educational system, as well as in the organizational structure of educational institutions, in the means of training and education and in approaches to social services in education, distance and multimedia learning, which significantly increases the quality, efficiency and effectiveness of the educational process [10].

Various innovative methods are successfully used in the educational process, the basis of which is interactivity and maximum proximity to the real professional activity of the future specialist, including:

– simulation technologies (game and discussion forms of organization);
– "case method" technology (maximum approximation to reality);
– video training method (maximum approximation to reality);
– computer modeling;
– interactive technologies;
– technologies of collective and group training;
– technologies of situational modeling;
– technologies for processing debatable issues;
– design technology;
– information technologies;
– differentiated and distance learning technologies;
– text-centric learning technology and others [10].

The spread of innovation requires its replication and bringing information about it to potential users by means of computer technologies. The spread is facilitated by the presence of a special infrastructure supporting innovative educational processes. It includes various consulting services, training centers, experts, implementation centers, etc. In order for innovation to spread successfully, it is necessary to analyze how it happens, identify factors that slow down this process, and implement measures to eliminate them, which is impossible without computer technology.

Before deciding on the introduction of an innovation, information about which has been received from the outside, the innovation must undergo an internal examination. Far from always those innovations that are suitable for one institution of higher education can be used in another. Therefore, the examination carried out during the creation of an innovation and the examination carried out at the stage of its assimilation have both common and different features.

Innovative processes in higher education contribute not only to a significant increase in the theoretical and practical training of students and trainees, but also primarily to the methodological reorientation of educational institutions on the individual, becoming the basis of a new philosophy of education [10].

By Resolution No. 108 of the Cabinet of Ministers of Ukraine dated February 7, 2006 and Order No. 109 of the Ministry of Education and Science of Ukraine dated February 16, 2006, the Institute of Innovative Technologies and Content of Education was created - a state scientific and methodological institution of the Ministry of Education and Science of Ukraine. The institute was created with the aim of implementing the state policy in the field of education, meeting the needs of education in scientific and methodological support, improving the content and methods of teaching and educating the young generation at all levels and in all links of the national system of continuous education. Among its tasks are the following: "computerization of education and introduction of new information technologies into the educational process; the study and dissemination of domestic and foreign pedagogical innovations, the latest educational technologies, the introduction of progressive pedagogical technologies into the educational process" [1].

The purpose of the article: to consider the role of innovative activity in the training of students using computer technologies.

2. Analysis of recent research and publications

The content of innovative activities in the training of students using computer technologies was studied by scientists from different countries.

According to N. Bondarchuk, the term "innovation" means renewal of the learning process, which relies mainly on internal factors. The borrowing of this term is connected with the desire to highlight the motivational aspect of education, to distinguish itself from the next "winning methods", which should give the maximum effect in a short

time, regardless of the peculiarities of the specialty and individual students, their desires, abilities, etc. [4].

V. Dokuchaeva defines innovation as a process that is presented in the form of a newly created innovative pedagogical system, which serves as a determinant of further changes to achieve more significant goals [8].

L. Burkova states: "Educational innovations relate to the education system, its structures, educational processes that take place in it, aimed at the realization of the goals and objectives of the educational level - improving the quality of education, educational services. They cover all aspects and processes related to its system and structure" [6].

O.Kuchai in his article lights up the conceptual principles of training future teachers by means of multimedia technologies; examine the use of multimedia technologies in the training of primary school teachers and the importance of multimedia education in the informatization of society [12; 13].

T.Kuchai, O.Biletska, , T.Kravtsova, N.Bidyuk, V.Tretko & O.Kuchai give an emphasis to Usage of the Activity Approach in Teaching Foreign Languages in Higher Education Institutions. Also lights up the quality of higher education in the European educational space. [14; 16].

Many authors analyze the role of multimedia education in the formation of the information society. Thay emphasize emergence and development of the information society determine the widespread use of information and communication technologies (ICT) in education, which is motivated by many factors that are disclosed in the article. Also describe various ways of using multimedia technologies in the educational process [15].

