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## Innovative educational technologies as a way of higher education enhancement

### Інноваційні освітні технології як засіб удосконалення вищої освіти

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Written by:


**Inna Knysh<sup>1</sup>** <https://orcid.org/0000-0003-1746-359X>**Oleksandra Budanova<sup>2</sup>** <https://orcid.org/0000-0002-9877-1756>**Svitlana Vakulenko<sup>3</sup>** <https://orcid.org/0000-0003-3293-1670>**Olena Syrotina<sup>4</sup>** <https://orcid.org/0000-0002-4802-4891>**Svitlana Popychenko<sup>5</sup>** <https://orcid.org/0000-0001-5405-5937>


#### Abstract


The article examines the interconnected functions of the innovative activity of the teacher, which contribute to the improvement of higher education. The purpose of the article is to consider innovative educational technologies as a means of improving higher education and to prove their impact on the training of a modern competitive specialist. The methodology shows the connection of the main methodological approaches of professional training of a modern competitive specialist with the help of innovative educational technologies as a means of improving higher education. The levels of training of the future specialist with innovative educational means are highlighted. The classification of innovative educational technologies was carried out. The importance of hybrid courses, which include a form of combination of distance learning and face-to-face learning, is shown. The features are identified and the necessity of innovative educational technologies for the improvement of


#### Анотація


У статті розглянуто взаємопов'язані функції інноваційної діяльності викладача, що сприяють удосконаленню вищої освіти. Метою статті є розгляд інноваційних освітніх технологій як засобу удосконалення вищої освіти та доказу їх впливу на підготовку сучасного конкурентоспроможного фахівця. Методологія показує зв'язок основних методичних підходів професійної підготовки сучасного конкурентоспроможного фахівця за допомогою інноваційних освітніх технологій як засобу вдосконалення вищої освіти. Виокремлено рівні підготовки майбутнього фахівця інноваційними освітніми засобами. Здійснено класифікацію інноваційних освітніх технологій. Показано важливість гібридних курсів (hybrid courses), що включають форму поєднання дистанційного навчання та очного. Визначено особливості та показано необхідність інноваційних освітніх технологій для удосконалення вищої освіти. Інноваційні освітні технології мають переваги у вищій

<sup>1</sup> Doctor of Philosophical Sciences, Professor of the Department of Social and Humanitarian Disciplines and Foreign Languages, National Academy of Management, Ukraine. WoS  Researcher ID: ADA-5230-2022

<sup>2</sup> Candidate of Sociological Sciences, Associate Professor at the Department of Applied Sociology and Social Communications, V.N. Karazin Kharkiv National University, Ukraine. WoS  Researcher ID: JAC-8055-2023

<sup>3</sup> Candidate of Sociological Sciences, Docent, Associate Professor at the Department of Sociology of Management and Social Work, V.N. Karazin Kharkiv National University, Ukraine. WoS  Researcher ID: JAC-5513-2023

<sup>4</sup> Ph.D. in Pedagogical Sciences, Associate Professor at the Department of Romance and Germanic Languages and Translation, National University of Life and Environmental Sciences of Ukraine, Ukraine. WoS  Researcher ID: ABM-8375-2022

<sup>5</sup> Candidate of Pedagogic Sciences (Ph.D.), Associate Professor at the Department of Preschool Education, Dean of the Faculty of Preschool and Special Education, Pavlo Tychyna Uman State Pedagogical University, Ukraine. WoS  Researcher ID: AEL-1613-2022

higher education is shown. Innovative educational technologies have advantages in higher education. The criteria of innovations in the educational process are singled out. The features of innovative training are listed, which are of great importance for the improvement of higher education and, as a result, obtaining a competitive specialist.

**Keywords:** innovative educational technologies, improvement of higher education, specialist training, competitiveness, innovative professional activity.

## Introduction

The higher school faces the task of creating conditions for the training of innovatively oriented specialists who were able to ensure the future accelerated development of high-tech industries with high export potential, which will allow for maintaining a high rate of development of the national economy. The importance and urgent possibility of fulfilling these tasks force higher educational institutions to actively search for effective forms and methods of training modern specialists. This process is not easy, as it requires new forms of organization and functioning of higher educational institutions, increasing their institutional flexibility, strengthening the adaptive potential of study programs, teaching methods, and deepening the scientific component in the educational process (Saukh, 2011).

