

Demyanenko N.

Pedagogical innovation in the educational space of university

*Natalia Demyanenko, Doctor of Pedagogical Science, Professor,
Head of Department of Pedagogy and Psychology of Higher School
National Pedagogical Dragomanov University, Kyiv, Ukraine*

Abstract. The category of "advanced, exemplary, innovative educational experience" is theoretically substantiated. It is revealed the correlation of the definitions such as "author's school and "innovative educational technology." The phenomenon of "implementation" is defined. The evaluation criteria and selection of educational innovation, socio-pedagogical, theoretical and practical, scientific and methodological, moral and psychological conditions for successful implementation of advanced practice teaching experience into schools are developed. It is found the basic steps of the process.

Keywords: *pedagogical innovation advanced teaching experience, teacher-innovator, author's school, innovative technology, implementation, criteria, conditions of implementation, pedagogical science, and school practice*

Introduction. Pedagogic innovation as an advanced educational experience in a certain sense is a synonymous optimally organized educational activity that gives the highest possible training and educational results for time management. Familiarity with the advanced pedagogical experience stimulates teachers' creativity to optimize the educational process, contributes to the development of their teaching abilities. The integration of stimulating, educational, edifying and developmental functions determines the particular importance of the advanced pedagogical experience for the improving educational activities.

The experience of the innovative pedagogical work has quite a significant impact on the development of pedagogy. The summary of the advanced educational experience is an important component of the process of scientific research of pedagogical issues. The awareness of it allows, primarily, specifying the research hypothesis, which has to come out not only with theoretical predictions, but also to assess the possibilities of teaching practice. The advanced educational experience seems to execute the natural pedagogical experiment in a particular field of science; it prevents the phenomenon of the hyperbolizing pedagogical recommendations on a particular issue. Thus, the advanced educational experience has important functions in terms of development of pedagogical sciences: hypothesis specification, prognostic and optimization of scientific and practical recommendations. It also poses some challenges for teaching science: pedagogy aims to explain the causes of high efficiency of some new approaches, to create new concepts of the educational process, taking into consideration the qualitatively new phenomena in the practical activities of the school.

Understanding of the phenomenon of "pedagogical innovation" nowadays requires analysis of a number of interrelated concepts: "innovator", "teacher-innovator", "innovation", "pedagogical innovation", "innovative pedagogical activity", "author's school", "advanced pedagogical experience", "exemplary pedagogical experience", "implementation of advanced educational experience".

"Explanatory Dictionary of Ukrainian Language (K., 2012) offers a definition of "innovator" as a person who "makes and implements new innovative ideas in any field of activity" [12, p. 256]. By "Modern Dictionary of Foreign Words" (L.I. Nechvolod, Kharkov, 2009) "innovation" – is the introduction of something new, modernized" [7, p. 261]. Short encyclopaedic dictionary "Political Philosophy" (K., 2002) interprets "the innovation as both purposeful introduction into the current practice of a particular innovation, through which positive changes and desired effect are

achieved" [13, p. 255]. By "innovation" in teaching interperatation I.V. Zaychenko implies innovation in educational system, improving, perfection of the pedagogical process and outcome. (In this case, the term "educational system" is considered by him as a particular set of interrelated tools, methods and processes required to create an organized, focused and controlled pedagogical influence on the identity formation with some predictable qualities) [6, p. 77]. In this regard N.P. Dichek said: "If interpreted a pedagogical innovation as a process of an innovation implementation into educational practice, then the pedagogical innovation is the process of the emergence, development, and most significant, broad introduction into the education sector some pedagogical innovations and novelty." "The teacher-innovator" in her interpretation is "an author of new pedagogical systems, developer and implementer of educational innovations and novelty" [5, p. 64]. By V.F. Palamarchuk "pedagogical innovations are the result of original creativity, innovative solutions of various educational problems" [8, p. 59]. N.V. Bordovskaya and A.A. Rean consider the main indicator of "pedagogical innovation" the progressive principle in the development of the school or institution of higher education, compared with tradition and widespread practice. Under their vision, innovations in education are related with amendments into: the purpose, methods and technologies, forms of organization and management system; the styles of teaching activities and the organization of teaching and learning process; the system for monitoring and evaluation of the educational level; the system of financing; training and methodological providing; the system of educative work; curriculum and educational programs; in teaching and students' practices [3, p. 123].

