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## RETROSPECTIVE ANALYSIS OF TECHNOLOGICAL APPROACH DEVELOPMENT IN TEACHING FOREIGN LANGUAGES TO STUDENTS IN HIGHER EDUCATION INSTITUTIONS

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*The article reveals the main prerequisites and factors, a retrospective analysis of the technological approach development in foreign languages teaching students of non-language specialties. The technological approach is defined as a socio-engineering ideology in the field of didactics, according to which learning acts as an entirely constructed process with rigidly planned and fixed results. Taking into account the stages of study theory formation, the rapid evolution of the technological approach is associated with scientific and technological revolutions and the development of technical teaching aids. The revealed idea is that there have been gradual changes in the foundations of pedagogical systems for a long time. It started from the dominance of individual skills of teachers from creating a system of conventional "established" methods, then the development of teaching aids and related techniques – moved to pedagogical technologies where the role of the teacher and his pedagogical technique are significantly reduced, and any subjective factor disappears completely. The specifics of the development of the technological approach to teaching foreign languages are identified, and the list of those mainly used in training students of non-language specialties is outlined. Emphasis is placed on the leading role of computer-oriented pedagogical technologies that can compensate and model the natural foreign language environment for individual and differentiated learning of a foreign language. The advantages and disadvantages of the technological approach are determined; because of this, it is expedient to combine it with other*



*approaches in the practice of foreign language teaching.*

*Keywords: technological approach, the teaching of foreign languages, students of non-language specialties, pedagogical systems, history of pedagogical.*

У статті розкрито основні передумови та фактори, проведено ретроспективний аналіз розвитку технологічного підходу у навчанні іноземних мов студентів немовних спеціальностей. Технологічний підхід визначено як соціально-інженерну ідеологію в галузі дидактики, згідно з якою навчання виступає як повністю сконструйований процес із жорстко спланованими, фіксованими результатами. Враховуючи етапи становлення теорії навчання, швидку еволюцію технологічного підходу пов'язано із науково-технічними революціями й розвитком технічних засобів навчання. Розкрита ідея про те, що впродовж тривалого часу відбувалися поступові зміни підстав функціонування педагогічних систем: від домінування індивідуальної майстерності педагога – від створення системи загальноприйнятих «усталених» методів, далі – розвитку засобів навчання й пов'язаних з ними методик – до педагогічних технологій, де значно зменшується роль педагога і його педагогічної техніки й зовсім зникає будь-який суб'єктивний фактор. Визначено специфіку розвитку технологічного підходу у навчанні іноземних мов та окреслено перелік тих, які переважно використовуються при підготовці студентів немовних спеціальностей. Наголошено на провідній ролі комп'ютерно зорієнтованих педагогічних технологій, які здатні компенсувати й змодельовати природне іншомовне середовище для індивідуального й диференційованого навчання іноземній мові відповідно до навчальних досягнень і рівня пізнавального інтересу й професійних потреб студентів. Визначено переваги та недоліки технологічного підходу, з огляду на це вказано на доцільність поєднання його з іншими підходами в практиці навчання іноземних мов.

*Ключові слова: технологічний підхід, навчання іноземних мов, студенти немовних спеціальностей, педагогічні системи, історія педагогіки.*

**Introduction.** In the context of modern educational concepts and the situation of democratization of society and socio-economic reform in Ukraine, higher education is based on fundamentalization, systematization, and humanization of knowledge, competent and cultural approaches. It supposes the social determination of target attitudes. The dominant place among the educational goals creates a condition for the formation of personal qualities of students, in particular communicative, as well as traits mediated by the level of their other communicative competence. The leading work of foreign languages is the formation of students' perception of foreign culture, i.e., all those qualities that can bring the process of mastering a foreign language in cognitive, developmental, and educational aspects (Tokarieva & Volkova, 2021). Therefore, it should be considered appropriate for a specially organized systematic study of a foreign language (if necessary, in several languages) both in the classroom and in the process of extracurricular activities using modern pedagogical technologies.



The result of this work should be formed at the particular level of secondary language personality of a higher education institution student, who can participate in intercultural communication and self-improvement.

