

MODERN EDUCATIONAL TECHNOLOGIES IN THE EDUCATIONAL PROCESS IN HIGHER EDUCATION INSTITUTIONS

^aOLEKSANDRA KHALLO, ^bOLENA BULGAKOVA,
^cNATALIIA SIRANCHUK, ^dVALENTYNA VERTUHINA,
^eOKSANA OLEKSYUK

^aNational Medical University, 2, Galyt'ska Str., 76018, Ivano-Frankivsk, Ukraine

^bSouth Ukrainian National Pedagogical University named after K. D. Ushynsky, 26, Staroportofrankiv's'ka Str., 65020, Odesa, Ukraine

^{c,d}Borys Grinchenko Kyiv University, Ukraine, 18/2, Boulevard-Kudryavskaya Str., 04053, Kyiv, Ukraine

^eV. O. Sukhomlynskyi National University of Mykolayiv, 24, Nikolska Str., 54030, Mykolayiv, Ukraine

email: ^aLuska.if@gmail.com, ^bHalen30@ukr.net,

^csyranchuknata@gmail.com, ^dv.vertuhina@kubg.edu.ua,

^eoleksjukoksana@ukr.net

Abstract: The article offers a presentation of the results of the review and systematization of scientific information on the theoretical foundations of the development and application of educational technologies in universities. In this regard, it can be argued that innovative education as a whole is not a specific educational model, but a fairly broad principle of adequate use of newly discovered potential learning opportunities. An innovative approach in education is determined through the ability and willingness of leaders and teachers to design and model the educational process required by the university using various educational technologies based on knowledge of their potential capabilities. This is what makes the learning process at the university technological, i.e., predictable and as close as possible to the planned results.

Keywords: Competence, Educational technologies, Innovative education, Learning, Personality-oriented education.

1 Introduction

Modern trends in education determine the change in approaches to the organization of the educational process in higher education. The creation of a single educational space, the introduction of a system of level education necessitate a reorientation of the pedagogical process towards the implementation of new approaches to the organization of the educational process at the university [2].

The interest of scientists and practitioners in the selection, design, implementation, and evaluation of the effectiveness of educational technologies at the university is confirmed by an increase in the number of publications that offer a variety of points of view on their use in the educational process, educational communication, as well as professional and personal development of students. The search for the most effective means of training a new generation of specialists for a scientific and technological breakthrough has increased the importance of systemic scientific information about modern educational technologies used in higher education.

In these conditions, the problem of the development of the personal potential of students is most acutely actualized: the revealing of their capabilities, creative abilities, activity and independence, self-awareness and self-realization in various types of activity. In psychology, the focus of scientists is on the problem of the personality, and the focus of pedagogical science is on the creation of educational technologies designed to help the formation and harmonious development of this personality.

The problem of technologization of education is connected with the issues of increasing the productivity of training and education of future specialists. The active use of technologies in educational practice, according to experts in the field of education, allows [12, 13, 22]:

- Improving the quality of the educational process, making learning more comfortable (the efficiency of the educational process increases due to the presentation and assimilation of more information per unit of time, self-organization of educational activities; the position of all subjects changes: the measure of responsibility for

educational results and the process of achieving them, as well as accessibility educational materials and other information, freedom of choice of methods and conditions for the development of educational programs);

- Optimizing the costs of providing the educational process (a more efficient educational process reduces the burden on the teacher and student, optimizes resources, reduces the time for reproductive work, reduces the relative costs of publishing printed educational materials);
- Raising the level of the general culture of the younger generation in working with information, technology, and people, on themselves, making them successful and tolerant in life and profession.

In science, there is no unambiguous interpretation of the term "educational technology", which is largely due to the complexity of the problem and the multidirectional ways of implementing the technological approach in educational practice. As it is known, the concept of "technology" was originally used for planning and more successful achievement of educational goals [3].

According to UNESCO (1986), teaching technology is a systematic method of creating, applying, and defining the entire process of teaching and assimilating knowledge, taking into account technological and human resources, which aim to optimize the forms and methods of organizing the educational process [19].