Today, computer technologies are widely used in pedagogy as a science, as well as directly in the practice of the pedagogical process, which scientists and practitioners pay attention to.

3. Research methods

Achieving the outlined goal is subordinated to the application of a complex approach to the selection of research methods: theoretical (analysis of philosophical, pedagogical, psychological literature), which make it possible to substantiate the position of domestic and foreign works; interpretative and analytical method (application of interpretation, analysis, synthesis, comparison, systematization and generalization), based on which a conceptual analysis of scientific sources was performed; empirical - observations, conversations with students and teachers of higher education institutions; exploratory - for formulating generalized conclusions, identifying rational and practical value in scientific works of researchers.

4. Results

Currently known pedagogical technologies that are most often used in practice can be classified as follows.

Structural and logical technologies: the step-by-step organization of the learning system, which ensures a logical sequence of setting and solving didactic tasks based on the selection of their content, forms, methods and means of learning at each stage, taking into account the step-by-step diagnosis of results.

Integration technologies: didactic systems that provide integration of interdisciplinary knowledge and skills, various types of activities at the level of integrated courses, educational topics, lessons, and educational days.

Game technologies: didactic systems of using various games, during the execution of which skills are formed to solve tasks based on compromise choices (theatrical, business games, simulation exercises, individual training; solving practical situations and problems, computer programs, etc.).

Training technologies: a system of activities for working out certain algorithms for solving typical practical tasks with the help of a computer (psychological trainings for intellectual development, communication, solving management tasks).

Information and computer technologies: these are technologies that are implemented in didactic systems of computer training based on the dialogue "man-machine" with the help of various training programs (training, monitoring, information, etc.).

Dialogue technologies: a set of forms and methods of learning based on dialogic thinking in interactive didactic systems at the subject-subject level: (student-teacher, student-author, teacher-author, etc.). Dialog forms are considered the most common among other modern technologies.

The peculiarity of modern education is that in practice different technologies can be actively and very effectively combined.

The interest in innovations of the world pedagogical community is manifested in the creation of information services (the Center for the Study of Innovations in Education under the auspices of UNESCO, the Asian Center for Pedagogical Innovations for the Development of Education), the initiation of programs for the implementation of pedagogical innovations, the holding of international conferences, the activities of organizations that summarize pedagogical innovations in various countries the world, the pedagogical public is informed about them on the pages of special magazines. In particular, the International Bureau of Education (France, Paris) publishes periodicals such as "Pedagogical Innovations", "Information and Innovation in Education", etc. [11].

Among the priority educational innovations in higher education institutions, the following attract attention:

- introduction into the educational process of modular learning and the rating system of knowledge control (credit-modular system);
- distance learning system;
- computerization of libraries using electronic catalog programs and creation of a fund of electronic educational and teaching-methodical materials;
- electronic system for managing the activities of the educational institution and the educational process [10].

A number of innovative forms of organization of the educational process, learning technologies are inextricably linked with the creation of innovative tools for the creative activity of students and teachers in higher education institutions, that is, material and technical support. In this case, computer classes with Internet access are of priority, since the use of computers in teaching, research, control and self-control is extremely necessary in the conditions of intensive innovative learning technologies. The basis of the innovative activity of a modern teacher is the formation of an innovative program-methodical complex in the discipline. Along with programmatic and content provision of disciplines, the use of informational tools and their didactic properties comes first. This involves the visual and figurative presentation of information, the creation of a video library to illustrate informational material: lecture notes, electronic lecture notes, which allow you to combine a slide show of textual and graphic support (photographs, diagrams, drawings) with computer animation of the text, the display of documentary records It combines technical capabilities - computer and video technology with live communication between the lecturer and the audience.

The paradigm of innovative development of higher education envisages such a way of organizing the activities of a higher educational institution that ensures the achievement of the goals and objectives of its innovative development. The key element of this paradigm remains knowledge, as for the traditional paradigm, but the main difference is that if the previous approach clarified the method of knowledge transfer, the new approach emphasizes the method of its production. An innovative higher educational institution needs new approaches both in management and in the organization of the educational process.