**Methods.** In the study of this problem, such methods as analysis, synthesis, comparison, and generalization of theoretical and research data were primarily used to relate to the problem of interpretation of the concepts of "technology", "pedagogical technology", and "methods of teaching foreign languages".

The methods of classification and systematization have allowed regulation of the different pedagogical technologies for teaching foreign languages. However, another group of methods that is expedient for examining aspects was extrapolation and adaptation of domestic and foreign experience. They have enabled an opportunity to trace the development of the technological approach in retrospective review and the power of its impact on foreign language teaching in Ukraine.

It is determined that the experience of studying foreign languages for particular purposes in non-linguistic universities contains thorough work on using modern methods, forms, and techniques to activate the educational process, improving its efficiency. Thus, the theory and methods of communication in a foreign language are revealed in the works of Gegechkori (1979), Kytaihorodskaya (1982), Lozanov (1971), Passov (1985) and others; didactic aspects of the organization of the process of assimilation of foreign language knowledge by students and problems of formation of their foreign language communicative competence and foreign language culture – Bekh, Ishchuk, Ferri, Lozynska, and Tsihotska (2021), Malykhin, Milrud, and others.

The results of the analysis of the works of leading scientists and teachers-practitioners show that the reduction of foreign language teaching in undergraduate programs to a critical level has led to a loss of its effectiveness. That is why in the scientific literature, there are more and more works on the conceptualization of empirical developments in the application of new pedagogical technologies that can ensure the process of intensive foreign language learning by students of non-language specialties and their preparation for entry into the following levels of higher education (Bespalko (1989), Boholiubov (2001), Chernilevsky (2010), Guzeev (2009), Klarin (1997), Nazarova (1997), Strelnikov (2002), Tokarieva and Volkova (2021) and others). In particular, with the support of information and communication tools and technologies based on computers (Gurevich and Kademiya (2016), Mavrin (2005), Kudina and Solovey (2007), Rozhkova (2016) and others).

An essential basis for scientific research is the works of foreign researchers on the theoretical basis, genesis, and experience of pedagogical technologies – Dewey (1916), Skinner (1931), Thorndike (1932), Bloom (1956), Mitchel (1978), Ely (1985), Lipman (1991), Dodge (1995), Van Dusen & Worthen (1997), Harris (1998), Driscoll (2002), Harding (2003), Halpern (2014) and others, as well as their adaptation to domestic conditions and the development on this basis of new pedagogical technologies for teaching foreign languages in Ukrainian universities (Kuts (2022), Palka, Polat, Ratsul (2009), Yaroshchuk and others).

Meanwhile, considering the specifics of students' education in higher education institutions and the uniqueness of the stage of development of new educational



standards, there are still questions of uncertainty about the place and role of pedagogical technologies for learning foreign languages.

Giving further a retrospective review of the development of this idea, the "approach" will be understood as 1) the point of view from which the pedagogical phenomenon is considered; 2) the principle of the general strategy of activity, point of view; 3) means, method, a tool of pedagogical activity and transformation of its object (Philosophy, n.d., 2020). The technological approach is defined by the results of Klarin's (1997) work as a socio-engineering ideology in the field of didactics, according to which learning acts as a "fully constructed process with rigidly planned, fixed results". This approach aims to achieve by students a set of reference results at the level of a guaranteed minimum.

Guzeev (2009) points out the features of the technological approach in the educational process, which are complex consisting of 1) some idea of the planned learning outcomes; 2) means of diagnosing the current state of those who are taught; 3) a set of learning models; 4) criteria for choosing the optimal model for these specific conditions.

The research aims to reveal the main preconditions and influential factors to carry out the retrospective analysis of the technological approach development in teaching foreign languages to students of non-language specialties in higher-educational institutions.

**Results and discussion.** Researchers (Bespalko (1989), Boholiubov (2001), Chernilevskyi (2010), Klarin (1997), Mavryn (2005), Mitchel (1978), Nazarova (1997), Ratsul (2009), Strelnikov (2002), Volkova (2021) and others) believe that the use of technology in the educational process has a long history, directly related to scientific, technical progress of society and, as a consequence, with the development of types of social thinking. At the same time, it is impossible to determine the date of origin and introduction of pedagogical technologies, as separate technological approaches can be considered in a separate local experience of teachers and educators of the past.