In the process of educational practice, there is an evolution of technologies, which is closely related to the very process of development of the education system, the course of social and scientific and technological progress, the requirements of society and the labor market. So, in the world educational practice, educational technologies that are in tune with the time appear, which then turn into the category of basic and traditional ones.

It is very important that the concept of "technology" has gradually become so broad that practically any systems, processes, approaches, methods, forms and means of organizing educational activities are included by researchers in this concept, and are often put on a par with it, although they at all are not identical. This leads to the fact that one concept is easily replaced by another, while the concept of "technology" loses its original meaning. Initially, technology is an algorithm of purposeful and strictly sequential actions of the teacher and the student, ensuring the achievement of the intended result.

The technological effectiveness of the educational process is to make the educational process fully manageable. The main features of technologies are as follows: a detailed description of educational goals, a step-by-step description (design) of ways to achieve the desired results, the use of feedback in order to adjust the educational process, the guarantee of the results achieved, the reproducibility of the educational process regardless of the teacher's skill, the optimality of the resources and efforts expended [1, 3].

At the same time, it should be noted that in each specific situation in the educational process, the role of a higher school teacher changes – he must be able to choose a teaching strategy, ensure the optimal and efficient solution of vocational training problems, use technologies aimed at preparing competitive graduates who are ready for continuous self-education and self-realization in a rapidly changing environment. Moreover, the teacher must be able to choose exactly those teaching technologies that are most appropriate in a given situation and ensure high efficiency of their implementation in work with students.

Currently, the ideology of personality-oriented education has received the greatest development and understanding. It is understood as an educational process, designed and implemented in order to: develop the cognitive and affective spheres of the

individual; identification and development of creative, social, and communicative abilities; the formation of the abilities and needs of the individual in self-education, self-development, actualization and realization of personal socially significant potential. However, for the most part, existing educational technologies are essentially information-perceptual and are based on an explanatory-illustrative method, as a result of which they turn out to be inadequate to the ideology of personality-oriented education. This is the main contradiction that this study was undertaken to resolve.

2 Materials and Methods

To solve the set tasks, theoretical and empirical research methods were used:

- Methods of analysis of the content of scientific sources, monographs, articles, dissertations on problems related to the problem of this research; practical experience;
- Methods of pedagogical diagnostics – the method of expert assessments;
- Methods of pedagogical modeling – a systematic analysis of professional activity, profессиography, pedagogical design.

The methodological basis of the research is formed by the psychological theory of activity created by the psychological and pedagogical science; psychological concepts of assimilation of knowledge and methods of activity; the concept of an activity-based approach to learning; the concept of an informational approach to learning; the concept of a systematic approach to teaching and pedagogical research; the concept of a technological approach to learning.

The methodological foundations of the research are psychological, pedagogical, and methodological studies of problems associated with teaching students: features of educational activities, the problem of the content of education and the generalization of knowledge, training in solving professional problems, the problem of activating independent educational activities, developing education.

3 Results

Often, the problem of measuring the effectiveness of education is limited to determining the quality of assimilation of knowledge, although it is obvious that the concept of the effectiveness of a particular educational system largely depends on the pedagogical concept in which the given educational system functions – in this context, we consider it more appropriate to talk about the pedagogical effectiveness of educational technology.

The question arises: is the potential of various educational technologies the same in solving the problems of student-centered education? What criteria can be used to assess the pedagogical effectiveness of these technologies from the standpoint of personality-oriented pedagogy? The study of these issues is not only an urgent problem of pedagogical theory and practice, but also an important social task, since we are talking about the implementation of the personal and social goals of modern higher education.

Experts believe that pedagogical technology is a system of design and practical application of pedagogical laws, goals, principles, content, forms, methods and means of teaching and upbringing that are adequate to this technology, which guarantee a sufficiently high level of their effectiveness, including subsequent reproduction and replication [4, 9, 15]. Pedagogical technology is characterized by two fundamental points: clear planning and design of the educational process, the guarantee of the final result.

