INNOVATIVE LEARNING TECHNOLOGIES AND THEIR ROLE IN THE EDUCATIONAL PROCESS IN HUMANITIES

[a]MYKHAILO YATSYSHYN, [b]LIUDMYLA BONDARUK, [c]ALLA HOROT, [d]IRYNA HUNCHYK, [e]TETIANA KHAICHEVSKA, [f]IULIIA ROGACH, [g]TETIANA KOROPATNITSKA

[a-e]Lesya Ukrainka Volyn National University, Address of Institution, 13, Voli Ave., 43025, Lutsk, Ukraine
[f]Centacare Multicultural Services FNQ, 212, McCormack Str., QLD 4870, Manunda, Australia
[g]Yuriy Fedkovych Chernivtsi National University, 2, Kotsiubynsky Str., 58012, Chernivtsi, Ukraine
email: [a]Iatsyshyn.Mychailo@vnu.edu.ua, [b]bondaruk.liudmyla@vnu.edu.ua, [c]horot.alla@vnu.edu.ua, [d]hunchuk@vnu.edu.ua, [e]tmkhaichevska@gmail.com, [f]Iuliia.rogach@centacarefnq.org, [g]t.koropatnicka@chnu.edu.ua

Abstract: Innovative technologies in education in humanities make it possible to regulate learning and direct it in the right direction. Stereotypes in the mass consciousness affecting the habitual way of life, lead to painful phenomena and hinder the renewal of all types of education. The reason for the reluctance of people to accept innovations in modern education lies in the blocking of vital needs for comfort, security, and self-affirmation. Innovative behavior does not imply adaptation; it presupposes the formation of one's individuality and self-development. The teacher must understand that innovative education is a way of educating a pleasant personality. "Ready-made templates" are not suitable for him; constantly improving his intellectual level is essential. A teacher who has got rid of "complexes," psychological barriers, is ready to participate fully in innovative transformations. One of the tasks of the modern humanitarian school is to unlock the potential of all participants in the pedagogical process and to provide them with opportunities to display their creative abilities. The solution to these problems is only possible by implementing the variability of educational approaches, in connection with which various innovative types and educational institutions require deep scientific and practical understanding.

Keywords: Digital generation, *e*-Learning, Humanities, Information and communication technologies, Innovative learning, Modern education system, Online courses.

1 Introduction

Changes in the modern education system are determined mainly by the development of information and communication technologies (ICT). A significant contradiction between the generation of teachers and students characterizes the modern education system [30]. The students in humanities are considered the "digital generation" and "natives of the digital world." Young people are rapidly moving forward, quickly assimilating vast information flows and mastering numerous devices that provide information and communication technologies. On the other hand, the older generation must constantly retrain and adapt to the radically changed working conditions and life. Trends in the development of society show that in today's world, a successful person is a person who can quickly find the necessary information and effectively apply it to solve various problems. In this regard, new training courses are being updated – massive open online courses and educational platforms that are both national and global.

At present, it is possible to speak about several design types. First of all, it is the psychological and pedagogical design of developing educational processes within a specific age interval, creating the conditions for a person to become a valid subject of his own life and activity [29]: in particular, learning – as the development of general methods of activity; formation – as the development of perfect forms of culture; upbringing – as the development of the norms of a hostel in different types of community of people. Next is the socio-pedagogical design of educational institutions and developing educational environments that are adequate to certain types of educational processes [10]; and, most importantly, acceptable to the traditions, way of life, and development prospects of a particular region of the country. Finally, the actual pedagogical design is the construction of developing educational practices, programs, technologies, methods, and means of pedagogical activity.
Here, the particular task of design and research activities arises to ensure the transition from traditional education (traditional schools, traditional management systems, and traditional higher education) to innovative education that implements the general principle of human development. So, in developmental psychology, it is necessary to design age standards (as a specific set of individual abilities of a person in a particular interval of age) and development criteria at different stages of ontogenesis. In development pedagogy, this is the design of developing educational programs that are adequate to age norms, translated into the language of educational technologies – through *What*?, and *How*? this development will take place? In educational practice, this is the design of youth-adult communities in their cultural and activity specificity [27], i.e., the creation of such an educational space where this development can be carried out.
In other words, the design of a system of developing and developing education is possible if simultaneously carried out:

- A psychological study of age-normative models of personality development;
- Pedagogical method of educational programs and technologies for implementing these models;
- Co-organization of all participants in the educational process;
- Creation of conditions for achieving new educational goals and means of solving problems development.