Based on this, we can agree with Mavryn (2005) on the recognition of technology teachers from Ancient Egypt and Babylon as the first teachers, who faced the recurrence of operations in the pedagogical process, and developed some "technological" techniques used in teaching their students reading, writing and counting.

The founder of the study theory, Comenius (1982), sought to find a general order of learning in which it would be carried out according to the only laws of human nature and would require, as he said, "only artistic distribution of time, objects and methods." Such a perfect method of learning, according to Comenius, will allow uniform teaching and movement of learning forward "no less clearly than the clock ...". Didactography developed by the educator corresponds to all the signs of manufacturability – such a general method of learning by writing or a combined system of study work, consisting of systems 1 and 4 (1 + 4): (1) paper means students whose minds should reflect the basics of science; (2) font means textbooks and other manuals prepared for using them to memorize educational material quickly; (3) printing ink is the living voice of the teacher, which transfers the content of objects from books to the minds of listeners; (4) the printing press is a school discipline that



has and encourages everyone to accept learning. A modern analog of didactics is foreign language classes when the activities of teachers (system 1) are complemented by the activities of those who study with textbooks (system 4) under the direct control of the teacher (Comenius, 1982).

Therefore, it is impossible not to support the opinion of Boholiubov (2001, p. 5) opinion that pedagogical technologies have always existed but differed in the manufacturability of their time. It is generally believed that the development of the content of pedagogical technologies in the domestic field of education and abroad had a divergent path.

This brief review should start with the gradual development of the technological approach to teaching foreign languages from the middle of the 19<sup>th</sup> century, when models of Ukrainian higher education began to be built as Chernilevsky (2010) considers, till that time, future specialists, mostly artisans, had been taught only recipe knowledge directly in production. At the stage of the technical revolution (end of the 19<sup>th</sup> century), the principle of scientificity came to the fore in acquiring knowledge. Therefore, it is expedient to create, along with classical universities, other higher educational institutions and to separate two independent lines in them – educational and scientific ones. The educational process was organized in line with the technologies of the lecture-seminar system, which was supplemented by new technological approaches to conducting practical and laboratory classes. Since higher education in the Russian Empire has always been elitist, foreign language teaching was not an individual goal.

By the end of the 19<sup>th</sup> – beginning of the 20<sup>th</sup> century, several unique author's schools were singled out abroad, where intensive courses were launched, notable magazines were published, seminars were held, and technologists were applied. In particular, it is worth noting the introduction of interactive technologies and project methods, which took place based on research by the American philosopher-pragmatist Dewey (1916) and his disciple Kilpatrick (Levkivsky, 2011). It should be noted that the project method and the resulting brigade-laboratory training model have been widely tested and recognized as quite effective by several research teams led by Shatsky in the Russian Empire since 1905. However, the Soviet government did not stand in the way of unconditional recognition of domestic and foreign heritage (Levkivsky, 2011).

In the 1920s and 1930s, the national theory of study continued developing. According to Pylypchuk (1994), at this time, the Ukrainian scientific school of reflexology (Platonov, Protopopov, Smolianskyi) and experimental pedagogy is being developed, within which large-scale research on the development of technological approaches in experimental and project management activities of students (Blonsky, Raikov, Rybnykova, Vsesviatskyi). By the end of the 1930s, considerable experience had already been gained in reorganizing classroom and lecture-seminar systems (Unit Methods, Brigade Methods, Dalton Plan, Project Method). However, the Resolutions of the Central Committee of the CPSU(b) from 05.09.1931 "On primary and secondary school" and from 25.09.1932 "On curricula and regime in primary and secondary school" and methods and technological approaches that arose on their basis were called pseudo-innovative. Their use was qualified as an unacceptable frivolous pedagogical searchlight. As a result, schools, classes, and subjects were legalized



again. Meanwhile, they were being developed actively and successfully in foreign secondary and higher educational institutions. In the US, the UK, Europe, Latin America, Canada, and many other countries, the above-integrated teaching methods, types of learning, and technological approaches became widespread (Pylypchuk, 1994).