According to M. Artyushina, innovations in education are becoming a necessary condition for the development of a higher education institution; the introduction of an innovation-oriented approach to professional training orients the future specialist not only to professional innovative activities, but also to life in the conditions of a modern, dynamic society, ensures his formation as an active subject of changes and innovations, capable of independent initiative and implementation of innovative activities [3].

Therefore, scientists consider innovation in education as a process that is presented in the form of a newly created pedagogical system, and becomes a necessary condition for the development of a higher education institution.

Pedagogical innovation distinguishes principles that reflect specific laws and regularities of the implementation of innovative processes [11].

The principle of organized innovative change in the state of the education system. This principle focuses on the need for conscious activity during the transition from one state of the education system to another, more advanced one. Its application involves a certain system of activity, which covers the stage of preparation for changes in the state of the education system and the stage of implementation of these changes. Preparation for changes in the education system involves proposing and justifying the main goal of the planned changes, determining the means and conditions by which this goal will be realized. The most difficult and most important thing is to ensure changes in the education system by appropriate means: new textbooks, methodical developments, trained personnel, necessary material and technical equipment. The principle of organized innovative changes in the state of the education system should be basic in the preparation and implementation of various reforms and modernizations.

The principle of transition from spontaneous mechanisms of innovation processes to consciously controlled ones. The implementation of this principle involves the definition and development of an effective mechanism of conscious management of change of states. The creation of an effective mechanism should take place in different directions. One of them is related to the combination of the processes of creating something new, its development by teachers and its practical application in one educational institution. A school can become such an institution as a managed innovation system.

The principle of informational, material and technical, and personnel support for the implementation of the main stages of innovative educational processes. It provides for mandatory informational, material, personnel support of innovative processes at each of the main stages. For example, the creation of pedagogical innovations requires appropriate personnel support, i.e. the presence of sufficient potential of creative people in the teaching staff who are able to act as their authors. If such innovations are already in the arsenal of pedagogical science and practice, you need to have relevant information about them. In this case, there is a need for an adequate material and technical base that provides the first stage of innovation processes (data banks, computer equipment, other equipment).

The principle of predicting reversible or irreversible structural changes in an innovative socio-pedagogical environment. This principle takes into account the law of irreversible destabilization of the pedagogical innovation environment, as well as its integrity and adaptive capabilities. An innovative environment without such opportunities could not exist and would be destroyed under

the pressure of pedagogical innovations. In this sense, the resistance of the innovative environment to innovation, which can take the form of conservative actions in relation to the new, is natural and even natural for maintaining the stability of the environment as a system. Acceptance or non-acceptance of the new can be considered from the standpoint of the qualitative state of the innovative system, the possibility or impossibility of its preservation, stability, and ability to self-develop. The action of this principle is aimed at preventing spontaneous, unpredictable changes that can significantly delay the implementation of innovative processes. Therefore, their management should include anticipation and forecasting of changes that may occur with the invasion of a pedagogical innovation into the innovative environment. It is about how teachers will accept the innovation, about their readiness to learn something new, whether it will provoke a conflict in the teaching staff, how it will affect the usual connections in the content of education and upbringing, etc.

The principle of strengthening the sustainability of innovative educational processes. Its essence turns out to be that during the transition from spontaneous processes to managed ones, the stability of innovative processes, their ability for a kind of self-protection, self-adaptation, should also increase. The modern dynamics of social life has caused an increase in the number of innovative processes that cover various links of the education system, significant changes in their quality. The dominant change in the quality of innovative processes is the growth of their sustainability. This is manifested in the recognition of their non-accidentality, regularity, necessary for the educational system. As a result, they receive the necessary informational, logistical and personnel support. The attitude towards innovative teachers is also changing, the degree of expectation of new things in pedagogy is increasing, that is, there is a mechanism for the necessary implementation of new things.

