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DOI <https://doi.org/10.32840/1992-5786.2022.80.2.17>**N. Mukan**

Doctor of Sciences (Pedagogy), Professor  
Professor of the Department of Pedagogy and Innovative Education  
Lviv Polytechnic National University

**S. Kravets**

Senior Instructor of The Department of Foreign Languages  
Lviv Polytechnic National University

## THE DEFINITION OF “INNOVATIVE PEDAGOGICAL TECHNOLOGIES” CONCEPT

*The article deals with the issue of formation of the terminological base in the field of higher education. The purpose of the article is to summarize the results of scientific research performed by a number of scientists and highlight the main approaches to the interpretation of the concept of “innovative pedagogical technologies”. There has been done the analysis of scientific and pedagogical literature, which highlights various aspects of the research problem, including the interpretation of such concepts as educational technologies (V. Kuz, O. Yankovych), pedagogical technologies (S. Sysoieva, O. Pyekhota), innovative technologies (O. Dubasenyuk, N. Morze), integrative technologies (I. Baranovska, O. Vozniuk), information technologies in education (B. Bocharov, M. Voyevodina) etc. It has been found that the term “innovation” was first used in cultural studies in the 19th century. The innovation process is understood as the development of the following stages: production of ideas (introduction of scientific innovation), practical development and implementation of the ideas. The article presents the structure of the teacher’s innovative activities, which combines components, including creativity and reflection, as well as openness to the ideas and views of all participants in the educational process. The interpretation of pedagogical technology is generalized as a set of tools that contribute to the implementation of the latest paradigm of education, ie a set of methods and instruments used by the teacher to achieve learning outcomes. It is concluded that the modern terminological base in the field of education is formed on the basis of scientific research on the essence of such concepts as innovation, innovative technologies, educational technologies, pedagogical technologies etc. These concepts reflect the specifics of diversifying the educational process as a result of creative use of the best experience and innovation in modern education. An interpretation of the term “innovative pedagogical technologies” is provided meaning a set of tools, instruments and procedures that characterize the academic environment of higher education institutions, their integrated application being aimed at all-round development of the student’s personality, the students’ cultural, social and professional development being identified as the learning outcomes.*

**Key words:** term, concept, terminological base, innovative technology, pedagogical technology, educational technology, innovative pedagogical technology.

**Problem statement.** Modern development of science, information and communication technologies makes it inevitable to apply innovative technologies not only in production but also in economic, social, cultural, educational and other spheres of society’s life. Among the effective tools of socio-economic and cultural development of the country there is the application of the latest achievements of mankind in the process of professional training of specialists, who are prepared in accordance with the national standards and whose high qualification harmonizes with the trends in the international educational space, meets the requirements of modern labor market as well as the interests of employers. According to S. Strilets, many changes in the sphere of education are rooted in new ways of creating, storing, transmitting and using information [14]. New requirements of society to the level of education and personal development

cause the need to make changes in technologies of learning and teaching.

It is necessary to turn to the interpretation of the basic concepts and categories, which require certain clarification.

**The analysis of recent research and publications.** First of all, we emphasize that scientists have repeatedly turned to the interpretation of such concepts as educational technology (N. Koshechko, O. Yankovych), pedagogical technology (E. Fedorchuk, S. Sysoieva), innovative technologies (O. Dubasenyuk, V. Bykov), integrative technologies (I. Baranovska, O. Vozniuk), information technologies in education (B. Bocharov, M. Voyevodina) and others.

**The aim of the article** is to summarize the results of scientific research and to identify the main approaches to the interpretation of the concept of “innovative pedagogical technologies”.

**The research results.** The term “innovation” was first used in research in the field of cultural studies in the 19th century [1]. At the beginning of the twentieth century, a new branch of scientific knowledge was formed, which studied the specifics of the introduction of innovations in various spheres of society. The scientific works of domestic and foreign scientists reflect the results of the research on the specifics of “the essence, structure, classification and features of innovative processes in education” [15, p. 29]. The issues of introducing innovations in education were studied by M. Potachnyk and A. Khutorskoy. V. Bepalko, V. Huzyeyev, M. Klarin devoted their research works to peculiarities of applying technological approach in the field of education. Attention should also be paid to the works highlighting peculiarities of introducing technologies for training future professionals in the field of education (V. Bondar, O. Moroz, N. Mukan, H. Yaremko, O. Isayeva, as well as the development of new pedagogical technologies (L. Vovk, I. Pidlasyi, I. Prokopenko). The studies in the field of innovative educational technologies of such researchers as A. Andryeyev, S. Arkhangelsyi are also worth mentioning.