Researchers of the history of pedagogical technologies distinguish between specific periods in their implementation in the educational process since the middle of the twentieth century. As Boholiubov (2001) pointed out, the formation and development of the concept of "pedagogical technology" begin with its initial interpretation as learning by technical means and continue as a systematic and consistent organization of the projected educational process. From 1940-1950, audio-visual technical teaching aids started to be used in educational institutions to present study information.

The fundamental discoveries in genetics belong to that time, which intensified scientific discussions on the factors of personality development, patterns of learning, and education. In particular, Ananiev, in the 1960s, proved that adults could effectively shape their professional and personal qualities. As a result, Ananiev developed a theory on the peculiarities of mental development of adults and their learning at different stages of life (Kudina, Solovey & Spitsin, 2007). It contributed to rethinking higher and postgraduate education content, revising their general goals, and didactic teaching aids. Moreover, this process initiated the development of technological approaches to foreign language teaching for schoolchildren and adult students via specific tools.

It was then, from the 1960s, that industrial-technological approaches began to penetrate and adapt to the educational process. The first fundamental works in pedagogical technologies appeared in the US. Works on the relationship between technology and education and their role in society began to be published in specialized journals for the first time in the US, in 1964 in the UK, in 1965 in Japan, and 1971 in Italy. In 1967, the National Council for Pedagogical Technologies was established in the UK, and the Institute of Pedagogical Technologies was established in the US (Boholiubov, 2001).

The first marked pedagogical technologies of the technical foundation were technical teaching aids. Then, back in 1912, the principle of manufacturability was formulated by Thorndike (1932). So first, there is a machine that can provide certain sensorimotor stimuli. Then it is introduced into the educational process as a didactic tool and finally creates its technological application scheme.

The first step in creating technological schemes for technical teaching aids was made in 1946 at the Indian University of the US based on Larson's audio-visual training plan. Audio-visual education meant a simple technological chain: "text – image", i.e., frame-by-frame support of educational information. Significant achievements were the psycho-hygienic and physiological bases of the development and application of technical teaching aids – size, duration, colour, speed of presentation, patterns of memorization of information (Kozma, 1991).

The use of technical teaching aids and audio-visual methods in teaching foreign languages is associated with implementing mass learning of students' speech activities



in its different types. It should consider that before the emergence of technical teaching aids, these tasks had not even been put forward (Liakhovytskyi & Koshman, 1981, p. 8). The structural-global methodology developed in the middle of the last century created significant opportunities for students' foreign language knowledge formation.

The history of using technical teaching aids in teaching foreign languages begins with lingua-phone devices. In the early 1960s, the well-established name of a specialized foreign language office, "Language Laboratory", became established (Liakhovytskyi & Koshman, 1981).

As experts believe, technological approaches, specially developed for learning in the language laboratory, allowed to comprehensively influence the development of students' speech activity – auditory perception, auditory memory, phonetic skills, and pronunciation skills. However, due to the lack of appropriate technology, full feedback between teacher and student was not provided (Ratsul, 2009).

The intensive development of cybernetics has led to increased attention to learning foreign languages and the emergence of new pedagogical technologies. Among them, the model of Skinner's programmed learning becomes especially significant, the essential features of which are a clear set of educational goals, criteria for their measurement and evaluation, and a defined procedure for achieving goals. The concept of programmed learning is the operant reinforcement of learning according to the scheme "stimulus – reaction" (Skinner, 1931). The procedural aspect included a technological chain as "text – audio-visual support – tasks – self-monitoring – feedback – evaluation". The introduction of programmed learning, especially in HEI, also contributed to the separation of test knowledge control technologies and emphasized the need for algorithmization of the educational and cognitive process. It, in turn, created the necessary prerequisites for the design of new pedagogical technologies.