The modern socio-cultural and socio-economic situation in the world requires a change in the quality requirements for a specialist of any profile for successful and qualified professional activity, competitive demand for a specialist in the labor market, constant promotion at work, social security, and fruitful life in general. And it is the use of opportunities in the educational field that is the main direction of personality formation. It is the educational sector with the help of innovative means that increases the level of human competence, develops intelligence, and makes a person competitive in any field of activity. Therefore, in today's world, there is a question about improving the system of training specialists and restructuring higher education. To this end, increasing the effectiveness of education, modernizing the content of education, and educating future specialists can be effective only with the help of innovative technologies. The educational process in institutions of higher education takes place from the material and educational and methodological base of the institution, taking into account the scientific and

освіті. Виокремлено критерії інновацій в освітньому процесі. Перераховано особливості інноваційного навчання, що мають велике значення для удосконалення вищої освіти і як результат, отримання конкурентоздатного фахівця.

**Ключові слова:** інноваційні освітні технології, удосконалення вищої освіти, підготовка фахівця, конкурентоздатність, інноваційна фахова діяльність.

pedagogical potential and modern information technologies. At the same time, the focus is on the formation of a harmonious, educated, developed personality who can constantly update professional knowledge throughout his life, be a professionally mobile person and quickly adapt in the educational and social, and cultural spheres to dynamic processes, innovative technologies of work organization, in management systems in the conditions market economy (Bida et al., 2018). Therefore, the main task of higher education becomes the development of the student's abilities and qualities that would allow him to create a qualitatively new social space, readily implement and perceive innovations, and successfully adapt to constantly changing competitive conditions. A characteristic modern trend of higher education is innovativeness, which, relative to other fields of human activity, has an anticipatory character, and determines openness to new (Voloshyna, 2014). Therefore, we consider innovative educational technologies as a means of improving higher education.

## Literature Review

The theoretical analysis of the problem indicates a wide range of scientific investigations, the results of which serve as a basis for further research.

The conceptual foundations of innovative educational processes are considered in the socio-philosophical context of civilizational changes, the justification of a new paradigm of education, and the search for ways to overcome its crisis state.

Scientists devoted their work to the study of theoretical and applied aspects of development as changes through innovation, building up innovative potential and strategic resources, increasing the competitiveness of business

entities, taking into account the interests of current and future generations. In particular O. Bida, O. Shevchenko, & O. Kuchai (2018) consider the reform of the educational sector as a necessary condition of today, which makes possible the use of innovative technologies in higher education as one of the promising directions of society's development. Scientists clarified the meaning of the terms "pedagogical technology" and "innovation"; the need and importance of the introduction of innovative technologies into the education of modern society are shown, and the theoretical and pragmatic importance and implementation of "high technologies" is indicated. The study is aimed at improving the professional training of specialists using innovative technologies, which scientists conditionally divide into groups depending on the form of educational activity appropriate for their use.

Recently, the problem of innovations in education has been in the center of attention of many researchers.

O. Polievikova, & Zh. Shurda (2019) proposed a technology of innovative direction, which directs interactive training of young people in pairs of variable composition, which gives a person the opportunity to become an individual and make the student of education a formed value of humanity, creating an atmosphere of cooperation in the class, leads to interaction between the teacher and the future specialist. Methodical tips for the teacher and student are provided for working in pairs of variable composition.

I. Dychkivska (2004) examines the multifaceted and complex phenomenon of innovative activity; the content of innovative activity includes components of the interaction of personalities, individualizes the educational process, directs it to professional development, and the transition to a qualitatively new state. Represents innovative activity for combining various operations and actions systematically and as the main type of creative activity, directs it to the provision and acquisition of innovative knowledge, technologies, application and mastering of new means.

R. Hurevych (2014) showed the influence of innovative technologies on the training of a modern specialist, developed innovative technologies for the educational sector, showed the possibilities of applying innovative learning technologies in the modern educational space of higher education institutions, and the possibilities of integrating the use of Internet

services, and proved the impact of innovative technologies on the quality of training of a future specialist.

Scientists emphasize that the implementation of informatization in the educational process and its digitization allows the implementation of a new format of education.

S. Sysoieva, & K. Osadcha (2019) analyzed innovative technologies in institutions of higher education; the modern innovative state of distance learning was investigated; features of distance learning technologies, and the possibilities of using distance learning in higher education institutions are shown.