Most of the university teachers argue that the educational process in a modern university gravitates towards search and research technologies, providing for situational design, game modeling, the inclusion of educational tasks in the context of life

and professional problems [17]. At the same time, all teachers unanimously note that the main form of search activity is dialogue, during which the content of the educational problem is determined and the ways of solving it are analyzed.

70% of teachers believe that the strength of the implementation of search and research technologies is the students' understanding of their activities, which allows them to rebuild their actions, experience, motives and needs. They note that it is important for a teacher, in the process of observing students, to create their "cognitive portrait", including the features of motivational-need, emotional and operational aspects of educational activity [5].

Educational technology is characterized by the following positions: based on specific philosophical, methodological concepts of the author; is designed in accordance with a specific pedagogical concept; represents a technological chain of actions and operations, built in accordance with the target in the form of exactly the expected result; functions as an interconnected activity of the teacher and students based on the principles of didactics – individualization and differentiation; ensures the optimal potential of human and technology; uses communication, dialogue; it is planned by the teacher in stages. The consistent introduction of elements of technology should be replicated by any teacher and ensure that all students achieve the planned results. A necessary component of pedagogical technology is diagnostics, which includes criteria, indicators, and means of measuring results.

As it is known, any technology inevitably acquires a creative character due to the uniqueness of the personality of the teacher and the personality of each new student – from schoolchild to university student: his age, abilities, psychological characteristics, culture of behavior, different levels of knowledge and skills, competencies. Therefore, having a clear structure of actions, elements of creativity will inevitably exist within the content components of each pedagogical technology.

Thus, the development of a teaching technology by a teacher is always a creative process aimed at the all-round development of a personality, consisting in the analysis of goals, opportunities and the choice of forms, methods, and teaching aids that ensure the implementation of an effective educational process. The peculiarity of creative specialties lies in their individuality: the teachers, in their individual approach, expresses and develops certain abilities to the best of the personal characteristics of creativity, worldview, giftedness, imagination.

From all this, it follows, in our opinion, that the concept of "technology" in pedagogical science is considered in a special way. Of course, those researchers are right who, in the definitions of pedagogical technologies, with all the clarity and consistency of the teacher's actions, predict not a guaranteed, but only a sufficiently probabilistic result. As for creative universities, in addition to the probabilistic result, the very path of advancement to it will not always be strictly logical and clearly programmed in time and space.

At the same time, the system design of each of the components of educational technology is based on the following methodological approaches and principles [12, 16, 18, 23]:

- An integrative approach that allows at the level of the target and control components to coordinate the achievement of various goals within a single educational process, and at the level of content and control components – to form a system of transdisciplinary knowledge, skills and abilities that provide a high level of professional competence in the field of science-intensive production;
- A personality-oriented approach aimed at the development of specific personal qualities of a future specialist, which determine the readiness for creative professional activity;
- A differentiated approach, taking into account the initial level of preparedness, personal motivation and the formation of creative qualities at each separate stage of the educational process;

- The principle of developmental education, which allows the learner to reach the maximum level of his development at each stage of the educational process;
- The principle of synergy in the organization of educational activities, which consists in the fact that the effect of the complex application of all elements of developing educational technology should significantly exceed the possible total effect of the use of its individual elements.

Obviously, more or less strict reproducibility of pedagogical results can be achieved only if the educational process is based on more or less strict psychological and pedagogical laws, the action of which regardless of the characteristics of the situation. At the same time, attempts to build a didactic theory on the basis of such "strict" laws constantly encounter serious difficulties.

At the turn of the 20th and 21st centuries, interest in pedagogical technology in international science and educational practice intensified, and the perspective of its consideration changed somewhat. The development of pedagogical technologies began, which operationally prescribe the goals and actions of the educational process no longer "from the teacher", but "from the student" [20].

The point is that, unlike traditional methodological developments intended for a teacher, pedagogical teaching technology offers a project of the educational process that determines the structure and content of the student's activities. This opinion about the difference in methodology and pedagogical technology seems to be justified, but not flawless.