The Philosophical Dictionary of Social Terms gives the following definition of the term “innovation”: “Innovation (from Latin *innovatio* – revival, renewal, change) in the social sciences means renovation, novelty” [2, p. 334]. An innovation process is transformed into a scientific innovation or an innovative idea, social innovation, as well as educational innovation through several stages and a set of tools. According to V. Polonskyi, innovations arise as a result of attempts to solve the traditional problem in a new way, as a long process of accumulation and comprehension of the facts, when there appears a new quality with innovative content. Most modern innovations are inherited from historical experience and have analogues in the past [11]. V. Hrynyev states that “innovation is the application of the results of intellectual work and technological developments to a particular field of public activities (industry, economy, social realm, legal relations, science, culture, education etc) with the aim of improving social and economic spheres of action” [4].

Implementation of innovations can be looked at as the result of innovations application while the innovative process itself goes through the following three stages: production of ideas (introduction of a scientific innovation), their theoretical development, and implementation of these ideas in practice. Innovations can be classified as follows: 1) depending on their functional purpose: the innovations can be the conditions that ensure an effective educational process (new content of education, innovative educational environments, socio-cultural conditions); the pedagogical tool, technological educational projects etc.; the innovative ideas applied in

the organization of educational management (solutions that provide quality service of education); 2) depending on the field of their application and implementation: innovations can be applied in the content of education; in educational technologies; in the system of interaction of participants of the pedagogical process; in the system of pedagogical tools. Structural innovations are innovations that arise from a certain range of problems, have a clear goal and objectives. They are formed with the account of the interests of teachers and students, and their main task is to harmonize the educational process. The application of such innovations requires careful preparation, expert assessment, careful selection, as well as the use of the appropriate tools and resources (human, material, scientific and methodological). As it is known, the subject of pedagogical innovative activity is the teacher and his/her abilities.

A great emphasis is laid on the sociocultural space of the educational environment, as well as the personal qualities of the teacher, as the content of the innovation process is the basis of cooperation between teachers and students. “Innovations in education are a natural phenomenon, dynamic in nature and developmental in results; their introduction allows to resolve the contradictions between the traditional system and the needs for qualitatively new education. ... As a systems phenomenon, innovation is characterized by multi-faceted qualities: an innovative process, innovative activities, innovative potential, innovative environment” [5]. The educational process, enriched with innovative technologies, diversifies the role of the teacher, who performs the functions of a teacher, a mentor, a facilitator, and a mediator, whose main task is to help students overcome the difficulties that arise in the process. The defining essence of pedagogical assistance is expressed in the description of an innovative style, its purposefulness, as well as the tasks to be performed with the aim to form and educate the comprehensively developed personality ready for full-fledged vital activity in a modern society. According to L. Pautova, “innovative position of the teacher is characterized by creative activity, personal readiness to review and restructure the own system of activities with the account of the following: changes in the teacher’s status from an executive specialist to a professional researcher; the developed reflection in the teacher’s activities; focus on the desired result, self-developing work organization” [9, p. 90].

As to innovative activities of students, it should be noted that this is a creative process and creative activity. The application of the axiological approach to innovation in the field of education implies that a person devotes oneself to the process of creating innovations and to a set of pedagogical values created.

The structure of the teacher’s innovative activities includes a number of components, in particular,

creativity and reflection, as well as openness to the ideas and views of all participants in the educational process. The effectiveness of the teacher's innovative activities depends on a number of conditions, among them formation of trusting relationships with all participants in the educational process; readiness to admit own mistakes; ability to accept the opinion of others etc. "Pedagogical innovation theory implies the constant search for and implementation of new, most effective technologies of teaching and education, the result of which should be the formation of a highly adaptive to changing conditions, active, enterprising, creative person who can analyze and overcome any difficulties. However, the commitment to the new, the search for and implementation of the new is not a goal in itself of the pedagogical innovation theory" [15, p. 29].