In recent years, innovation problems have become firmly established in various branches of scientific knowledge [1]. However, the question of the relationship between innovations and traditions and their role in specific activities and social institutions, particularly in the education system, is still relevant. Therefore, to appeal to the study of this problem, it is necessary to analyze the concept of innovation.

2 Literature Review

"Innovation" appears in Latin in the middle of the 17th century. It means the entry of a new into a certain sphere, implantation into it, and the generation of a whole series of changes. This means that innovation is, on the one hand, a process of innovation, implementation, and implementation. But on the other hand, it is an activity to grow innovation into a particular social practice, not an object [12].

In its most complete development, the innovative activity involves a system of interrelated types of work, the totality of which ensures the emergence of genuine innovations. Namely:

- Research activities aimed at obtaining new knowledge about how something can be ("discovery") and about how something can be done ("invention");
- Project activities aimed at developing special, instrumental, and technological knowledge about how, based on scientific knowledge, under given conditions, it is necessary to act to get what can or should be ("innovative project");
- Educational activities aimed at the professional development of subjects of a specific practice, at the formation of each person's knowledge (experience) about what and how they should do for an innovative project to be embodied in practice ("implementation") [28].

In the latest edition of the Frascati Manual, which was adopted in 2007, innovation is defined as "the result of innovative activity, embodied in a new or improved product introduced to the market, a new or improved technological process used in practice, or a new approach to social services" [9]. Guided by these definitions, pedagogical innovation is an innovation introduced into the educational process concerning its organization, content, and means (methods) of teaching. Therefore, any pedagogical innovation introduced into one of the subsystems of education as a system objectively entails, one way or another, the need for changes in other subsystems or the system as a whole. This is how systems work. That is why most

often, concerning education, they discuss the need to introduce a complex of organizational, pedagogical, technical, and methodological innovations.

By tradition, they mean some spiritual or ideal entities (ideas, attitudes, tastes, customs, values) that are passed from one generation to another and which are inherited from previous generations, as well as the established order in behavior and everyday life. In other words, tradition is a noumenal (knowable) and phenomenal (unknowable) formation, represented as spiritual or ideal entities formed in the phylogenesis of the human race and formed in its ontogenesis [13].

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 result from scientific research advanced pedagogical experience of individual teachers and entire teams. This process cannot be spontaneous, and it needs to be managed. Concerning the pedagogical process, innovation means introducing something new in the goals, content, methods, and forms of education and upbringing, the organization of joint activities of the teacher and the student. Pedagogical innovation is an innovation in a pedagogical activity that changes the content and technology of training and education to increase their effectiveness [31].

Thus, the innovation process consists of the formation and development of the content and organization of the new. In general, the innovation process is understood as a complex activity for the creation (birth, development), development, use, and dissemination of innovations. There are different types of innovations, depending on how they are divided [21]. In developing educational systems, innovative processes are implemented in the following areas: the formation of new content of education, the development and implementation of new pedagogical technologies, and the creation of new types of educational institutions [15]. In addition, the teaching staff of several educational institutions is engaged in introducing innovations into practice, which have already become the history of pedagogical thought – for example, alternative educational systems of the early twentieth century Montessori, Steiner. At the moment, various pedagogical innovations are used in humanities education. It depends, first of all, on the traditions and status of the institution. Nevertheless, the following most characteristic innovative technologies can be distinguished.

3 Materials and Methods

The methodological basis of the article is institutional, activity, and process approaches, thanks to which education is viewed as an institution of reproduction and transmission of culture, characterized by the use of traditional and innovative means of education and upbringing [5, 11, 32]. The purpose of the study is to identify the place and role of traditions and innovations in the educational process among the humanities of modern higher education, analyzing the domestic and foreign experience of its work using research materials of philosophers, teachers, managers, and practitioners.

Based on a comparative analysis of the methods and forms of teaching used in various modern education systems [2], the most popular ones, such as computer technologies, are identified. Furthermore, the historical approach to analyzing the development of learning processes using computer technology has made it possible to identify several stages characterized by qualitative changes in the forms and methods of *e*-education, as shown in the proposed article.

Education is the leading institution for the reproduction and transmission of culture in the broadest sense of the word [3]. Innovations in education do not affect the very essence of it as a social institution; it remains an institution for the reproduction and transmission of culture. However, with the formation of the information society, the methods (technologies) of reproduction and transmission of culture are being transformed, and the roles and functions of the participants in the educational process – the teacher and the student – are radically changing. The teacher is no longer a monopoly carrier and translator of knowledge. Instead, he becomes a navigator in a vast ocean of knowledge and information, an assistant in building his students' educational trajectory, self-determination, and choice of a program and teaching methods. The teacher becomes one of the principal consultants in developing skills in working with information, its search, and systematization. Moreover, at various stages of the educational process, students explicitly or implicitly interact with its new subjects: facilitators (specialists in teaching methods) and invigilators (experts in knowledge assessment), which were not in the traditional education system. All the functions they performed in formal education were concentrated in the hands of one person – the teacher [14].