M. Kyrychenko, & L. Serheieva (2018) present different approaches to innovative scientific developments, and innovative technologies in the field of education, show the influence of innovative technologies on the training of a modern competitive specialist, highlight trends, directions, technologies, conditions, and principles of open education. In the analysis of scientists, all aspects of the educational process of the institution of higher education are involved, because the modernity of the educational field indicates the need for significant innovative changes, unification of specialists from different fields of knowledge, for the existence of the open education movement; objectivity is proven and the content of the quality of higher education for education seekers, employers, and society is presented.

O. Onats (2018), the managerial activity of the head of a higher education institution was investigated; features of management technologies are highlighted; recommendations were developed and the essence of the content of innovative technologies for managerial activities was shown; the areas of application of management technologies are shown; proposed standards developed for management technologies in the field of economics and business, which can be useful for higher education institutions in the management process to ensure the effectiveness of the educational space on a global scale.

O. Chubukova, & I. Ponomarenko (2018) reflected on the specifics, highlighted both the newest and most significant technologies, as well as common and distinctive features of virtual and augmented reality; their necessity and significance for the educational process, the creation of appropriate products and their use by companies is revealed.

T. Desiatov (2020) made an analysis of the content of the educational process and outlined the ways of its modernization when using digital content. Recommendations for the high-quality implementation of innovative technologies are offered, which enable students to leave contact time to acquire knowledge, independently study professional material, learn the practice of knowledge, conduct subject discussions, acquire practical skills, and improve laboratory practices.

System, scientifically based implementation technology innovations in educational institutions in both domestic and foreign pedagogical innovations are not presented. Effective methods of examination, selection and monitoring of innovations are practically not used. Issues of development remain insufficiently covered innovative potential of educational institutions, in particular, innovative competence of teachers to implement innovations. Mechanisms for forming innovative missions, strategies, and the environment of educational institutions require further development and roles in these processes of subjects of innovative activity. The difficulties that pedagogical teams constantly face when implementing innovations actualize the need for scientific, methodological and informational support innovations.

In view of the above, it can be stated that the problem of high-quality training of future specialists as a means of introducing innovative teaching methods in the educational process of a higher education institution is urgent and requires its scientific and practical solution.

**The purpose of the article.** Consider innovative educational technologies as a means of improving higher education and show their impact on the training of a modern competitive specialist.

### Methodology

To achieve the goal, the following research methods were used: theoretical, analysis of psychological, philosophical, scientific and methodical pedagogical literature, foreign authors and domestic scientists to determine the categorical and conceptual apparatus of research, analysis of programs, methodological materials, training manuals, methodological documentation; synthesis, generalization, comparison, design, modeling, to determine the structure and essence of innovative educational technologies as a means of improving higher

education and showing their impact on the training of a modern competitive specialist.

The essence of the study stems from the content and nature of the professional training of a modern competitive specialist with the help of innovative educational technologies as a means of improving higher education.

The research is based on the idea that the fundamentalization of the educational space of specialist training is considered the main direction of improving the quality of professional and general professional training of the future specialist, its modernization, which contributes to the development of a personality capable of assimilating innovative knowledge, self-education, self-study throughout life.

The implementation of such an idea in the conditions of a higher education institution is based on the following interconnected concepts: methodological, theoretical, and methodical.

The methodological concept substantiates the connection between the main methodological approaches of professional training of a modern competitive specialist with the help of innovative educational technologies as a means of improving higher education. In the context of their potential opportunities, the main approaches are used to develop and substantiate the specified problem.

The systematic approach is applied with the aim of professional training of a modern competitive specialist with the help of innovative educational technologies as a means of improving higher education, the pedagogical system, since the systematic approach involves consideration of all elements of the system to each other: the theory and paradigm of education, the methodology of education, content, goals, organizational systems, the learning process, the content of education.

The synergistic approach shows the idea of non-linearity, openness, multivariate innovation systems, self-realization, self-development, the implementation of reproductive and transformative innovation processes in interaction with the educational innovation space and all innovative educational systems. The provisions of synergetic make it possible for the entire educational space to single out the regularities of the educational system, which are subordinated to each other.