The studies of scientists dedicated to clarifying the essence of the concept of technologies in higher education also deserve attention. "Technologies perform the role of a link between theory and practice, higher education and real life; they can be considered the channel through which professional knowledge is transmitted to the education system" [15, p. 151]. A learning technology is understood as a method based on the effective use of all available resources (material, technical, human etc.) for the purpose of planning, designing, organizing and implementing the educational process. Thus a technology is a sequence or a system of actions aimed at achieving certain learning outcomes that are reached under certain conditions. We agree with the statement that "traditional didactic tasks assigned in education of reproductive type can be presented as a "technological" (algorithmic) process with the expected and clearly described results. An innovative approach to the educational process is aimed at personal development of future professionals, their ability to master new experiences based on purposeful formation of creative and critical thinking, and thematic and simulative modeling of the search. Preference is given to active forms and methods of learning (a discussion, a dialogue, a business game etc.)" [5, p. 29].

A pedagogical technology should be understood as a set of tools that contribute to the implementation of the latest paradigm of education, ie as a set of methods and tools used by the teacher to achieve targeted outcomes. Modern technologies in education are seen as a means by which a new educational paradigm can be implemented.

We cannot but agree with the statement that "the structure of educational technology comprises a conceptual basis, a content-related part (learning objectives, the content of educational material) and a procedural part (organization of the educational process, methods and forms of educational activities of students as well as the teachers' activities including

management and diagnostics of the educational process). An educational technology should have all the features of a system: the logic of the process, the interconnection of all its parts, and integrity. It is supposed to have the following intrinsic features: controllability, purposefulness, planning, step-by-step diagnostics, variation of tools and methods, and correction of outcomes" [5, p. 33].

It is important now to consider the concept of "a pedagogical system" because an innovative pedagogical technology is a way by which the modern educational paradigm is realized, and this is impossible without transformation of pedagogical reality, development of pedagogical systems, and improvement of the pedagogical process. "Such issues as the genesis of new pedagogical ideas, their conceptual justification and technological implementation require more detailed study at both methodological and practical levels" [7, p. 75]. Scientists interpret the concept differently, which is due to the use of different approaches. "The pedagogical system is the integrity of naturally located and interconnected components, which in their unity form a new phenomenon or process. The general characteristics of the system include: integrity – the system is not the sum of its components, but the integral result of their interaction; hierarchy – subordination of the components and subsystems to the system as a whole; structural properties – the presence of relationships between components and of a system-forming factor; connection with the external environment, i with higher level systems; ability to independently improve its organization with the change of external or internal conditions" [7, p. 72].

According to the researchers, "although there is a large number of works on pedagogical technologies, their implementation today remains insufficiently substantiated, as such issues as their major characteristics, content, and classification from the standpoint of competence approach is still not worked out enough. The problem of preparing teachers and lecturers for the introduction of pedagogical technologies is quite complicated and remains very complex requiring further careful consideration" [10, p. 350].

Well-known Ukrainian researchers S. Sysoyeva, A. Alekseyuk, P. Volovyk consider that a pedagogical technology is a system of most rational ways to achieve the desired pedagogical purpose, the scientific organization of the educational process, which determines the most rational and effective ways to reach the ultimate educational and cultural goals [12].

The concept of a pedagogical technology is interpreted as a set of tools and methods reproducing theoretically sound processes of teaching and education, which allow to successfully implement

the educational goals. S. Vitvytska notes that pedagogical technology should be understood as theoretically sound educational system, created with the account of the needs and capabilities of an individual in particular and society as a whole. The main task of this system is to socialize the individual, their personal and professional development as well as self-development in the academic environment of an educational institution. This is the system that with the help of organized professional actions of the teacher, with the use of the appropriate resources and efforts of all participants in the educational process, guarantees the effective implementation of the consciously defined educational goals and the possibility to adequately reproduce the process at a level consistent with the level of the teacher's pedagogical proficiency [3]. Pedagogical technology can be considered as a science of development and education, tuition and cultivation of the student's personality, the implementation of which is based on positive personality traits, universal values and achievements of pedagogical science as well as related sciences. P. Sikorskyi concludes that pedagogical technology should be understood as an algorithm for organizing learning aimed at providing the effectiveness of knowledge acquisition, formation and development of skills and abilities of students, as well as "achieving the planned outcomes" [13, p. 7].