Apparently, it is more correct to speak of a "technological approach in didactics and subject methodologies" than of "pedagogical technology" as a special section of pedagogical science as a whole (or didactics). As the analysis of many sources shows, both approaches – both traditional for didactics (methods) and "technological" – are based on the same methodological premises, on the results of the same scientific research and, moreover, may involve the use of the same forms, methods, and means of teaching. In this case, the features of the technological approach to learning are as follows [24]:

- It is strictly aimed at increasing the efficiency of the learning process;
- Relies on the idea of diagnostic goal-setting in teaching, which is new for didactics and subject methods;
- Proceeds from the priority of self-education over education and, accordingly, the goals of the student over the set goals of learning from the outside – the "goals of the teacher".

The technological approach to the organization of the educational process changes the forms of interaction between trainers and students, as well as students with each other. The traditional forms of active and interactive innovative learning are replacing the traditional ones [9]. Changing the goals, content and forms of training has a significant impact on the nature of communication between the teacher and the student, on the atmosphere of their interaction. Partnership, equality of individuals in choice, actions, responsibility, a positive emotional background – all this is becoming the permanent dominant of relations corresponding to the digital age.

At the same time, it is necessary to emphasize that the technologization of the educational process has serious limitations, since it carries with it serious risks. The natural boundaries of technologization, beyond which it turns into evil, are determined by sociocultural values accepted in society, in a particular educational institution and shared by each teacher.

By now, it is becoming increasingly more obvious that the super-rationalized technologies that "guarantee" the result in the field of education:

a) Can hardly be developed both at the theoretical-methodological and at the operational level: trying to embody in the personality structure a certain part of the total social experience, we are trying to algorithmize the process of

interaction (i.e., dialogue, understanding and mutual completion) of two highly complex self-organizing systems - human and culture, which seems to be fundamentally impossible;

b) Can be dangerous, since the reduction of the field of internal random deviations (fluctuations) in the system makes it impossible for the mechanisms of self-organization of society [10].

In any case, it is important to remember that "spontaneity, uncontrollability are fundamentally important and unavoidable for education and in education" [8], and the results of the educational process are of a probabilistic nature and, therefore, cannot be "guaranteed" in the full sense.

4 Discussion

At the same time, we note that the modern period of the development of pedagogical knowledge is characterized by an extreme degree of inconsistency. On the one hand, a huge mass of pedagogical information, both theoretical, methodological, and applied, has been accumulated, concerning almost all sides and spheres of pedagogical activity; on the other hand, this mass risks becoming critical, due to the impossibility of its productive use due to heterogeneity and contradiction (up to mutual exclusion) of many pedagogical ideas, provisions, concepts, categories, terms, technologies, procedures, and techniques.

The priority of pedagogical knowledge and the need to master it among students has noticeably changed, which has led to a haphazard acquisition of this kind of knowledge, and as a result, a decrease in the level of professional and pedagogical competence of graduates of a higher pedagogical school. All this determined the importance of developing the need for future graduates of the university in mastering pedagogical knowledge and professional skills. The need arose for a qualitative renewal of the educational process in the university, which entailed a change in the target attitudes of students and, in particular, in relation to the content and study of a number of disciplines.

On the one hand, the normal functioning of an educational institution of any level and type is possible only under the condition of maintaining the stability of the content of education, provided that the general structure of the system and the established links between its elements are preserved over a long period; on the other hand, the education system and each of its links individually can successfully perform their functions only if the structure, content, organization and methods of work are sufficiently mobile, fully meet the requirements of today and carry a certain reserve for the future.

Renewal is possible due to many factors, one of which may be the factor of systematization and structuring of pedagogical knowledge on a fundamentally new basis. The urgent problem of systematization periodically translates into attempts to streamline the main pedagogical categories and terms, concepts and systems, technologies and methods. However, it should obviously be admitted that attempts related to the search for grounds for the systematization of pedagogical knowledge in the so-called one-dimensional space with the help of "intra-pedagogical" procedures and methods can hardly be considered successful.

Unfortunately, most of the methodological pedagogical research of the previous years was aimed at finding general patterns, creating universally applicable theories, and systematizing pedagogical knowledge in a one-dimensional space.