System-synergistic approach to the innovativeness of education is a multivariate style of thinking (conceptual and methodological pluralism, the ambiguity of theoretical constructions, a combination of abstract-logical, rational, figurative-intuitive, irrational; postulating chaos as a necessary innovative moment of reality that realizes itself, arises; the combination of knowledge innovativeness of the external world in its innovative development with internal knowledge).

From the standpoint of the activity approach, which is extremely important for education, innovativeness has the same structural elements as the content of education: the experience of cognitive activity fixed in the form of results; in the form of the ability to make innovative decisions in problem situations; in the form of the ability to act according to the model, experience in implementing innovative methods of activity; experience of emotional relationships; in the form of personal orientations, experience of creative and innovative activity. Each previous element is a prerequisite for the next one, so these elements are interconnected.

The competency approach is the basis of ensuring the professional training of a modern competitive specialist with the help of innovative educational technologies, considers general professional competence as a dynamic integral property of an individual, which reflects his innovative attitude to fundamental and applied disciplines, and considers the professional quality training of a modern competitive specialist with the help of innovative educational technologies mainly in the improvement of higher education.

The prognostic approach made it possible to solve the tasks of innovative educational technologies, improvement, modernization, transformation, and pedagogical educational innovation processes aimed at a promising innovative future.

The personally-oriented approach was used for the holistic study of the role of innovative educational technologies as a means of improving higher education and the joint activities of the teacher and the learner, aimed at the formation of the general and professional culture and creative abilities of the personality of a competitive specialist.

The information approach provides an opportunity for the formation of innovative orientation in the educational space, to operate

with innovative information based on the use of modern innovative educational technologies as a means of improving higher education, information, and communication technologies for the effective performance of professional duties in accordance with market needs.

The theoretical concept provides an opportunity to define and substantiate the leading concepts of the study, including the organizational and pedagogical principles of substantiating the importance for the educational sector of innovative educational technologies as a means of improving higher education.

The methodological concept involves checking the effectiveness of the system of introducing innovative educational technologies into the educational process as a means of improving higher education.

## Results and Discussion

The reason for educational reforms in the global space is the development of innovative educational technologies as a means of improving higher education, which improves the sector of the economy and turns education into an innovative space. Following the market principles of the economy, democratic values, scientific and technical achievements in the world by organizing the educational process, updating the content of the educational field, innovative, accelerated development of education takes place (Slushnyi, 2021).

Innovative educational technologies ensure the competitiveness of the institution of higher education in the market of educational services and create all the conditions for improving the quality of education. By innovative educational technologies, as a means of improving higher education, we mean technologies created based on innovations. Innovative educational technology is a technology aimed at improving the quality of education, thought out in every detail, with the help of which the main educational goals are achieved (Polishchuk et al., 2022).

We will distinguish the levels of training of the future specialist with innovative educational means:

- first level – existing education;
- second level – direct training in an innovative educational environment, basic courses, classes, master classes, modular courses, seminars;



- third level – approbation of educational results using innovative methods;
- fourth level – implementation of the results of educational activities, using innovative educational technologies (Strilets, 2015).

Innovative educational technologies are classified by groups.

**Digital technologies.** They are used to create digitization processes in society, digitalization of the consciousness of future specialists, and integration with informatics of subject industries in a professional competitive aspect. With the help of the introduction of digital technologies, a radical restructuring of the educational process is taking place, where computer software and innovative tools are of primary importance in the study of professional disciplines. This approach forms the digital culture of a specialist, improves educational motivation, increases the productivity of a specialist in any field and the results of education, and makes it mandatory to include in the curriculum educational disciplines aimed at mastering digital technologies. (Shuliak et al., 2022)

**Management of the quality of education and information and analytical support of the educational process.** The use of such innovative technology is the main means of monitoring, general control of education seekers, the study of the system of work of a higher education institution, study of the state of teaching of professional disciplines, etc.; objectively allows to help in the development of each student, educational institution, course, group (Kuchai & Kuchai, 2019).

**Personally oriented technologies** put the individual at the center of the educational system, provide conflict-free, comfortable, safe conditions for the educational process, contribute to the development of education seekers and the realization of human natural potential. With this approach, Man is not a means of achieving the proposed goal, but the main goal of a quality education system (Kuchai, 2013).

**Educational technologies.** In modern educational conditions, the training of a competitive specialist is implemented in the form of innovative educational technologies, and additional forms of personality development: participation in mass cultural events, self-government, etc.