The principle of accelerating the development of innovative processes in the education system. The action of this principle reveals the efficiency of the organization and the mechanisms of implementation of innovative processes. It means the progression of innovative changes as a result of their rational introduction into the practice of educational institutions [2]. All principles are elements of a complex system of organization and management of innovative activities in the field of education and training. They closely interact with each other, which due to the synergistic (Greek - the one that acts together) effect strengthens the action of each of them [11].

Innovative activity in education is a series of actions aimed at updating the educational space, updating the goal, content, organization of the educational process, forms and methods of education, adapting the educational process to new socio-historical conditions.

Let's consider the types of structure of innovative activity. Business structure. It appears as a set of such components as motives - purpose - tasks - content - forms - methods - results. Undoubtedly, everything starts with the motives (motivating reasons) of the subjects of the innovation process (the head of the educational institution, educators, teachers), the justification of the innovation, the formulation of tasks, the development of the content of the innovation, etc. All these components of activity are implemented under certain conditions (material, financial, moral-psychological, time), which do not belong to the structure of activity, but ignoring which makes the innovation process ineffective.

Subject structure. Its basis is the innovative activity of the subjects of the development of the educational institution: teachers, scientists, children, parents, sponsors, consultants, experts, employees of educational authorities, each of whom realizes his function and role in the innovation process.

The level structure reflects the interconnected innovative activity of subjects at the international, state, regional, district (city) levels and at the level of an educational institution. The innovative process in the educational institution is largely influenced (both positively and negatively) by the innovative activity of higher levels. In order for this influence to be mostly positive, a special activity of managers is needed, aimed at harmonizing the content of innovations, innovation policy at each level. In addition, the management of the development process of a specific educational institution requires its consideration at the following levels: individual, small group level, the level of the entire institution, district (city) and regional.

The content structure covers the creation, development and mastering of innovations in the pedagogical process, management of an educational institution, etc. Each component of this (as well as any other) structure has a complex structure. Thus, the innovative process in education can involve innovations in methods, forms, techniques, means, in the content of education or in its goals, conditions, etc.

Management structure. Its peculiarity comes down to the interaction of such types of management actions as planning - organization - management - control. Traditionally, the planning of innovative activities takes place through the development of a concept, for example, of a new educational institution or its development program. After that comes the stage of organizing the activities of the teaching team for the implementation of the program and control over the relevant processes and their results [11].

To improve innovative activities in the training of students, today computer technologies are widely used in pedagogy as a science, as well as directly in the practice of the pedagogical process. They have gained the most popularity in such activities as distance learning, online learning, assistance in the education management system,

development of programs and virtual textbooks in various subjects, searching for information on the network for the educational process, computer testing of students' knowledge, creation of electronic libraries, formation of a unified scientific electronic environment, publication of virtual magazines and newspapers on pedagogical topics, teleconferences, expansion of international cooperation in the field of Internet education.

The practical implementation of these technologies in the professional training of future specialists is inextricably linked with the use of telecommunications, which make it possible to spread advanced pedagogical technologies, professional knowledge in various fields in the shortest possible time, to form students' communication skills, the ability to work with information sources.

Multimedia technologies serve as the basic building material for the entire society. In the modern world, there is a need to prepare a person for life in a multimedia environment. This process should be started as early as possible, because the child's contact with the media is present almost from the moment of his birth.

Today motivates the need to train teachers of all levels to work in the field of multimedia education and information technologies. Formation of competence in the use of media becomes an important challenge, which predicts familiarization with the broad context of civilizational changes, takes into account historical, social, cultural, psychological and political aspects.

Students use multimedia technologies as a tool that helps their own development, the formation of computer skills in the course of solving problems, the support of graphic, musical or even literary creativity, etc. [19].