Researchers emphasize that pedagogical technology is based on the main methodological requirements and criteria of maintainability: "conceptuality (reliance on a particular concept that contains philosophical, psychological, didactic and socio-pedagogical justifications for educational goals); consistency (a pedagogical technology must have all the features of a system); logic of the process, the relationship of all its parts, integrity; controllability (possibility of to plan the goal, design the learning process, to run a step-by-step diagnostics, to vary the use of the tools and methods to improve the outcomes); efficiency (cost-effectiveness, guaranteed achievement of the planned outcome, it being a certain education standard); reproducibility (possibility of applying in other similar conditions, by other practitioners); unity of content and procedures, their interdependence" [3, p. 46].

We support the opinion of N. Koshechko who writes: "theoretical achievements of modern educational scientists and my own practical pedagogical experience allow me to classify innovative educational technologies by the criterion of their content and method of information transfer into the following types: a person-oriented technology of influencing the personality; an interactive technology of learning and teaching; an information and communication technology of learning and teaching; a technology of educational projects; an integrated developmental technology; a modular rating

technology" [8, p. 36]. The author further notes that cooperation in the educational process is a kind of interactive networking in the academic environment, which operates at certain levels: a teacher – a student; a student – a student in pairs (dyads) and in threes (triads); general group interaction of students in the academic environment; a teacher – an academic community [8].

Exploring the possibilities of applying innovative pedagogical technologies in the educational process of modern higher education, V. Yehorova and M. Holubyeva identify the conditions necessary for the effective implementation of these technologies: "We consider that the operational component of pedagogical conditions comprises the credit-module system of organizing the educational process, lateral and cooperative learning, problem-based learning, information and computer technologies of learning. As to the psychological component, it covers stereotype attitudes to the new; communication styles; individual preferences; development of cognitive interests etc. The content-technological component includes practical training, sociodrama, psychodrama, "debates" technique, "aquarium" method, case studies etc." [6, p. 30].

**Conclusions.** To summarize, we can say that the modern terminological base related to innovations in higher education is formed on the basis of scientific research clarifying the subject-matter of such concepts as innovation, innovative technologies, educational technologies, pedagogical technologies and more. These concepts reflect the specifics of enriching the educational process, based on the creative application of the best experience and innovation in modern higher education. Based on the study of scientific and pedagogical literature, covering various aspects of the research problem, we conclude that the term "innovative pedagogical technologies" should be understood as a set of tools, instruments and procedures that characterize the academic environment of higher education institutions and their integrated application is directed towards the all-round development of the student's personality and students' cultural, social and professional development which are defined as learning outcomes.

## References:

1. Akramova S.A., Aripova G. ., Muhiddinova H.G. Modern technologies and innovative activity of teacher in higher education system. *Journal of critical reviews*. 2020. № 7(7). P. 1077–1079.
2. Андрущенко В. *Філософський словник соціальних термінів*. Харків: Інститут вищої освіти. 2005. 669 с.
3. Вітвицька С.С. Інноваційні педагогічні технології в підготовці вчителів. *ВІСНИК Житомирського державного університету імені Івана Франка*. 2009. Вип. 43. С. 45–48.