What is "*innovative education*" today? – This is an education capable of self-development that creates conditions for the full development of all its participants; hence the central thesis; innovative education is developing and developing education.

What is "*innovative educational technology*"? – It is a complex of three interrelated components:

A. Modern content, which is transmitted to students, involves more than just the development of subject knowledge but the development of competencies that are adequate to modern business practice. Therefore, this content should be well structured and presented in multimedia educational materials transmitted using modern means of communication.
B. Modern teaching methods are active methods of developing competencies based on students' interaction and involvement in the learning process, and not just on passive perception of the material.
C. A modern learning infrastructure, including information, technological, organizational, and communication components, allows you to use distance learning effectively.

4 Results

At the moment, various pedagogical innovations are used in education. Of course, it depends, first of all, on the traditions and status of the institution. Nevertheless, the following most characteristic innovative technologies can be distinguished:

1. The introduction of ICT into the content of the educational process implies the integration of various subject areas with informatics [16]. Therefore, it is essential to realize the emerging trend of the process of informatization: from the development of initial information about computer science by students to the use of computer software in the study of general education subjects and then to the saturation of the structure and content of education with elements of computer science, the implementation of a radical restructuring of the entire educational process based on the use of information technology. As a result, new information technologies appear in the methodological system, and graduates of educational institutions are prepared to develop new information technologies in their future work. This direction is implemented through the inclusion in the curriculum of new subjects aimed at studying informatics and ICT. Experience in the use of ICT has shown that:

- The information environment of an open educational institution, which includes various forms of distance education, significantly increases the motivation of students to study subject disciplines, especially using the project method [4];
- Informatization of education is attractive for the student in that the psychological stress of academic communication is removed by moving from the subjective relationship "teacher-student" to the most objective relationship "student-computer-teacher," the efficiency of student work increases, the share of creative work increases, the opportunity in obtaining additional education in a subject within the walls of an educational institution, and the future,

a purposeful choice of a profession, a prestigious job is realized [17];
- The informatization of teaching is attractive to the teacher because it allows him to increase the productivity of his work and increases the general information culture of the teacher.

2. Personally-oriented technologies in teaching the subject "Personally-oriented technologies" put the student's personality at the center of the entire educational system, providing comfortable, conflict-free, and safe conditions for his development and realizing his natural potential. A person's nature in this technology is not only a subject but also a priority subject; it is the end of the educational system and not a means to some abstract end. It manifests itself in developing students of individual educational programs under their capabilities and needs [20].

3. Information and analytical support of the educational process and quality management of students' education. Using such innovative technology as an information-analytical method of managing the quality of teaching allows you to objectively and impartially track the development of each student individually, in class, in parallel, university as a whole over time. With some modification, it can become an indispensable tool in preparing class-generalizing control, studying the state of teaching any subject of the curriculum, and studying the system of work of a single teacher.

4. Monitoring of intellectual development. Analysis and diagnostics of the quality of education of each student by testing and plotting progress dynamics.

5. Educational technologies are the leading mechanism for forming a modern student. Therefore, it is an essential factor in today's learning environment. It is implemented in the form of involving students in additional forms of personality development: participation in cultural events on national traditions, theater, centers for student's creativity, etc.

6. Didactic technologies as a condition for the development of the educational process of an educational institution. Here, both already-known and proven techniques, as well as new ones, can be implemented. These are independent work with the help of a textbook, playing, designing and defending projects, learning with the help of audiovisual technical means, the "consultant" system, group, differentiated teaching methods – the "small group" system, etc. Usually, various combinations of these techniques are used in practice.

7. Psychological and pedagogical support for the introduction of innovative technologies in the educational process of an educational institution. Scientific and pedagogical substantiation of the use of specific innovations is supposed. Their analysis at methodological councils, seminars, and consultations with leading experts in this field [22]. Thus, the experience of modern higher education has the most comprehensive arsenal of application of pedagogical innovations in the learning process. However, the effectiveness of their application depends on the established traditions in a general education institution, the ability of the teaching staff to perceive these innovations, and the material and technical base of the institution.