**Monitoring of the intellectual development of the individual.** This innovative technology includes

quality diagnostics and analysis of the education of each future specialist with the help of testing and construction of graphs of the dynamics of the success rate of education seekers (Puhach et al., 2021).

**Didactic technologies.** Innovative educational technologies as a means of improving higher education are used in the implementation of group work, independent work of students, differentiated learning methods – project protection, didactic game, "consultant" system, "small group" system, learning using audiovisual technical means. Various combinations of educational techniques are used to improve the educational process (Vovk & Matvienko, 2020).

In the modern process of education, innovative pedagogical methods are widely used. Their basis is the maximum proximity to the real professional activity of the future specialist, interactivity: information technologies; technologies of collective and group training; "case method" technology; simulation technologies; computer modeling; interactive technologies; video training method; technologies for processing debatable issues; technologies of situational modeling; text-centric learning technology; project technology; differentiated learning technologies and others. Innovative educational technologies are considered to be: distance technologies, E-Learning, and technologies of anticipatory learning. Nowadays, the use of modern means of communication is mandatory: chat rooms; e-mail; websites; multimedia products; forums; portals; video conferences and internet broadcasts; electronic teaching aids; search services for electronic encyclopedias, textbooks, dictionaries, reference books, exercisers, photos, blogs, documents, audio and video recordings, etc. (Slushnyi, 2021).

In institutions of higher education, learning technologies and innovative forms of organization of the educational process are inextricably linked with the creation of innovative tools for the creative activity of teachers and students (material and technical support). Internet networks and computer classes with wide access to the Internet have the main importance in this approach (Artimov et al., 2015).

Innovative educational technologies that serve as a mandatory improvement of higher education include:



- electronic database on innovations in higher education;
- generalization of the learned best professional experience and its distribution in the educational sphere on a domestic, European, and global scale;
- organization of works on the problems of professional education: applied, fundamental, educational, and methodical;
- organization and holding of seminars, conferences, and training courses for the professional public from innovative methods of teaching professional disciplines.

Recently, hybrid courses have been used in foreign educational institutions, which include a combination of distance learning and face-to-face learning. With this educational approach, students independently study individual courses in an electronic format, which does not exclude direct contact between students and the teacher. When integrating distance education into face-to-face education, there is a new formulation of the concept of "distance of the student from the teacher", which emphasizes the pedagogical aspect, not the physical phenomenon of distance. With the help of distancing, there is an opportunity to provide the student with autonomy, which allows him to significantly improve the organization of independent work. In distance education, the information-analytical system is an educational complex in which the advantages of all forms of teaching educational material are manifested – a study guide and a textbook for independent study of the material; manuals for explaining the content of practical classes, lecture notes; methods of innovative direction; course design; laboratory work; reference literature.

This process is provided by two subsystems:

- 1) an information system for analyzing the degree of assimilation of professional material and monitoring the entire educational process;
- 2) applied programming and a multimedia complex of theoretical material, laboratory work, and practical classes for solving problems in the educational field (Saukh, 2011).

Innovative educational technologies, in particular, distance learning technology, are relevant and necessary, require greater self-organization, provide an opportunity to choose their rhythm of education, provide students with the opportunity to carry out high-quality

continuous independent work, provide opportunities for self-expression, and form an information culture among students. Such technology improves the content of carrying out and performing laboratory and practical tasks, systematizes materials, provides an opportunity at any convenient time to acquire knowledge in a professional field, and improves professional skills throughout life. Innovative technologies contribute to education seekers in mobilizing forces for interest during education; professional orientation of the individual, formation of creativity of education seekers; increase their motivation to work; orient students to the formation of their own methods of activity. Thus, there are favorable circumstances in the educational space for providing educational programs with digital content (Desiatov, 2020).

We will identify the features and show the need for innovative educational technologies to improve higher education:

- optimality: the ability to achieve educational goals with the least expenditure of time, effort, and resources;
- modernity: constant improvement of the content of the professional discipline, striving for innovations, reducing the gap between the latest achievements in production and science;
- scientificity: refusal to intuitively determine the forms and methods of education, the content of education, the implementation of a fully comprehensive analysis of educational achievements based on the latest professional achievements in the scientific field of knowledge;
- integrality: synthesis of interdisciplinary knowledge;
- optimality of the material and technical base of training;
- reproduction of the educational process and results of monitoring of the educational sector;
- programming activities for higher education applicants and teachers;
- comprehensive use of didactic teaching aids, and modern technical developments, which provide a possible activation of the professional activity of those obtaining higher education;
- qualitative and quantitative monitoring of education and assessment of learning outcomes.