The aim of the study is to research the concept of pedagogic innovation and its criteria.

Materials and methods. We treat "innovative teaching activities" as a kind of pedagogical activities aimed at designing, creating, testing, implementation or distribution of the achievements of pedagogical science, technology, exemplary experience. Innovative activity may have theoretical and practical significance, educational and didactic character. "Pedagogical activities" is a generic term in relation to the concept of "innovate activity" that species as a means of improvement and successful implementation in current conditions. The "pedagogical innovation" refers to us in the narrow and broad sense. In the narrow sense, these are some achievements of the pedagogical science, didactics and educational technologies, advanced experience which respond the needs of the practice. Broad view of this phenomenon allows considering it as the science of innova-

tion in pedagogical knowledge. In this sense, innovations are the result of educational achievement (science or practice), system, process, technology, methodology, training and education facilities, etc. [2, p. 26, 29].

Let us refer to the current teaching science classifications, typologization of some innovations. A.A. Rean, for example, cites four main classifications of types of innovations in secondary school and high school. The first classification is based on the correlation of something new with the teaching process of a particular type of educational establishment. Accordingly, there are such types of innovations: into the purpose and content of education; methods, means, techniques, technology of teaching process; forms and methods of training and education; administrative management, teachers and students activities. The second classification of innovations in the education system is based on the scale use of signs (volume). It includes the following transformations: local and isolated, unrelated; complex, interrelated; all system covering the entire school or institution of higher education. The third classification is made on the basis of innovation capabilities. In this case it can be distinguished: the modifications of the known and acceptable, associated with improvement, rationalization, variation (educational programs, curriculum and structure); combinatorial innovations; eradicated transformations. The fourth classification of innovations is based on grouping attributes in relation to its predecessor. This approach to innovation includes some that replace, cancel, open or to some previous input. Sources of ideas of updating school or institution of higher education may be: the needs of the country, region, city or district as a social order; implementation of the social order in the laws, directives and regulations of the nationwide, regional or municipal significance; achievement of complex human sciences; advanced teaching experience; intuition and creativity of managers and teachers as a way of trial and error; experimental work; international experience. According to N.V. Bordovskaya in the development of the educational system should be considered: absolute novelty (no analogues and prototypes), the relative newness and novelty pseudo or so-called inventive stuff [3, p. 124]. I.V. Zaychenko identifies three main levels of modern process of innovations: low, which includes innovations, offering changes in some unfamiliar names and formulations; medium involves changing forms, but not the merits; high, which resulted in changing of the whole system or its components. The most important changes in the areas of innovative pedagogical system he considers: 1) the pedagogical system as a whole; 2) educational establishments; 3) the pedagogical theory; 4) a teacher; 5) learners; 6) pedagogical technology; 7) educational content; 8) forms, methods, tools, 9) management; 10) the purpose, objectives and results [6, p. 80].

Thus, the concept of "pedagogical innovation" is used for the definition of "teachers' and educators' activities aimed to improving the process of education and upbringing and its rationalization. This activity may be related to changes in the objectives, methods and techniques of teaching, as well as changes in the forms of organization of the process of learning and education. It appears in the work of experimental, pilot and author's schools" [4, p. 233-234].

Analyzing the historicism of phenomenon of "authors' school" as "the advanced pedagogical experience" or "pedagogical innovation", we note that its appearance in our