Many teachers use modern technologies and innovative teaching methods to achieve learning outcomes. These methods include active and interactive forms used in teaching. Active ones provide an active position of the student concerning the teacher and those who receive education with him. During lessons with their use, textbooks, notebooks, and computers are used, that is, individual tools used for teaching. Thanks to interactive methods, there is a practical assimilation of knowledge in cooperation with other students. These methods belong to collective forms of learning, during which a group of students works on the material being studied, while each is responsible for the work done. Interactive methods contribute to the qualitative assimilation of new material. They belong to:

- Exercises that are creative;
- Group tasks;
- Educational, role-playing, business games, imitation;
- Lessons-excursions;
- Lessons-meetings with creative people and specialists;
- Classes aimed at creative development – lessons-performances, making films, publishing newspapers;
- The use of video materials, the internet, and visualization;
- Solving complex issues and problems using the methods of "decision tree" and "brainstorming."

Therefore, innovative teaching methods in humanities contribute to stuident's cognitive interest development; they are taught to systematize and generalize the material being studied to discuss and debate. Furthermore, by comprehending and processing the acquired knowledge, students receive the skills to apply them in practice and gain communication experience [18]. Undoubtedly, innovative teaching methods have advantages over traditional ones because they contribute to the student's development and teach him independence in cognition and decision-making.

5 Discussion

The entry of digital technologies into the educational environment complements the traditional education system and significantly expands the channels for transmitting knowledge and culture. Although we are talking about global educational platforms, being digital necessitates the use of digital technologies in education, primarily in the context of self-learning based on online courses, among which massive open online courses occupy a significant place.

Massive open online courses are a learning technology that allows you to organize training for up to several tens of thousands of people at the same time [5]. In recent years, online learning has become one of the central topics of discussion at most scientific and practical conferences and forums dedicated to education problems. Online education is education acquired based on electronic resources that are used in their development, promotion, and application of them. Specific types of electronic resources for online education can be electronic educational platforms, electronic publications, massive open online courses, etc., the creation of which requires special training of its creators.

Various techniques and technologies are used at each stage of the creation, distribution, and application of an open online course. So, for example, at the initial stages of creating an online course, it is necessary to create content that is created by a specialist representing a specific branch of scientific knowledge [21]. This content can be a video lecture, project, program, text, video sequence, slide, etc. The choice of one form of content presentation is determined by the teacher (the author of the online course) together with the screenwriter, methodologist, editor, cameraman (if we are talking about preparing a video), and an information technology specialist. Such a number of specialists involved in the creation of an online course indicates that revolutionary changes are taking place in the education system, which will radically transform the relationship between the teacher and the student, which is characteristic of traditional learning based on the personal contact of participants in the educational process. The poly subjectivity of the creator and consumer of an online course is one of the essential features of such education.

The initial stage of creating an online course is costly in terms of time and resources involved. However, the subsequent stages of its distribution and use pay off these costs often, both in economic and social terms. The effectiveness of an online course increases if the purpose of its creation, the content and structure, the teaching technologies used, the target audience, the student assessment system, and the place and role of the course in the overall educational program are clearly defined from the outset. The undoubted advantage of online courses is the speed of their promotion, the prompt communication of students between

themselves and the system administrator, the possibility of repeated visits to the same page, etc.

Efficiency in promoting ideas (scientific, educational) in the education and science market enhances the university's competitive capabilities and strengthens its position in domestic and world rankings. Issues related to both the creation and distribution and the use of online courses related to innovative pedagogy are included in the subject area of emerging new scientific knowledge – educational innovation [24].

In the narrow sense, educational innovation is a science that develops theoretical, methodological, and applied problems of education renewal [6]. Its subject area is "the harmonization of modern and traditional forms of education in a single universal process of continuous education." This is because the word knowledge increasingly hides the concept of information, which implies a message that is not necessarily reflected by human consciousness as an act of mental activity of a particular subject, transmitted and received through electronic communication. Such knowledge-information is detached from its subject and can exist outside of a specific learning system. It is incredibly mobile and quickly becomes obsolete or gets lost in a vast flow of information, losing its classical disciplinary (objective) form. But, on the other hand, having lost its subject form, such knowledge can be used in a different context and in another branch of science and thus be embodied in a new information education. In addition to the country's prestige, online learning, as noted above, can save money by involving many people in the educational process. The creation of a national platform for open education provides students with the opportunity to choose an online course.