In some practical publications, both in the form of reports and monographs, it is shown that the effectiveness of an educational program can be achieved if the design of all educational and normative documentation (curriculum and programs of basic educational disciplines), as well as the main elements of the educational process (of all types industrial practice, course and diploma projects, research work) is carried out using the principles of systems analysis [14]. When designing curricula, it is proposed to introduce three basic modules - natural science,

information-computer, humanitarian-economic, the information content of each of which will allow combining fundamental knowledge with the objects of professional activity and stimulating the process of forming transdisciplinary knowledge, skills, and abilities [20].

A special role in the proposed educational technology is assigned to individual types of educational activities, which make it possible to deeply differentiate the learning process and implement the ideas of developing student-centered learning. Thus, when designing programs for industrial practices, they made it possible to include, along with general ones, strictly differentiated individual tasks and tasks of a research nature, intended for students who, according to the identified qualities, intellectual abilities, are most predisposed to professional activities in the relevant field.

The specifics and types of methods, forms, and technologies of teaching that a teacher can choose in order to form the competencies of students is presented in the "Bank" of technologies (Table 1), compiled on the basis of studying the innovative experience of educational institutions.

Table 1: Bank of educational technologies

Technologies	Forms of education	Methods of education
Modular learning technology - the organization of the educational process for the full mastery of the content of educational programs based on independent training modules, taking into account the individual interests and capabilities of the subjects of the educational process	Consultation lecture. Lecture-press conference. Problematic lecture. Problem workshop. Seminar using the method of analysis of specific situations. Independent work	Solving situational tasks. Presentation method. Independent work. Consultation. Individual work
Technology for the development of critical thinking - the organization of the educational process, in which students check, analyze, develop, apply the information received in order to develop cognitive skills and abilities	Lecture-conversation. "Lecture for two". Lecture-provocation (with planned errors). Seminar using the case method. Seminar-debate. Debate seminar. Seminar "round table"	Brainstorm. Solving situational tasks. Presentation method. Demonstration method. Discussion. CSR technology. Case method
Information technology - special methods, software and hardware (film, audio and video tools, computers) for working with information	Lecture-press conference. Lecture show. Visual lecture	Presentation method
Differentiated learning technology - the organization of the educational process at various planned levels, taking into account the interests and abilities of students	Problematic lecture. Problem workshop. Lecture research. Lecture-provocation. Debate seminar. Seminar-debate. Seminar using the heuristic (Socratic) method. Lecture show (illustration)	Portfolio defense method. Method of projects. Small group report. Case method. Self-esteem. IDZ. CSR technology. Multilevel learning technology. Technology of complete assimilation of knowledge
Game technologies - a set of methods and techniques for organizing the pedagogical process in the form of specific game models	Lecture-situation. Lecture-provocation. Role-playing workshop. Seminar using a business game. Seminar using blitzigry. Seminar using debate	Role-playing (role play). Business game: educational (blitz game, mini-game), production, research. Organizational-activity game: organizational-mental, modeling, project. Simulation game. Debate. Game design
The technology of project-based teaching - a flexible model of the organization of the educational process in a vocational school, focused on the creative independence of the	Consultation lecture. Lecture-show (illustration). Lecture-press conference. Lecture-interview. Problem workshop. Seminar Using Case Analysis Method	Solving a problem (production) situation. Solving situational (production) tasks. Presentation method. Demonstration method. Project protection method. Portfolio method