The purpose of using multimedia learning technologies in a higher education institution is to prepare students for full-fledged life activities in the conditions of the information society. This prompts us to outline the pedagogical tasks of multimedia learning technologies: intensification of all levels of the educational process, increasing its efficiency and quality; implementation of the social order caused by the informatization of modern society (training of specialists in the field of informatics and computer technology; training of users of multimedia technologies); building an open education system that optimizes the dynamics of the trajectory of self-education; systematic integration of subject areas of knowledge; development of the student's creative potential, his abilities for communicative actions; formation of skills in the organization and conduct of experimental research activities; culture of educational work; development and formation of students' information culture [5].

The use of multimedia tools in open and traditional education predicts several basic methods of implementing pedagogical activities. As a rule, all of them can be divided into two main classes, according to the principles of the student's interaction with the computer learning tool. Some educational products are designed to manage the process of providing information, so students are offered only a passive role of receiving information. Other educational multimedia tools are interactive, as they involve the active role of the student, who independently chooses subsections within the topic, determining the sequence of their study.

Intensive development of technology in the second half of the 20th century. caused the emergence of a number of new multimedia: video, satellite television, computers, the global Internet. The 21st century is the era of information and communication. The main new attribute is a computer with access to the Internet, which enables a person to communicate with the whole world.

The very rapid development of multimedia is changing the world in which we live, and prompts a scientific reflection on the power of their influence. Multimedia is not interpreted only as a carrier of information and knowledge with the world, it is a source of value. It is becoming common to believe that being familiar with and understanding media, as well as being able to use it, is a ticket to active participation in most areas of our lives.

Multimedia technology is an organic component of the human rhythm of life, an illiquid component of culture, a communication resource, a symbol of modernity and transformation, which significantly changes the functioning of modern society. Nowadays, what is important to people is what the media represents, the world of electronic multimedia embodies a vision of reality.

Modern media civilization generates a new model of society, changing everything around, including school. First of all, young people, who pay much less attention than before to printed sources of information, are not used to reading literature for a long time and listening to long lectures. This is the so-called screen generation, raised on television, video clips, action movies and short messages. It is difficult for young people to perceive abstract concepts if they are not presented in the form of models and pictures. The generation raised on visual media has a different structure of perception, a shortened sphere of attention, which significantly affects the educational process and popular culture [7].

Today, it is almost impossible to find an educational field that does not use a variety of multimedia educational tools and multimedia teaching aids, encyclopedias, reference books, etc., each of which is a hypermedia system that combines texts, photos, video clips, animations, etc., linked by content [5].

At the beginning of the 21st century, the development of computer technologies gave teachers the opportunity to combine text, graphics, audio and video resources in computer programs [17].

According to the traditional educational field, the teacher's role was to provide content and information for students. For several decades, educators have used various types of instructional technologies to convey information to

students. Radio, movies, television, and video are instructional media that were popular in the past, but their use has not been effective.

The emergence of multimedia and ICT quickly modified the learning scenario, introducing instructional technologies in educational institutions, especially in higher education: the use of multimedia, dialogic, multisensory forms by teachers instead of the traditional single media format (text). This guarantees the teacher not only the assimilation of knowledge and information by students in a more efficient way, but also more productive work.

The center of attention in education has now shifted from a traditional format to an innovative one, where students become active subjects and participate in their own learning process. Such changes are caused by the impact of ICT, especially multimedia technologies, on the teaching and learning process. Multimedia technologies are able to transform traditional materials into multimedia content, and therefore improve student learning. In this context, there is a need to adjust the teacher's approach to teaching, preparation of content and transfer of educational materials in accordance with new phenomena.

Educators interpret multimedia as part of a combination of resources that include media elements, instructional systems, and computer systems. Multimedia is changing the world, the message and delivery that optimizes education [18].