Such cooperation in creating a single national online education platform is unique. In foreign countries, the creation of educational platforms, as a rule, is initiated by the universities and leading professors (Coursera, USA) or occurs as a result of the union of the university and, as was the case in China, Alibaba (Chinese online courses), the world's largest online sales company. There are several educational platforms in the Spanish-speaking world (Miríada X., Platzi), but none is the official online education platform for a single country

The task of the Ministry of Education and Science should ensure that open education courses replace poorly taught disciplines [26]. We are talking about replacing only some classes in higher education with online education. "Live" teaching, based on the personal contact of the teacher and the student, can only be partially replaced (for a specific discipline or module). Personal contact is the basis of the traditional education system, which, having been formed over a long history of human development, has accumulated a considerable arsenal of pedagogical techniques and tools that are still used today. So, for example, in the presence of a Europeanized system and structure of training specialists in higher education in China, the teaching methods remain the same as in the time of Confucius, the main of which is "learn and repeat." The Chinese model of cognition appeals more to the concrete rather than the universal by studying objects. The classical texts of the Confucian canon do not offer any general moral laws or abstract principles; instead, they give specific examples of cases and actions.

The sources of the specifics of the cognitive process that has formed in national educational systems should be sought in the originality of the consciousness of the people (ethnos) since it is not just an attribute of a person but the very way of his being, which makes it possible to give human life an expedient character [23]. The consciousness of a person binds into a single whole all the disparate diversity of empirical experience and develops immanent mechanisms of his cognitive activity, close and understandable to him. These mechanisms are based on a person's physiological and psychological capabilities, which provide the process of thinking, reproduction, and reproduction of knowledge. The structure of these mechanisms includes perception, transcending, reflection, emotions, feelings, and the whole range of human qualities present in cognitive activity and modern man.

Human consciousness results from the long evolution of a person and his great work to transform the world around him and himself. It reflects the features of life, the natural and climatic environment, and the originality of the perception of the outside world, which subsequently determine the specifics of social institutions (including education) created by man. In education, as the foremost institution of reproduction and transmission of culture, traditional methods and means of education and upbringing are exceptionally stable since they were formed and live in the course of direct interaction between teacher and student, i.e., in real human communication, which is likely to be partially replaced by technology [25].

In recent years, the term *e*-learning has become widespread in the West, meaning the process of learning in electronic form via the Internet. The method of transition from traditional education to computer-based education has been developing over the past two decades. Since the advent of huge archives presented on machine-readable media, more and more often, the idea has arisen to use this material for educational purposes. In global terms, this became possible with the development of the Internet, which ensured the transfer of the necessary amount of data from one part of the world to another, the freedom of network users to communicate online, the ability to post information on the Internet sites, making it available to everyone.

The stages of development of learning with the use of computer technologies in the literature are presented as follows: CD-ROM-based courses; distance learning; Global and National Open Education Platforms; *e*-learning. Each subsequent stage, as it were, includes the previous one. For example, courses based on CD-ROM historically appeared the very first.

The main advantages of *e*-learning, in our opinion, are:

- Innovative idea;
- Concentration of electronic thematic information;
- Thought out from a methodological point of view, high-quality training;
- Providing many interactive features;
- Ease of use;
- Availability.

The disadvantages of the courses are:

- Limited educational material;
- A lot of time spent on its creation;
- The impossibility of modification.

Distance learning emerging a little later, it provided a different educational approach, devoid of the above disadvantages, and had many additional features [7]. The basis of the educational process in distance learning was the purposeful and controlled intensive independent work of the student, who could study in a convenient place, according to an individual schedule, having a set of special teaching aids and an agreed possibility of contact with the teacher in the learning process. The advantages of distance learning, from the point of view of students, include the following:

- Flexibility of the training schedule;
- The opportunity to study according to an individual plan;
- An objective and independent methodology for assessing knowledge;
- The opportunity to consult with the teacher during the training;
- Relative cheapness.

For teachers, this form of education meant the emergence of additional channels for supplying educational material to students. It became possible to train more students with the same workload.

One of the qualitatively new phenomena in the world of education, dictated by the characteristics of the information society, has become the widespread use of massive open online courses. Education experts named massive available online courses among the 30 most promising trends in its development until 2028.

One of the first substantial online courses, "Assessing Practices, Principles, and Strategies," was held in 2008. Its author is Daniel Hickey, a professor at Indiana University; Google funded the development and training of 500 students. The course results were generally recognized as positive, although a significant exclusion of students was noted. It is enough to access the Internet and speak English properly to access such courses.