individual in the process of solving a problem with the obligatory presentation of the result		
The technology of problem-based learning - the organization of the educational process, which involves the creation of problem situations and the organization of active independent activities of students to resolve them, as a result of which there is a creative mastery of knowledge, skills, skills and the development of thinking abilities	The technology of problem-based learning is the organization of the educational process, which involves the creation of problem situations and the organization of active independent activities of students to resolve them, as a result of which there is a creative mastery of knowledge, skills, skills and the development of thinking abilities	Brainstorm. Heuristic dialogue (heuristic conversation). Discussion. Educational research. Solving a problem (production) situation. Solving situational (production) tasks
Portfolio technology - search, accumulation, and systematization of information about the results of educational and cognitive activities of students in an "individual folder", which is used to demonstrate, analyze, and evaluate the results	Lecture using portfolio items. Lecture using the case method. Seminar using portfolio elements. Seminar using the case method	Portfolio protection method. Case method. Method of working with information databases. Portfolio protection mini-conferences. Portfolio exhibition
Technology of learning in cooperation - the organization of the educational process based on the principles of cooperation in temporary teams or small groups in order to obtain a high-quality educational result	Lecture-conversation. Lecture-dialogue ("lecture for two"). Lecture-interview. Lecture-discussion. Lecture-provocation (with planned errors). Contextual professional lecture. Seminar „round table“	Interview. Conversation. Discussion. Brainstorm. Small group report. The "saw" method. Pair work. Team training. Small group teaching
Contextual learning technology - a system of didactic forms, methods and means aimed at modeling the content of the future professional activity of a specialist	Lecture-show (illustration). Visual lecture. Lecture for two. Lecture-situation. Contextual scientific lecture. Context informational lecture. Lecture with a planned context of professional mistakes. Visual lecture. Seminar using the case method. Seminar-conversation	Analysis of specific (production) situations. Method of working with information databases. Business game. Case method. Information Modeling. Role playing. Group survey. Discussion. Brainstorm
Interactive technologies - ways to enhance the activities of subjects in the process of interaction (learning in the process of communication)	Interactive technologies - ways to enhance the activities of subjects in the process of interaction (learning in the process of communication)	Brainstorm. Debate. Presentation method. Demonstration method. Work in pairs. Group work. Case method. Business game. Self-esteem. Study discussion. Aquarium
Distance learning	Network technology - the study of a course (academic discipline) through electronic teaching materials posted in the learning environment using a computer connected to the Internet. CD-technology - the study of a course (academic discipline) presented to the student in the form of an autonomous e-learning system and an electronic version of teaching materials on a CD-ROM. Case technology - the study of the course (academic discipline) presented to the student in the form of a printed educational and methodological complex	
Social educational technologies	Social engineering. Volunteering. PR technologies. Fundraising. Debate. Flash mob. "Brainstorm". Training. Technology of upbringing of a socially active person (public organizations, student council, student parliament, student center)	

5 Conclusion

The use of modern educational technologies in the educational process of the university opens up new opportunities in terms of implementing the principles of didactics (individualization and differentiation of teaching), activates the cognitive activity of students and their creative abilities, stimulates consciousness, creates conditions for the transition from teaching to self-education. Increasing the competence of teachers in the most effective use of information, communication and interactive technologies, in the creation and development of a universal educational sphere, stimulating the formation of a new culture of pedagogical thinking is the task of modern higher education [6].

However, it is not enough to proclaim the creation of an innovative educational complex at a university, it is not enough to create some conditions for the development and application of innovative educational technologies in the educational process - it is necessary that innovative behavior becomes not the 'lot of the elite', but mass practice in the teaching environment.

Innovative teaching technologies are built mainly in line with the personality-oriented approach and rely on the active cognitive position of the student (in line with the activity-based approach). An approximate generalized model of innovative learning provides:

- Active participation of the student in the learning process (and not passive assimilation of information);
- The ability to apply knowledge in real conditions (for example, during practice);
- Presentation of knowledge in various forms (and not only in text form);
- Approach to learning as a collective rather than individual activity;
- Emphasis on the learning process, and not on memorizing information.

The movement from "traditional" to "innovative" teaching technology is, in any case, a movement in the direction of changing (improving, strengthening, developing) certain characteristics of the traditional university educational process, i.e., towards unlocking its untapped potential.