country belongs to the innovative educational practices of the late 1920s. By definition, it is an experimental educational institution, activity of which is based on the leading psycho-educational and (or) the organizational and management concepts developed by the individual author or authors. The term "author's school" is used deliberately since the late 1980s. The emergence and development of author's schools are associated with decentralization of education management, overcoming the monotony of educational institutions and proclamation the principle of their autonomy. The concept and practice of independent schools usually significantly differ from traditional school practices and are often built on the opposition to this practice, its criticism and the evidence of benefits of new approaches to known. Many scientists consider the creation of such schools on the basis of predesigned original (wherefrom is the author's school) conceptual project as a special feature of authors' schools. As a creator of the author's school act scientists as well as and practitioners. Author's schools, as a rule, are known by the names of their creators. According to the definition of O.Y. Savchenko "author's school" is the teaching and educational establishment, where a new educational system developed by a teacher or creative teaching staff is realized. Author's schools arise mainly as a response to the urgent need for improving educational practices and social relevance of certain ideas concerning training, education and development of children [11, p. 8]. In the history of foreign and national pedagogy (especially early twentieth century) are known such author's schools "free school community", (H. Lietz, P. Geheeb (Germany), these are boarding schools, the life organization in which was built on the principles of free child development and the cooperation of citizens of a small company, where the education was based on the basis of compulsory labour and choice of classes; labour school" (H. Kershenshteiner (Germany), the school by de Roche (France), koloniya (a special school for unattended children) by F.E. Dzerzhinsky, and Gorky commune led by A.S. Makarenko, schools by S.T. Shatsko, P.P. Bolonsky that provided professional training of schoolchildren, considering work as self-worth, relying on the student independence and organization of self-management; school of "free education" in Leipzig, Yasnaya Polyana school by L.N. Tolstoy, which was considered inappropriate to teach a student a hole subject or craft, the interest in student development was decisive, the communication of teacher and student was not limited; "school for life, through life" (O. Decroly, Belgium) – proposing training and education in close contact with nature, reliance on the activity and freedom of the child (centre of interests), close contact with the families of students; "school of action" (J. Dewey, the USA) tried to bring learning to life and children experience, encouraging their natural development. The training takes into account the basic impulses of the natural growth of a child: social (the desire to communicate), constructive (the desire for motion in a play), research (thirst for knowledge and understanding), expressive (the desire for self-expression). The communication with children of all ages occurred mainly in extra-curricular activities. From these school grew: "laboratory school" (J. Dewey), "play school" (C. Pratt), based on the principle of using the method of playing and dramatization in the learning process; "children's school" (M. Naumberg) that guided the motto "only

by living we learn" and preferred individual classes; "organic school" (M. Johnson) that oriented classes in groups. The above-mentioned U.S. schools were characterized by the desire to find new methods of learning, attention to the interests of children, the study of individual characteristics of students, the development of their activities, as well as a trend towards practicality and utilitarian training and education. Waldorf School in Germany (educational system by R. Stainer) was based on the anthropological understanding of the process of child development as an integrated interaction between physical and spiritual factors that solved the problem of the full development of the child through an intense spiritual activity. The school of M. Montessori in Italy prevised the activities of children in a specially created environment where were the processes of self-discovery and exploration of the world in the different age groups. The School of Technologies by C. Freinet in France. The school is organized in accordance with the "project method" (W.H. Kilpatrick, the USA, B. Russel, the UK), where the curriculum was seen as a set of related experiments, and students were given the complete freedom of classes choice. Schools that have worked for the "Dalton Plan" (H. Parkhurst, the USA) and guided by the principles of freedom of the child (individual learning rhythm), its interaction with a group of children (communication in different ages group), the distribution of the study time (monthly tasks). The "open schools" are known from the second half of the twentieth century (introduced in the UK in the early 1970s, implemented in a number of experiments, in particular, "the city as a school", Berlin, St. Petersburg, 1990s, "snow", "sea" classes, France, "school without walls", the UK, the USA), where the individual character of studies has been asserted, there was not a traditional schedule, school-lesson form and evaluation control system were abolished. Instead, it was used the so-called "integrated day" when the student and teacher jointly planed themes and the realization of various activities. The main learning method was defined as the way of discoveries. The free mode facilitated the process of child understanding of the world and their own expressing. The children with an age difference of 2 years were combined in the groups. "Snowy classes," for examples, predicted children familiarity with nature, life and people life in the mountains (during the holidays, led by teacher). "Marine classes" solved the same tasks of training and education during the marine travel. "Year-round school" (the USA) was built according to the original system of classes organization: every 45 days, students had the two-week vacations. Thus, the students were at classes as many days as in the regular school. Another type of schools is "not graduated schools" (the USA), where there was not the annual division in classes. The each cycle studying made it possible to learn the classes material in the individually rhythm [3, p. 125-127]. The practice, which in the comparison to the overall gave a higher efficiency and quality of the solution of educational problems and tended to have in its content new pedagogical idea, was named as advanced pedagogical, new or exemplary experience (A.M. Boiko), which in current conditions often is replaced by the term "technology", because innovative teaching ideas and technologies are often born and formed in such experience. If the mass teaching experience so as traditional technology, reveals characteristics of teaching practice and is available today, the advanced edu-

cational experience clearly shows what can be achieved in practice, by what means and conditions. Based on ideas derived from experience, there is usually an innovative pedagogical technology.