Most massive open online courses are based on video lectures. The educational material in them can be supplemented with slides with the necessary information, infographics, tests, creative tasks, and ordinary tasks and exercises. In addition, the material may be accompanied by links to additional sources, including films, magazine articles, related video lectures, and more [8]. As a rule, these courses are accompanied by technical collaboration tools – the studied material can be discussed with other students, for example, in a chat. The duration of online courses is different – from 5 weeks or more. Upon completion of the course, for an additional fee, you can pass certification and receive a document stating that the course has been successfully mastered. Obtaining a certificate at the end of the course is optional for access. You can study course materials for free for your self-development.

According to education analysts, universities have begun to accept students' results of studies on online platforms [6]. For example, consider online courses offered on various educational platforms:

1) Platform: URSERA

Online course "Development of Questionnaires for Social Research"

This course is helpful for all researchers using various questionnaires in their work. The acquired knowledge and skills in compiling questionnaires, working with them, and analyzing the results obtained have a broad scope, whether sociology, psychology, criminology, medicine, political science, journalism, marketing, etc. The course duration is 6 weeks.

Pedagogical course "The Science of Happiness"

This course was prepared by Dacher Keltner, a professor of Psychology at the University of Berkeley (California). During the training, students will be introduced to a unique approach based on the basic principles of positive psychology. An analysis will be made of the results obtained in the course of real research covering the fields of psychology, neuroscience, evolutionary biology, etc. Course participants will learn in practice to apply one or another "happiness strategy" and can easily track their progress along this path. The course duration is 10 weeks.

Online course "The ability of the body to quickly restore mental strength after trauma, disaster, and war: global perspectives"

The course is entirely devoted to the problems of post-traumatic disorder, ways to overcome it, adaptation, and issues of stress tolerance. In addition, students will get acquainted with the world literature corresponding to the problems, basic concepts, and results of modern research. The course materials include biographies of people who experienced childhood abuse, wars, terrorist attacks, and disasters of various origins. The course duration is 6 weeks.

Online course "Behavioral medicine: the key to better health"

Having mastered this course, the student will learn about the basic concepts and principles of behavioral medicine, get acquainted with their practical application, learn the main tools used in behavioral medicine, and gain valuable skills in working with "virtual patient scenarios." The author of the course is Anne H. Berman, Associate Professor of Clinical Psychology at Karolinska Institute. The course duration is 5 weeks.

2) Platform: EDX

Online course "Methods of teaching students of medical specialties"

This course is designed to help expand and deepen knowledge and improve the skills of teaching disciplines to students of medical specialties. It is designed for a trained student and is aimed primarily at educators involved in the education of medical students, medical staff, and specialists who develop relevant educational materials. The course duration is 10 weeks.

It is not surprising that with all its apparent advantages, distance learning has quickly gained immense popularity in the educational world. Gradually, large corporations also became interested in it, rightly assuming that this form of training would allow them quickly, relatively inexpensively, qualitatively, and, most importantly, improve the level of training of their personnel on the job [9]. Recently, the degree of involvement of the Internet in education, the number of online courses, their topics, various methods of implementation, and the general focus as a whole have led to the emergence of a more capacious term, "*e*-learning."

The European Commission defines *e*-learning as the use of new multimedia and Internet technologies to improve the quality of learning by enhancing access to resources and services and remote knowledge sharing and collaboration. So, *e*-learning today is a learning process that uses interactive electronic means of delivering information.

6 Conclusion

Summing up, innovations in education are associated with the informatization of society and the educational process technologization. First, they transform the means and methods of teaching, the system of communication between participants in the educational process, and expand the channels of reproduction and transmission of information, excluding the personal participation of a person from these processes. Thanks to them, it became possible to distance learning, the use of online courses, and the creation of educational platforms representing electronic courses. At the same time, the means and methods of education based on the psychological and physiological processes of human thinking, such as perception, understanding, memorization, and reflection, are stable. Therefore, they are necessary for any educational system, both traditional and innovative, as is the use of conventional teaching methods in modern higher education.

Innovations in education are introduced into the educational process concerning its organization, content, and means (methods) of teaching. Traditions in education are stable ideal or spiritual formations (ideas, principles, methods) that are passed from one generation to another and are used in the educational process.

One of the main innovations in modern education is *e*-learning, its main types, and forms that transform the traditional system of teacher-student relationships and learning tools. Among the innovative learning tools, regarded as a new revolution in education, are global and national educational platforms and massive open online courses. An essential feature of online courses is the poly subjectivity of its creator and consumer, based on the combination of scientific and technological knowledge.

Along with electronic teaching aids, the higher education system also uses traditional ones, focused on the peculiarities of thinking and cognitive activity of a person formed by previous generations. A harmonious combination of classic and innovative teaching aids is the basis for providing quality education.