Innovative educational technologies have advantages in higher education:

- the technology of modular-rating training provides an opportunity to organize independent educational activities for education seekers to master the content of training;
- technologies of scientific research, creative and project activities contribute to the inclusion of higher education students in innovative types of active activities;
- distance learning technologies, information and communication technologies, problem-based learning technology, and critical thinking development technology allow working in an innovative format with various sources of information;
- the technology of organizing a discussion, the technology of moderating group work orients to group interaction in the qualitative innovative process of providing higher education;
- reflexive learning technology, game technologies, self-control technology, portfolio technology, and self-education technology create conditions for realizing the subject position of education seekers;
- the technology of analyzing specific practical situations, the technology of contextual learning, the technology of organizing simulation games, and the technology of the case method form a coherent structure for the future innovative professional activity of higher education students (Dolhopov & Kirianova, 2021).

Experts of the New Media Consortium (Adams et al., 2017) innovative technologies of artificial intelligence, neural networks, and machine learning to create perfect natural user interfaces are of great importance for higher education.

Artificial intelligence directs all the innovative potential for the development of online learning and allows for improving the research processes of software and adaptive learning, and as a result, there is the possibility of obtaining intuitive interaction with the learners of education. Jenzabar and IBM SPSS with machine learning functionality, is enterprise software that helps interpret data to improve higher education financial aid programs, reduce dropouts, and predict future enrollment (Sysoieva & Osadcha, 2019)

Let's highlight the most important interrelated functions of the teacher's innovative activity, which contribute to the improvement of higher education:

- analytical and evaluative;

- orientational and prognostic;
- organizational;
- research-creative;
- communicative and stimulating;
- informative and explanatory;
- diagnostic;
- constructive and design.

The level of preparation of a specialist for innovative professional activity in conditions of continuous education with the help of innovative educational technologies increases if the following positions are provided:

- development of a training program for an innovative specialist, a theoretical model for improving higher education;
- consistent implementation of a set of methods and forms of education to improve the education of a student of higher education;
- selection of a set of optimal innovative methods and forms of organization of professional activity in structural subdivisions of the system of continuous professional education;
- constant adjustment of the learned components of innovative activity with the help of innovative educational technologies to improve the education of competitive specialists (Hrechanovska, 2019).

We justify 7 criteria of innovations in the educational process:

- 1) novelty – a method of innovative teaching, which differs from usual practice in that it surprises students and stimulates their cognitive activity;
- 2) changes – organizational changes of adaptation, innovative forms of material submission, which are temporary and manageable;
- 3) reflection – intellectual, pedagogical, and psychological reflection during self-analysis, testing, and creativity;
- 4) application – an element of the integration of educational technologies into the general educational process, which is related to various levels and influences of educational activity, to the educational discipline, to the audience;
- 5) improvement – qualitative motivation, improvement of understanding of educational information, success;
- 6) educational focus is not a technological innovation, but a pedagogical innovation;



- 7) human relations – the educational process of a higher school includes personal and human changes in the activities of students and teachers (Walder, 2014).

The features of innovative education are of great importance for the improvement of higher education and, as a result, obtaining a competitive specialist. They should be taken into account when studying. Let's list them:

- openness to the future of innovative higher education;
- work on prediction and programming of personality development;
- concentration on a personally oriented position, on human development;
- partnership relations using innovative educational technologies: mutual assistance, co-creation, cooperation, etc.;
- the mandatory presence of elements of creativity in higher education;
- the instability of the educational system, the constant contradiction of the person himself (Mynbayeva et al., 2018).

Systematic use of innovative educational technologies by teachers to improve higher education is a requirement of today. The more teaching methods and educational strategies a teacher possesses, the better he motivates the cognitive activity of the learner, the more diverse, interesting, and effective he conducts classes, encourages solving non-standard tasks and situations, promotes sustainable assimilation of innovative professional technologies, practical activities, and in-depth learning. A competitive specialist constantly improves his didactic skills, develops innovative strategies, and chooses new innovative technologies, and teaching methods (Vinnyk, 2021).