In general, Mitchel (1978) sees the roots of pedagogical technologies in programmed learning, audio-visual education, curriculum improvement, systems analysis, and pedagogical planning, on which computer science, communication theory, pedagogical quality, systems analysis, and learning theory have been gradually added since the 1970s. Finally, there is a gradual transition from purely verbal to audio-visual education and the need to train professional teachers – specialists in pedagogical technologies. In 1980, there were already 193 such programs in the United States, and the number of faculties that trained specialists for the entire program was 788, and for the incomplete one – 469 (Ely, 1985).

The evolution of the technological approach in the Soviet space was studied by Nazarova (1997). The scientist rightly pointed out that although, for a long time, the category of "pedagogical technology" was not used for ideological reasons, all progressive educators-practitioners and scientists were engaged in developing technological approaches. In 1965, the Institute of School Equipment and Technical Education was organized at the Academy of Pedagogical Sciences of the USSR. In 1973, the State Centre for Educational Technology was organized in Hungary. Its main tasks were producing new modern materials for the technology of education and creating a training system.

In 1977, the International Seminar on Learning Technologies was held in



Budapest. Shapovalenko singled out the first signs of manufacturability of the educational process, in particular: knowledge of teachers and perfect mastery of technology, awareness of the fund of audio-visual materials, mastery of methods of their practical use, including the development of the creative approach. Hungarian scientist Salai added to these features the following: planning, analysis of goals, scientific organization of the educational process, and the choice of methods, tools, and materials most relevant to the goals and content in the interests of improving learning efficiency (International Seminar on Learning Technology, 1977).

Bruner (technology of problem-based and research learning), Carroll, Bloom (1956), Block and Anderson (technology of complete acquisition of knowledge), Hamblin (technology of creativity development), Halpern (2014), Lipman (1991), Meredith, Steel, Temple, Walter (technology for the development of critical thinking) and others (Navolokova, 2009) are among the most famous authors and researchers of pedagogical technologies abroad in the second half of the twentieth century. In general, the concept of "foreign language learning technology" appeared in the domestic methodology in the 1970s, along with the concepts of "method" and "approach".

In the Soviet space, there was also a group of didactics who actively studied technological teaching aids, and built technological approaches to their introduction into the educational process in order to optimize (Babanskyi, Illina, Kraievskyi, Kupisevych, Lerner, Okon, Onyshchuk, Skatkin, Palamarchuk, Shapovalenko) (Levkivsky, 2011), to create a natural foreign language environment (Liakhovytskyi (1981), Milrud, Passov, Rozhkova, Tsesarskyi) (Passov, 1985). In addition, scientific teams studied the essence and course of technological approaches in developmental learning (Davydov, Elkonin, Zankov), problem-based learning (Kudriavtsev, Makhmutov, Matiushkin), programmed learning (Galperin, Talyzina, Landa, Molibog) (Navolokova, 2009). However, the significant achievements of scientists and teacher-practitioners did not always find a prominent place in the Soviet education system. The official Soviet doctrine did not encourage the initiative and activity of its citizens.

In general, from today's point of view, the groundworks of that time can be combined with the term "technology of full acquisition of knowledge" or "knowledge-oriented" technologies. With a certain degree of conventionality, as the created educational models did not always reach the format of technology, they covered the following pedagogical systems: technology of essential summaries of Shatalov, technology aggregation of didactic units of Erdniev, technology reference schemes of Lysenkova, developmental technology training of Davydov and Elkonin and others, as well as the communicative method of teaching foreign languages of Passov (1985), suggestopedic technology of Lozanov (1971), technological approaches of intensive learning of foreign languages of Gegechkori (1979), Kytaihorodska (1982), Petrusynskyi, Shekhter (Boholiubov, 2001). The development of pedagogical technologies in the USSR was also not facilitated by the "iron curtain", which separated domestic scientists and, in some cases, distorted the experience of foreign colleagues and simultaneously slowed down the development of methods of teaching foreign languages.