In connection with the introduction of computer technology into the educational sphere, the content of education undergoes improvement in terms of the modernization of the methodology and criteria for the selection of content, which is caused primarily by the need to orientate the educational process not on the acquisition by students of the sum of knowledge, abilities and skills, but on the development of intellectual potential students, on the development of the ability to independently acquire knowledge in conditions of active use of the possibilities of modern information interaction technologies, primarily multimedia. Modern approaches in the field of formalization of knowledge, structuring of educational material make it possible to eliminate the most important limitation caused by information overload. In contrast to the traditional presentation of educational material in the form of linear structures, modern hypertext and hypermedia presentation of educational information helps to increase the volume of the material, expanding both the subject matter and the spectrum of its presentation, facilitating the search, interpretation, and aspect selection. The outlined direction of research predicts the restructuring of the content in accordance with the rejection of linear forms of presentation of educational material.

The development and application of creative systems of an integrative nature, which use modern computer technologies in the process of performing complex pedagogical tasks, are considered promising. Multimedia technology affects the realization of the possibilities of the resources of telecommunication networks as a global environment of continuous education. Modern approaches to the use of web-technologies provide for informational interaction of participants in the educational process in various modes of operation of the World Wide Web. Internet technology provides modern users with all the resources of global telecommunications, helps to organize educational activities using applied and instrumental software tools and systems. At the same time, it becomes possible to use the information environment of science (databases, distributed information processing and dissemination of scientific information based on Internet technology) and culture (electronic libraries, virtual museums and artistic presentations, exhibitions) in the educational process. In this regard, it is necessary to justify the scientific and pedagogical foundations of the creation and use of the global information environment of continuous education and the global information environment of pedagogical science based on the formation of the Unified educational space (informational and subject environment).

Multimedia is a necessary element of a properly organized learning process. In addition to helping with learning, these technologies can independently organize the educational process. The computer is used in many educational projections for children and young people, as it has powerful resources. Students can use the computer to edit the school newspaper or perform other functions [20].

Computer technology improves pedagogical technologies, in particular methods and organizational forms of education. This direction of research is characterized by the creation of pedagogical technologies and methodical systems of learning, focused on the formation of the ability to conduct educational activities using modern methods and means of learning, means of information interaction and communication.

Computer-based classes allow for a variety of learning methods, are flexible and effective, and offer specific application guidelines. The advantages of using computer technologies for teachers are obvious, for example, in the direction of increasing the interest of students, demonstrating the material, without any complication for teachers.

Conclusions

Innovation is considered as an implemented innovation in education - in the content, methods, techniques and forms of educational activity and personality education (methods, technologies), in the content and forms of organizing the management of the educational system, as well as in the organizational structure of educational institutions, in the means of training and education and in approaches to social

services in education, distance and multimedia learning, which significantly increases the quality, efficiency and effectiveness of the educational process.

The classification of currently known pedagogical technologies that are most often used in practice is shown. The basis of the innovative activity of a modern teacher is the formation of an innovative program-methodical complex in the discipline. Along with programmatic and content provision of disciplines, the use of informational tools and their didactic properties comes first. It combines technical capabilities - computer and video technology with live communication between the lecturer and the audience. In pedagogical innovation, the principles reflecting specific laws and regularities of the implementation of innovative processes are singled out. All principles are elements of a complex system of organization and management of innovative activities in the field of education and training. They closely interact with each other, which enhances the effect of each of them due to the synergistic effect.

It is proven that the use of computer technologies motivates a new paradigm in educational methods and strategies, which requires new forms of learning and innovative ways of transferring educational materials to students. The functioning of the Internet has expanded the possibilities of learning within the framework of a global perspective, given students access to educational resources and information all over the world. The impact of computer technology on our society as a whole is ongoing and still not fully exploited. However, the use of multimedia is limited only to the implementation of pedagogical learning goals, and is identified with the formation of practical skills and abilities. Multimedia contributes to the realization of pedagogical goals, integrating into the educational process and interacting with its components, such as content, forms and methods of learning.

References

[1] All-European recommendations on language education: study, teaching, evaluation / Sci. ed. S. Yu. Nikolaeva. K.: Lenvit, 2003. 273.

[2] Andrushchenko V. P. (2004) Reflections on education: articles, essays, interviews. K.: Knowledge of Ukraine. 738.