Let's consider the main trends in the field of educational innovative technologies, which are necessary for high-quality training of the student of education:

- 1) e-learning, which requires online educational platforms for synchronous, live streaming, real-time or group meetings using Microsoft Teams or Zoom, or using asynchronous recorded educational methods with a wide range of digital features and multimedia;
- 2) education through video learning: availability of innovative material through animated videos, and digital displays;
- 3) blockchain – data storage technology, used in open mass online courses (MOOC) and

portfolios to monitor the quality of the educational process, check the skills and knowledge of education seekers, allow solving problems of scale, authentication, cost of e-learning and can help students education at the job search stage to publish and present their achievements;

- 4) artificial intelligence can automate the main types of activities in the field of education, such as counseling students, evaluation, providing feedback between students and teachers, monitoring the quality of education, and preventing crisis problems in education;
- 5) big data will become bigger for the personalization of the educational process and meeting the needs of education seekers through the expansion of information on the enrollment of education seekers, course topics, success, and monitoring of students (course completion time, test result, completion), and feedback of education seekers (survey, rating);
- 6) educational analytics helps teachers to analyze and measure the educational results of students to optimize quality education: to determine the popularity of educational information (images, text, videos, infographics) among students; to find out the main fragments of educational information that need to be systematized and repeated, to single out students of higher education who, due to behavioral or academic problems, require additional attention;
- 7) STEAM – a trend that applies technological, scientific, artistic (new element), engineering, and mathematical content to real solutions to educational problems with the help of creative design and practical classes; enables students of higher education to better cooperate with other people, show greater interest in the world around them, implement their ideas and express their opinions by thinking outside the box;
- 8) gamification allows higher education students to study and practice in game professional situations;
- 9) virtual reality (VR) and augmented reality (AR) learning facilitates the explanation of complex concepts that, even in the laboratory, cannot be demonstrated to higher education students by simple images or hands-on experiments;
- 10) social networks with the help of innovative educational technologies are used in education as a means of distribution of educational videos, exchange of educational materials, communication, and discussions (Bui, 2020).

The Internet and digital technologies significantly affect higher education, which leads to significant changes in all areas – from teaching and learning to management of the educational process, from the development of educational programs to personnel support (Stratan-Artyshkova et al., 2022).

Studies prove the effectiveness of modernization and renewal of the educational sector in the context of the introduction of innovative educational technologies as a means of improving higher education, meeting the professional needs of modern education seekers, and spreading innovative educational practices. The University of the Future is a hybrid, flexible educational environment that harmoniously combines both tradition and innovation, effectively and quickly adapting to trends and innovative changes. Blockchain, video learning, e-learning, big data, educational analytics, artificial intelligence, gamification, social networks, and virtual and augmented reality are relevant trends in the field of innovative educational technologies for higher education. The introduction of innovative educational technologies into the educational process creates the necessary conditions for the attractiveness, flexibility, contextuality, intellectuality, and distribution of higher education (Vinnyk, 2021).

## Conclusions

Innovative educational technologies ensure the competitiveness of the institution of higher education in the market of educational services and create all the conditions for improving the quality of education. Innovative educational technologies are considered as a means of improving higher education and their influence on the training of a modern competitive specialist is shown.

The levels of training of the future specialist with innovative educational means are highlighted. The classification of innovative educational technologies was carried out. In the modern world, hybrid courses are used, which include a form of a combination of distance learning and face-to-face learning. With the help of distancing, there is an opportunity to provide the student with autonomy, which allows him to significantly improve the organization of independent work. This process is provided by the subsystems disclosed in the article.

The features are identified and the necessity of innovative educational technologies for the improvement of higher education is shown.

Innovative educational technologies have advantages in higher education. The interconnected functions of the teacher's innovative activity, which contribute to the improvement of higher education, are considered.

The level of preparation of a specialist for innovative professional activity in the conditions of continuous education with the help of innovative educational technologies increases if the proposed positions presented in the article are provided.

7 criteria of innovation in the educational process are identified and substantiated.

The features of innovative training are listed, which are of great importance for the improvement of higher education and, as a result, obtaining a competitive specialist. They should be taken into account when studying.

The main trends in the field of educational innovative technologies, which are necessary for the high-quality training of the student of education, are considered.

Further research will be aimed at revealing the features of the application of hybrid courses, which include a form of a combination of distance learning and face-to-face learning.

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