Advanced teaching experience and pedagogical technologies can purposefully be constructed under the supervision of researchers and teaching staff to the new or restored pedagogical ideas. Teaching experience describes as the focused teacher outlet for student, during which there is training and education, feasibility of content, methods, techniques and tools of learning and education are reviewed, the necessary relationships, dependencies, quality are established, and perhaps the laws of practical teaching activities take place positive personal student change. Thus, the "advanced teaching experience" can be identified with the concept of "innovative technology" and can be incorporated into a broader category of "teaching practice" [2, p. 27-28]. As I.F. Prokopenko and V.I. Yevdokymov point out, today in theory and practice, there are lots of options in the learning process. Each author and performer brings something different, individual, and therefore are grounds to copyright technology of education. These can be called a well-known technology by Sh.O. Amonashvili, L. Zankova, P.Y. Halperina, A.K. Dusavitsky, V.F. Shatalova and so on. Hence, "educational technology – not mechanical, once and for all given process with the same output, but an organizational and semantic structure that determines the direction of interaction between a teacher and students in an infinite variety of approaches and attitudes" or "strictly scientific and accurate reproduction of pedagogical ideas that guarantee success" [2, p. 8, 10, 15]. This approach is attested by other definitions of educational technology. For S.U. Honcharenko it is "a system of procedures that updates the professional work of teachers and ensures the final result scheduled" [4, p. 45]. V.P. Bezpalko considers educational technology as "project of the new educational system, which is practically implemented" [1, p. 11]. V. Serikov has an interpretation of this concept as "law determined educational activities that implements science-based project of didactic process and has a more high degree of efficiency, reliability and security of results than traditional learning" [2, p. 8].

Of particular importance is the issue of "the introduction of science teaching and advanced experience in regular school practice", which is a component of educational activities, which directly affected the continuity of post professional development of teachers, and thus – the effectiveness and quality of educational activities of any educational institution. The "introduction" is an activity to improve the educational process based on some innovations (new science achievements, educational technology, proven and justified advanced experience) aimed at raising its effectiveness. Practice can be successful and meets the needs of modern society to the extent that teachers using the experience already gained in the past, each time by implementing it bring it into the line with the new advances in science [2, p. 27, 28, 32].

Justification of something new or innovations needs primarily to correlate it with current trends in social and educational development. True innovation cannot be only for new chronology. In historical terms the scale (size) of the new is always relative. The novelty has a concrete historical term, so it can occur before "its time" gradually

becomes the norm or to be outdated. The main thing is not the time but how innovation deals with the practice, improving the quality of education or training, social objectives and values. New reinvents the past and often serves as a development of well-known and traditional, well-grounded at a new level of science, in the new social and educational realities and opportunities. Thus, the revival of productive scientific ideas, their development based on the latest achievements of science, practice, enrichment and tests them on a higher level of generalizations, is the innovation, and it takes a lot of creative effort [2, p. 29].

An important issue in the implementation of innovation into practice is to identify the criteria for evaluation and selection. We think that to select new results of scientific and educational research, achievements of advanced educational experience for implementation in practice it is advisable to use the following performance criteria for their evaluation. We followed the logic of selection of innovation in the ratio of its pedagogical practice to justify and reorder the criteria. 1) Relevance – the importance, the significance of something to further improve the practice of educational work; 2) compliance with the time – the criteria used to determine the new most important and meaningful for the present; 3) humanity, and 4) focus on the child's personality – these criteria are developed on base of the principles of humane pedagogics, they serve to disclose the conditions of formation of humanistic values, the performance of the educational and cultural mission, the real conditions for the exercise of creative skills and assertiveness of each student; 5) innovation readiness to implement and 6) methodological teacher preparedness for implementation – according to these criteria the result of pedagogical research, technology or science generalized advanced educational practices should be materialized in the form of complex conceptually unified teaching materials, other materials, thus achieving "transformation" of generalized research results or experience in a form suitable for implementation in those that meet the professional capabilities of the consumer. Research results should be fully implemented in different kinds of practical research by creating teaching manuals (programs, books, plans, teaching writing, advice, instructional materials, articles, etc.). 7) Continuity of previously achieved experience and 8) compliance with the general tendency of the national education system. The application of these criteria in the presence of complete continuity with practices will enable to select that "fit" in the system of work of this particular school or teacher, help to get rid of enthusiasm "fashion" pursuit of pseudo innovations. This criterion ensures keeping in touch with the past, everything valuable that has been accumulated before. Progressive development and improvement of the practice of training and education is achieved by the reliance on the past transition to the next level and preparation for the future. 9) Integrality – the definition and use of the named criteria is due to the fact that during the selection process for the introduction of innovation into practice is very important to combine the dialectic of whole and part. The presence of this criterion does not preclude the application of the new creative, but integrity should be maximized. 10) Harmonization – criterion aims, where possible, to the full development of the personality. It allows to specify the work to implement in accordance with the professional and personal qualities of each teacher, provide the main areas in