Successful online learning requires a high level of self-organization and ICT competence. It is necessary to teach the course, participants, and how to work in it precisely, as well as the analysis of the effectiveness of self-learning, homework, tests, etc. Specialists of different levels should participate in the design of materials for online courses and their creation. It is advisable to pay special attention to the design of tests and other measuring materials to evaluate training effectiveness.

It is imperative to record high-quality video and train modern teachers to work in front of the camera. Thus, *e*-learning is not a temporary hobby. Therefore, it is necessary today to take care of the urgent solution to these problems and create inter-university Centers for evaluating the quality of *e*-learning courses and teacher training and drawing the attention of companies operating in the information technology market to the need to develop integrated informatization of universities' creation of network educational structures.

Literature:

1. Bakhmat, N., Voropayeva, T., Artamoshchenko, V., Kubitskyi, S., & Ivanov, G.*: Quality Management in Higher Education in Terms of Sustainable Development*. International Journal for Quality Research, 16(4), 2022. 1107–1120 pp. 10.24874/IJQR16.04-10.
2. Bayne, S.: *What's the matter with 'technology-enhanced learning?* Learning, Media and Technology, 40(1), 2015. 5–20 pp.
3. Bazeliuk, V., Kubitskyi, S., Rudyk, Y., Ryabova, Z., & Novak, O.: *The system of formation and diagnosis of levels of innovation and entrepreneurship competence of the future managers of education in the conditions of the knowledge economy*. Financial and Credit Activity: Problems of Theory and Practice, 4(39), 2021. 550–558 pp. https://doi.org/10.18371/fcaptp.v4i39.241442.
4. Bosniuk, V., Ostopolets, I., Svitlychna, N., Miroshnichenko, O., Tsipan, T., & Kubitskyi, S.: *Social Content of Psychological Specialists' Professional Activity*. Postmodern Openings, 12(1), 2021. 1–20 pp. doi: 10.18662/po/12.1/242.
5. Cerratto-Pargman, T., & McGrath, C.: *Be careful what you wish for! Learning analytics and the emergence of data-driven practices in higher education*. In Petersson, S. (Eds.) Digital Human Sciences: New Objects – New Approaches, Stockholm University Press, Stockholm, 2021. 203-226 pp.
6. Collins, A., & Halverson, R.: *Rethinking Education in the Age of Technology – the Digital Revolution and Schooling in America.* Teachers College Press, New York, NY, 2009.
7. Collins, A.: *What's Worth Teaching: Rethinking Curriculum in the Age of Technology*? Teachers College Press, New York, 2017.
8. Criollo-C, S., Guerrero-Arias, A., Jaramillo-Alcázar, Á., & Luján-Mora, S.: *Mobile Learning Technologies for Education: Benefits and Pending Issues*. Appl. Sci., 11, 2021. 4111 p.
9. Dignum, V.: *The role and challenges of education for responsible AI*. London Review of Education, 19(1), 2021.1–11 pp. doi: 10.14324/LRE.19.1.01.
10. Erstad, O., & Voogt, J.: *The twenty-first century curriculum: issues and challenges*. In Voogt, J., Knezek, G., Christensen, R. and Lai, K.W. (Eds.) Second Handbook of Information Technology in Primary and Secondary Education. Springer International Handbooks of Education, Springer, Cham, 2018. doi: 10.1007/978-3-319-53803-7_1-2.
11. Erstad, O., Kjällander, S., & Järvelä, S.: *Facing the challenges of 'digital competence' - a Nordic agenda for curriculum development for the 21st century.* Nordic Journal of Digital Literacy, 16(2), 2021. 77–87 pp.
12. Fischer, G., Lundin, J., & Lindberg, J. O.: *Rethinking and reinventing learning, education and collaboration in the digital age – from creating technologies to transforming cultures.* The International Journal of Information and Learning Technology, 37(5), 2020. 241–252 pp.
13. Fischer, G., Lundin, J., & Lindberg, O. J.*: The challenge for the digital age: making learning a part of life.* The international journal of information and learning technology, 40(1), 2023. 1–16 pp.