4. Гринев В.Ф. *Инновационный менеджмент: учебное пособие*. Киев: МАУП. 2003. 144 с.
5. Дубасенюк О.А. Інноваційні освітні технології та методики в системі професійно-педагогічної підготовки. *Професійна педагогічна освіта: інноваційні технології та методики: монографія*; ред. О.А. Дубасенюк. Житомир : Видавництво Житомирського державного університету ім. І. Франка. 2009. С. 14–47.
6. Єгорова В.В., Голубева М.О. Інноваційні педагогічні технології в сучасному навчально-виховному процесі ВНЗ. *Наукові записки, Том 97, Педагогічні, психологічні науки та соціальна робота*. 2009. С. 28–31.
7. Коновальчук І.І. Проектування інноваційних педагогічних технологій. *Вісник Житомирського державного університету імені Івана Франка*. 2005. Вип. 24. С. 71–75.
8. Кошечко Н. Інноваційні освітні технології навчання та викладання у вищій школі. *Вісник Київського національного університету імені Тараса Шевченка. Педагогіка*. 2015. Вип. 1. С. 35–38.
9. Паутова Л.Є. Акмеологическая продуктивность инновационной позиции преподавателя в развитии творческой готовности студентов к профессиональной деятельности. Шуя : «Полиграфия-Центр». 2004. С. 90–91.
10. Пехота О.М., Прасол Н.О. Підготовка майбутнього вчителя до впровадження педагогічних технологій в умовах інтеграції у світовий освітній простір. *Нові педагогічні технології як відповідь вищої школи на виклики інноваційного етапу світового розвитку*. 2015. С. 348–355.
11. Полонский В.М. Инновации в образовании (методологический анализ). *Инновации в образовании*. 2007. № 2. С. 4–14.
12. Сисоєва С.О., Алексюк А.М., Воловик П.М. та ін. *Педагогічні технології у неперервній професійній освіті* : монографія. / ред. С.О. Сисоєвої. Київ : ВІПОЛ. 2001. 502 с.
13. Сікорський П.І. *Кредитно-модульна технологія навчання* : навчальний посібник. Київ : Європейський університет. 2004. 126 с.
14. Стрілець С.І. Інноваційні технології і методи навчання у вищій освіті: проблеми та перспективи. *Вісник Чернігівського національного педагогічного університету імені Т. Г. Шевченка*. 2011. Вип. 90. С. 204–209.
15. Стрілець С.І. *Інновації у вищій педагогічній освіті: теорія і практика* : навч. посібник для студентів вищих навчальних закладів. Чернігів : ФОП Лозовий В.М. 2015. 544 с.

#### **Мукан Н. В., Кравець С. Ф. Визначення поняття «інноваційні педагогічні технології»**

Стаття присвячена дослідженню проблеми формування термінологічної бази освітньої галузі. Метою статті є узагальнення результатів наукових розвідок та виокремлення основних підходів до трактування поняття «інноваційні педагогічні технології». Виконано аналіз науково-педагогічної літератури, що висвітлює різноманітні аспекти проблеми дослідження, серед яких трактування таких понять, як освітні технології (В. Кузь, О. Янкович), педагогічні технології (С. Сисоєва, О. Пехота), інноваційні технології (О. Дубасенюк, Н. Морзе), інтегративні технології (І. Барановська, О. Вознюк), інформаційні технології в освіті (Б. Бочаров, М. Вовводіна) тощо. З'ясовано, що термін «інновація» вперше вжито у дослідженнях у галузі культурології в ХІХ столітті. Інноваційний процес розуміється як розвиток таких етапів, як: продукування ідей (відкриття наукової інновації), розвиток ідей із практичного погляду та їх використання на практиці. Наведено структуру інноваційної діяльності педагога, що охоплює низку компонентів, таких як креативність та рефлексія, а також відкритість до ідей та поглядів усіх учасників освітнього процесу. Узагальнено трактування педагогічної технології як комплексу інструментів, що сприяють реалізації новітньої парадигми освіти, тобто комплексу методів і засобів, що їх використовує викладач для досягнення результатів. Зроблено висновки про те, що сучасна термінологічна база формується на основі виконання наукових досліджень, присвячених з'ясуванню сутності таких понять, як інновація, інноваційні технології, освітні технології, педагогічні технології тощо. Ці поняття відображають специфіку збагачення освітнього процесу на основі творчого використання кращих зразків досвіду та інновацій у сучасній вищій школі. Наведено трактування терміна «інноваційні педагогічні технології», що позначає сукупність засобів, інструментів та процедур, якими характеризується академічне середовище закладу вищої освіти, а їх комплексне застосування спрямоване на всебічний розвиток особистості здобувача освіти, його культурний, соціальний та професійний розвиток, що визначені як результати навчання.

**Ключові слова:** термін, поняття, термінологічна база, інноваційні технології, педагогічні технології, освітні технології, інноваційні педагогічні технології.