Literature:

1. Aksenova, M.A., Gurina, M.A., & Usacheva, O.Y. (2018). System of innovative educational technologies in higher education: goals, objectives, experience of implementation. *21st Century Lecturer*, 2, 81–93.
2. Baker, A., & Asino, T.I. (2017). Impact of professional development on technology innovation implementation by ugandan teachers: A mixed methods study. *European Journal of Contemporary Education*, 3(12), 19–32.
3. Bond, M., Zawacki-Richter, O., & Nichols, M. (2019). Revisiting five decades of educational technology research: A content and authorship analysis of the British Journal of Educational Technology. *British Journal of Educational Technology*, 1(50), 12–63.
4. Bower, M. (2016). Deriving a typology of Web 2.0 learning technologies. *British Journal of Educational Technology*, 4(47), 763–777.
5. Casper, W.C. (2017). Teaching teamwork skills in higher education. *Journal of Higher Education. Theory and Practice*, 6(17), 53–63.
6. Daniela, L., & Lytras, M. (2018). *Learning Strategies and Constructionism in Modern Education Settings*. IGI Global.
7. Grechnikov, F.V., & Klentak, L.S. (2016). Influence of the portfolio approach on the effective use of time by students of higher education institutions. *Integration of Education*, 1(20), 88–96.
8. Hew, K.F., Lan, M., Tang, Y., Jia, Ch., Lo, Ch.K. (2019). Where is the "theory" within the field of educational technology research? *British Journal of Educational Technology*, 3(50), 956–971.
9. Howard, S.K., Thompson, K., Yang, J., & Ma, J. (2019). Working the system: Development of a system model of

technology integration to inform learning task design. *British Journal of Educational Technology*, 1(50), 326–341.

10. Khosrow-Pour, M. (2020). *Handbook of Research on Modern Educational Technologies, Applications, and Management*. IGI Global.
11. Kim, J., & Maloney, E. (2020). *Learning Innovation and the Future of Higher Education*. Johns Hopkins University Press
12. Kinshuk, H., Sampson, D., & Chen N.-S. (2013). Trends in educational technology through the lens of the highly cited articles published in the journal of Educational Technology and Society. *Educational Technology & Society*, 2(16), 3–20.
13. Kirkwood, A., & Price, L. (2013). Examining some assumptions and limitations of research on the effects of emerging technologies for teaching and learning in higher education. *British Journal of Educational Technology*, 4(44), 536–543.
14. Kovalchuk, D.K. (2013). The estimation and transfer of the educational technologies. *Higher Education in Russia*, 4, 134–137.
15. Laptev, V., Pisareva, S., & Tryapitsyna, A. (2019). Integration in modern education: the issue of interrelation between didactics and methodology. *Izvestia: Herzen University Journal of Humanities & Sciences*, 192, 7–18.
16. Luckin, R., & Cukurova, M. (2019). Designing educational technologies in the age of AI: A learning sciences-driven approach. *British Journal of Educational Technology*, 6(50), 2824–2838.
17. Matrosov, V.L., Melnikov, D.A., Artamonov, G.A., & Pustovoytov, V.V. (2013). Educational technologies: Problems of classification and potential answers. *21st Century Lecturer*, 4, 17–22.
18. Ng'ambi, D., Brown, Ch., Bozalek, V., Daniela Gachago, D., & Wood, D. (2016). Technology enhanced teaching and learning in South African higher education – A rearview of a 20 year journey. *British Journal of Educational Technology*, 5(47), 843–858.
19. Oliver, M. (2011). Technological determinism in educational technology research: Some alternative ways of thinking about the relationship between learning and technology. *Journal of Computer Assisted Learning*, 5(27), 373–384.
20. Poshekhonova, V. A. (2018). The humanities educational technology of the digital age. *Pedagogical Education in Russia*, 5, 14–21.
21. Saunders, F.C., & Gale, A. W. (2012). Digital or didactic: Using learning technology to confront the challenge of large cohort teaching. *British Journal of Educational Technology*, 6(43), 847–858.
22. Wang, K., Cappel, J., Huang, Z., & Zhao, H. (2019). An alternative approach to case-based learning: The use of student-authored cases. *Journal of Higher Education. Theory and Practice*, 6(19), 140–154.
23. Yakushkina, M.S. (2004). *Educational space of the university: questions theory and practice*. SPbSU.
24. Ying-Tien, Wu., et al. (2013). A review of intervention studies on technology-assisted instruction from 2005-2010. *Journal of Educational Technology & Society*, 3(16), 191–203.

Primary Paper Section: A

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