The end of the twentieth century is a period of the collapse of Soviet doctrine. Thanks to the intensification of the activities of foreign volunteer organizations, including the Peace Corps, and the Goethe Institute, teachers had the opportunity not only to get acquainted but also to receive some training in the use of pedagogical technologies. This process was taking place against the background of rethinking the conceptual foundations of the educational system, and the methodological improvement and humanization of its content were ongoing. The technologies of study and role games, technologies for the organization of research work, design technologies, and many other technologies turned out to be system-forming means of students' educational work, which form their future professional activity (Chernilevsky, 2010).

Since that time, improving the efficiency of the educational process has been associated with a high level of internal cognitive and communicative motivation of students, and hence – with the possibility to realize their ability to learn autonomously in terms of self-determination and tasks, choice of material, sources of information, the need for self-planning, self-control and self-correction (Kuts & Lavrentieva, 2022). Moreover, researchers associate the implementation of such activities optimally and qualitatively with the introduction of pedagogical technologies in the educational process.

The full range of existing pedagogical technologies is used in foreign language teaching today (interactive, development of critical thinking, project, communicatively oriented, personality-oriented). These technologies promote the effective acquisition of foreign languages but also the overall development of the individual through language learning. The evolution of technology and production technologies has led to changes not only in the conceptual but also in the hardware base of modern pedagogical technologies and technical teaching aids. It allowed the transition to multifunctional complexes and automated learning systems based on the computer-multimedia learning tools and later SMART technologies. Such complexes and systems have universal didactic possibilities, allowing to conduct of training in a dialogue mode taking into account individual possibilities of students; providing remote learning (Van Dusen & Worthen, 1997); (Driscoll, 2002); (Gurevich & Kademiya, 2016). Finally, the development of computer technology has led to the emergence of a fundamentally new family of information and computer technology (ICT), which includes multimedia, hypertext, media, Web technology, Internet technology, media technology, and many others (Dodge, 1995); (Harris, 1998). Modern computer-based technical teaching aids are pretty able to compensate and model the natural foreign language environment for individual and differentiated learning of a foreign language (Harding, 2003); (Rozhkova, 2016); (Tokarieva & Volkova, 2021).

Kudina, Solovei & Spitsyn (2007) rightly conclude that today the "technological" model of training is becoming a kind of worldview in educational practice. Unfortunately, its essential feature is the narrowly pragmatic focus on obtaining certain educational technologies and forming the ability to produce them. In line with this technological model, the learning process acquires a directed, managed and controlled, technologically organized, reproducible nature that leads to the projected results.



It should be emphasized that technical teaching aids have significantly expanded and enriched the opportunities of both learners and teachers, taking on several essential functions. However, they did not make significant changes in the structure and nature of the educational process. That is why scientists have developed a detailed system concept that would ensure optimal learning organization based on using different technical teaching aids. It is a concept that has been developed within the framework of pedagogical technologies.

**Conclusions.** Based on the analysis of the scientific literature, we found that the level of implementation of pedagogical technologies in each era is subject to the vector of development of pedagogical systems and the dynamics of technological improvement of pedagogical science. For a long time, there have been gradual changes in the foundations of pedagogical systems (from the dominance of teachers' skills – to creating a system of the standard "established" methods, then – the development of teaching aids and related techniques) to pedagogical technologies. As a result, they significantly reduced teachers' role and pedagogical technique, and any subjective factor disappeared utterly.

We are close to Bepalko's (1989, p. 187) opinion that pedagogical technologies always exist in any process of teaching and education. However, conscious guidance and selection of the best technology remain beyond the capabilities of a textbook pedagogical science and actual pedagogical practice.

Therefore, based on the leading role of the method in teaching, we consider it appropriate not to absolutize the technological approach in foreign language teaching but to introduce it in a system with competency, context-modular, communicative-cognitive, complex-integrative, creative-exploratory, and resource approaches in foreign language teaching.