[3] Artyushina M. V. (2000) Interrelationship of socio-psychological and didactic conditions of group educational activity of students: diss. ... candidate ped. Sciences: 13.00.04. K. 153 - 168.

[4] Bondarchuk O. I. (2011) Innovative technologies in education. *Pedagogical almanac.* 9. 207-213.

[5] Bondarenko O. M. (2010) Didactic conditions for the use of multimedia technologies in the process of teaching pedagogical disciplines for students of pedagogical universities: Diss. ... candidate ped. sciences: 13.00.04. Cherkasy. 205.

[6] Burkova L.V. (2001) Pedagogical innovations and their diagnostic expertise. Theoretical aspect. K.: Scientific World. 34-37.

[7] Dobrolowicz J. (2011)Współczesna szkoła wobec ekspansji mediów. *Nauczanie początkowe. Kształcenie zintegrowane*. Rocznik XXXV (LVII). 1. 7-13.

[8] Dokuchaeva V.V. (2007) Theoretical and methodological principles of designing innovative pedagogical systems: diss. ... Dr. Ped. Sciences: 13.00.01. Luhansk. 481.

[9] Information-educational environment of the technical university. URL: http://www.cnews.ru/reviews/free/edu/it_russia/institute.shtml.

[10] Innovations in higher education: domestic and foreign experience: ed. Manual / I.V. Artyomov, I.P. Studeniak, Y.Y. Golovach, A.V. Goose. Uzhgorod: PP "AUT-DOR-SHARK", 2015. 360.

[11] Kozachenko I. (2015) Innovative technologies in the system of training future teachers of foreign languages in great britain and ukraine (comparative analysis) Dissertation … cand. Ped. Sciences. 13.00.04. Pereyaslav-Khmelnytskyi. 219.

[12] Kuchai O.V. (2014). Conceptual principles of training future teachers by means of multimedia technologies. Tutorial. Cherkasy: publisher Chabanenko Yu. A.

[13] Kuchai O.V. (2015). The use of multimedia technologies in the training of primary school teachers. Tutorial. Cherkasy: publisher Chabanenko Yu. A.

[14] Kuchai, Biletska, O., T., Kravtsova, T., Bidyuk, N., Tretko, V., & Kuchai, O. (2021). The Use of the Activity Approach in Teaching Foreign Languages in Higher Education Institutions. *Revista Românească pentru Educaţie Multidimensională*, 13(2), 243-267.

[15] Kuchai, O., Skyba, K., Demchenko, A., Savchenko, N, Necheporuk, Y., & Rezvan, O. (2022). The Importance of Multimedia Education in the Informatization of Society. *IJCSNS International Journal of Computer Science and Network Security*, 22(4), 797-803.

[16] Kuchai, T., & Kuchai, O. (2019). Ensuring the quality of higher education in the European educational space. *Scientific journal of the Vasyl Stefanyk Pre-Carpathian National University*. Educational space of Ukraine, 16, 15-19.

[17] Lai S.L. (2000) Influence of audio-visual presentations on learning abstract Concepts. *International Journal of Instructional Media*. 27. 199-206.

[18] Mai Neo, Ken Neo Tse-Kian & Ahmad Rafi Mohamed Eshaq. (2007) Designing Interactive Multimedia Curricula to Enhance Teaching and Leader. International Journal of Instructional Media. 1. 51-59.

[19] Morbitzer J. (2004) Kompetencje nauczyciela przedszkola i klas I-III w zakresie edukacji medialnej i technologii informacyjnej. *Kształcenie nauczycieli przedszkoli i klas początkowych w okresie przemian edukacyjnych* [Pod red. Bożeny Muchackiej i Krzysztofa Kraszewskiego]. Kraków: Wydawnictwo Naukowe Akademii Pedagogicznej. 180-193.

[20] Płoszyński Z. (2005) Zastosowanie komputera w edukacji i wychowaniu. *Edukacja*. 2 (90). 94-102.