14. Guan, C., Mou, J., & Jiang, Z.: *Artificial intelligence innovation in education: A twenty-year data-driven historical analysis.* Int. J. Innov. Stud., 4, 2020. 134–147 pp.
15. Higgins, K., & Boone, R.: *Developing a Passion for Learning: An Interview with Dr. David Rose*. Interv. Sch. Clin., 57, 2020. 67–70 pp.
16. Hillman, T., Rensfeldt, A. B., & Ivarsson, J.: Brave *new platforms: a possible platform future for highly decentralised schooling.* Learning, Media and Technology, 45(1), 2020. 7–16 pp.
17. Kay, D., & Kibble, J.: *Learning theories 101: Application to everyday teaching and scholarship*. Adv. Physiol. Educ., 40, 2016. 17–25 pp.
18. Kwangmuang, P., Jarutkamolpong, S., Sangboonraung, W., & Daungtod, S.: *The development of learning innovation to enhance higher order thinking skills for students in Thailand junior high schools*. Heliyon, 7, 2021. e07309.
19. Okonkwo, C. W., & Ade-Ibijola, A.: *Chatbots Applications in Education: A Systematic Review*. Comput. Educ. Artif. Intell., 2, 2021. 100033.
20. Oseredchuk, O., Drachuk, I., Teslenko, V., Ushnevych, S., Dushechkina, N., Kubitskyi, S., & Chychuk, A.: *New Approaches to Quality Monitoring of Higher Education in the Process of Distance Learning*. IJCSNS International Journal of Computer Science and Network Security, 22(7), 2022. 35–42 pp. https://doi.org/10.22937/IJCSNS.2022.22.7.5.
21. Pariser, E.: *The Filter Bubble: How the New Personalized Web Is Changing what We Read and How We Think*. Penguin, New York, 2021.
22. Rani, N., & Chu, S. L.: *Wearables Can Help Me Learn: A Survey of User Perception of Wearable Technologies for Learning in Everyday Life.* Educ. Inf. Technol., 27, 2022. 3381–3401 pp.
23. Robinson, K., & Aronica, L.: *Creative Schools – the Grassroots Revolution That's Transforming Education.* Penguin Books, New York, NY, 2015.
24. Scardamalia, M., & Bereiter, C.: *Smart technology for self-organizing processes.* Smart Learn. Environ, 1, 2014. 1–13 pp.
25. Shiohira, K.: *Understanding the Impact of Artificial Intelligence on Skills Development*. United Nations Educational, Scientific and Cultural Organization: Paris, France, 2021. 59 p.
26. Thomas, D., & Brown, J. S.: *A New Culture of Learning: Cultivating the Imagination for a World of Constant Change.* Create Space, Lexington, KY, 2011**.**
27. Voznyuk, A., Gorobets, S., Kubitskyi, S., Domina, V., Gutareva, N., Roganov, M., & Bloshchynskyi, I.: *Interdisciplinary Educational Technology based on the Concept of Human Brain Functional Asymmetry*. Postmodern Openings, 12(2), 2021. 433–449 pp. https://doi.org/10.18662/po/12.2/.
28. Wong, L. H., & Looi, C. K.: *The conceptual niche of seamless learning: an invitation to dialogue*. Seamless Learning, Springer, Singapore, 2019. 3–27 pp.
29. Yatsyshyn, M. Yatsyshyn, N., Hordiienko, Y., Melnychuk, O., Semeniuk, T., & Sorokina, L.: *Innovative Aspects of Encouraging Intercultural Communication in Native and Foreign Languages Whilst Training Students of Humanities in Higher Educational Institutions (on the Example of Philological, Pedagogical and Legal Training Programmes*). AD ALTA: Journal of Interdisciplinary Research. 11/01-XVIII, 2021. 21–25 pp.
30. Yatsyshyn, M., Hlamazda, P., Horot, A., Bulavina, S., Samchuk-Kolodiazhna, Z., Starchuk, O.: *Study of the Impact of the Principles Formed in International Human Rights Standards on the Development of the Penitentiary System in Ukraine*. AD ALTA: Journal of Interdisciplinary Research, 10/2, 2020. 348–351 pp.
31. Yatsyshyn, M., Yatsyshyn, N., Koliada, E., Kondruk, A., Bondarchuk, O., Suprun, M., Semeniuk, A., & Melnychuk. O.: *The use of Blended Learning Interactive Technologies in the Educational Process in the Context of European Integration Processes in Ukraine on the Example of Humanitarian Specialities*. AD ALTA: Journal of Interdisciplinary Research, 12/2-XXX, 2022. 137–140 pp.
32. Yatsyshyn, N., Koliada, E., Melnyk, O., Peredon, N., Kalynovska, I., Hordun, S., & Lesyk, I.: *Foreign Language in the Process of the Intercultural Communication Formation*. AD ALTA: Journal of Interdisciplinary Research, 12/01-XXV, 2022. 105–109 pp.

Primary Paper Section: A

Secondary Paper Section: AM, IN