### References:

- Bespalko, V. (1989). *Slagayemyye pedagogicheskikh tekhnologiy* [Components of pedagogical technologies]. Moscow: The Pedagogy. [in Russian].
- Blikhar, V., Kozlovets, M., Gorokhova, L., Fedorenko, V. & Fedorenko, V. (2020). *Filosofiya: slovnyk terminiv ta personaliy* [Philosophy: the vocabulary of terms and personalities]. Kyiv: KVITS. [in Ukrainian]
- Bloom, B. (1956). *Taxonomy of Educational Objectives*. Boston: Published by Allyn and Bacon.
- Boholiubov, V. (2001). *Lektsii po osnovam konstruirovaniya sovremennykh pedagogicheskikh tekhnologiy*. [Lectures on basics of constructiong modern educational technologies]. Pyatigorsk : Pyatig. gos. lingv. un-t. [in Russian].
- Chernilevsky, D. (2010). *Higher school pedagogy*. Vinnytsia: SKP, Hlobus-Pres.
- Comenius, J.A. (1982). The Great Didactic. In: *Jan Amos of Comenius*. Selected pedagogical compositions, in 2 vol., Vol. 1, Moscow: Pedagogika, 243- 476.
- Dewey, J. (1916). *Democracy and Education: An Introduction to the Philosophy of Education*. New York: Macmillan.
- Dodge, B. (1995). *Some Thoughts About WebQuests*.  
[https://webquest.org/sdsu/about\\_webquests.html](https://webquest.org/sdsu/about_webquests.html)
- Driscoll, M. (2002) Blended Learning: Let's Get beyond the Hype. *IBM Global Services*. Retrieved from: [http://www-07.ibm.com/services/pdf/blended\\_learning.pdf](http://www-07.ibm.com/services/pdf/blended_learning.pdf)
- Ely, D. (1985). Educational Technology: Field of Study. In: *International Encyclopedia of*



- Educational* (pp. 1600-1660). Oxford: Pergamon Press.
- Gegechkori, L. (1979). *Sistemnyy podkhod k obucheniyu yazykam vzroslykh* [Systematic approach to language teaching of adults]. *Metody intensivnogo obucheniya inostrannym yazykam*, 5, 63-73. [in Russian].
- Gurevich, R., Kademiya, M. (2016). Smart-education – a New Paradigm of Modern Education System. *Theory and practice of social systems management: philosophy, psychology, pedagogy, sociology*, 4, 71-78.
- Guzeev, V. (2009). *Prepodavaniye. Ot teorii k masterstvu*. [Teaching. From theory to excellence]. Moscow: NII shkolykh tekhnologiy. [in Russian].
- Halpern, D. (2014). *Thought and Knowledge: An Introduction to Critical Thinking* (5th Edition). NY: Psychology Press.
- Harding, A. (2003). *The Organization of Innovation in the Language Education. A set of case studies*. European Center for Modern Languages: Council of Europe Publishing.
- Harris, J. (1998). *Virtual Architecture: Designing and Directing Curriculum-based Telecomputing*. Eugene, OR: International Society for Technology in Education.
- International Seminar on Learning Technology (1977). *Final Document*. Budapest: TATERT.
- Klarin, M. (1997). *Innovatsii v obuchenii: metafory i modeli: Analiz zarubezhnogo opyta*. [Innovations in teaching: metaphors and models: analysis of foreign experience]. Moscow: The Science. [in Russian].
- Kozma, R. (1991). Learning with media. *Review of Educational Research*, 62, 179-211.
- Kudina, V., Solovey, M. & Spitsin, E. (2007). *Higher school pedagogy*. Kyiv: Lenvit, 194.
- Kuts, M. & Lavrentieva, O. (2022). Ergonomic aspects of computer-oriented pedagogical technologies implementation in teaching foreign languages to students of higher education institutions. *Educational Technology Quarterly*, 1, 88-104. <https://doi.org/10.55056/etq.9>
- Kytaihorodskaya, G. A. (1982). *Metodika intensivnogo obucheniya inostrannym yazykam*. [Methodology of intensive foreign languages teaching]. Moscow: The Enlightenment. [in Russian].
- Levkivsky, M. (2011). *History of pedagogy*. Kyiv: The Center of Educational Literature.
- Liakhovytskyi, M. & Koshman, I. (1981). *Tekhnicheskiye sredstva v obuchenii inostrannym yazykam*. [Technical tools in teaching foreign languages]. Moscow: The Enlightenment. [in Russian].
- Lipman, M. (1991). *Thinking in education*. Cambridge: Cambridge university press.
- Lozanov, G. (1971). *Suggestology*. Sofia.
- Lozynska, L., Ishchuk, N., Ferri, A. & Tsihotska, O. (2021). Experience of using information and communication technologies in foreign language teaching. *Youth and the market*, 4 (190), 125-131. <https://doi.org/10.24919/2308-4634.2021.236414>
- Mavryn, S. (2005). *Organizatsiya samostoyatel'noy raboty budushchikh uchiteley pri izuchenii pedagogiki s ispol'zovaniyem obrazovatel'nykh resursov seti Internet*. [Independent work organization of future teachers while studying Pedagogics with the Internet usage]. Samara: SGPU. [in Russian].
- Mitchel, P., Unwin, D. & Mc. Aleese, R. (Ed.). (1978). Educational Technology. In: *The Encyclopedia of Educational Media Communications and Technology* (pp. 5-100). London.
- Navolokova, N. (Ed.) (2009). *Entsyklopediya pedahohichnykh tekhnolohiy ta innovatsiy*. [Encyclopedia of educational technologies and innovations]. Kharkiv: Osnova. [In Ukrainian].
- Nazarova, T. (1997). Pedagogical technologies. New stage of evolution. *The Pedagogy*, 3, 20-27.
- Passov, Ye. (1985). *Kommunikativnyy metod obucheniya inostrannomu govoreniyu* [Communicative method of teaching foreign speaking]. Moscow: The Enlightenment. [in Russian].



- Pylypchuk, V. (1994). *Problema aktyvnosti i samostiynosti uchniv u dadyktytsi zahal'noosvitn'oyi shkoly Ukrainy (1917-1937 rr.)* [ Problem of pupils' activity and independence in didactics of secondary school in Ukraine (1917-1937)]. [Abstract of Doctoral dissertation, Taras Shevchenko University of Kyiv]. {in Ukrainian}.
- Ratsul, A. (2009). *Rozvytok pedagogichnyh tehnologiy navchannia inozemnyh mov sered starshklasnykiv (druha polovyna XX stolittia)* [The development of pedagogic technologies of foreign language teaching among senior school students' (the second part of the XX-th century)] [Doctoral dissertation, Kryvyi Pih State Pedagogical University]. [In Ukrainian}.
- Rozhkova, N. (2016). *Vykorystannya informatsiyno-komp'yuternykh tekhnologiy yak innovatsiynoho metodu v navchanni inozemnykh mov.* [Isung information and computer technologies as an innovative method in teaching foreign language]. Retrieved from: <https://core.ac.uk/download/pdf/83099886.pdf> [in Ukrainian]
- Skinner, B. (1931). The concept of the reflex in the description of behavior. *Journal of General Psychology*, 5, 427-458.
- Stepashko, L. (1966). *Problema aktivnosti i samostoyatel'nosti uchashchikhsya v sovetskoy didaktike (1917-1931 gg.)*. [Problem of activity and independence of pupils in Soviet didactics (1917-1931)]. [Abstract of Doctoral dissertation, Research Institute of Theory and History of Pedagogics of the Academy of Pedagogical Sciences of the USSR]. [In Russian].
- Strelnikov, V. (2002). *Pedahohichni osnovy zabezpechennya osobystisnoho i profesiynoho rozvytku studentiv zasobamy innovatsiynykh tekhnologiy navchannya.* [Pedagogical basics of providing personal and professional development of students by means of innovative teaching technologies]. Poltava: PBB. [in Ukrainian}
- Thorndike, E. (1932). *The Fundamentals of Learning*. New York: AMS Press Inc.
- Tokarieva, A., Volkova, N., Degtyariova, Y. & Bobyr O. (2021). E-learning in the present-day context: from the experience of foreign languages department, PSACEA. *Journal of Physics: Conference Series*, 1840. DOI:10.1088/1742-6596/1840/1/012049/.
- Van Dusen, L. & Worthen, B. (1997). Can Integrated Instructional Technology Transform the Classroom? *Educational Leadership*, 2, 28-34.

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