which to conduct methodological work at school, such as improving teacher competence that logistics set up to achieve maximum impact. 11) The effectiveness in current conditions and 12) real expectant results. These criteria require the understanding of the nature of the new concrete based on the analysis of the educational work and the level of students' bringing up, taken for the innovation implementation and help to understand whether the application of the scientific development or expertise serves to provide the highest quality of education and training, higher form of educational work in compared with the already existing ones. Often the outer bright idea does not bring the desired result, while the original and estimated is required more complicated at first. The last criterion allows to specify the work to implement in accordance with the professional and personal qualities of each teacher to predict where the major aspects to develop further methodological work, how to improve the existing physical infrastructure and overall working conditions at school in order to maximize practical effectiveness in the future provided for the implementation of ideas. It is important to understand the meaning and place of innovation in the holistic functioning of the educational process, mindful of the current dialectical contradiction between old and new, and not to hyperbolize it, find its best place in the educational work of school or teacher [2, p. 160-170].

Based on the analysis of scientific approaches (M.M. Skatkin, O. Nilson, N.V. Kuharyev, N.L. Kolomynskyy, V.I. Chepelyev, V.I. Myhaylova, R.H. Amosova, M. Krasovitsky) us (A.M. Boyko) it was inferred the stages of the process of implementation of innovative teaching experience: 1) basic research, 2) applied research, 3) developments, 4) setting up stage (problem), 5) the selection and evaluation of some new, 6) psychological, theoretical and practical training of teachers, 7) information of the results of the study, 8) the development of teaching materials, ensuring them among teachers, 9) an explanation and demonstration of new tasks specimens, 10) giving of some knowledge and skills, 11) the creation of exemplary practices 12) monitoring of implementation, 13) identify and encourage practices, 14) operational, generalizing stage 15) final, summering stage 16) the mass introduction [2, p. 179].

Results and conclusions. The successful introduction of innovation into practice is based on the following conditions: 1) socio-educational (high competence of teachers, social orientation, responsibility and clear understanding of teacher's professional features, life-long education); 2) the theoretical and practical (a combination of teachers-innovators, fair labour with innovative ideas of scientists which they offer to school, collaboration of scientists and practitioners, development a system of improving theoretical basement of members in accordance to the introduction object of implementation); 3) scientific methodology (supplying of all participants of introduction the complex of instructional and teaching materials, compliance of teaching materials to certain teachers' staff and teacher, systematically organized aid for implementation by departments, departments of education and teaching bodies); 4) moral psychology (focus educators and practitioners on the child's personality, the development of a sense of new, creative initiative, creativity, moral support and participate in teacher search, reasonable combination in the process the

demanding with the countenance, the achievement of "self-movement" and just making a child) [2, p. 201-202]. Generalization and implementation of innovative pedagogical experience is not simple and non-conflict process, there always has to identify and overcome the natural conflict between new and old, to quest the best ways to introduction of new approaches to the solution of educational problems. This updates the comprehensive approach – informing teachers about the findings and achievements in all areas of the educational process of the modern school aiming to

improve it by taking into account local conditions and needs. To begin, it should be much earlier, because the teacher has to be ready to accept innovation. A special mission is given to teacher training institutions that have not only to acquaint future specialist with examples of pedagogical innovation, the activities of author's schools, but also to shape students' ability to analyze, synthesize, select the leading teaching experience, prepare to system implementation in practice of the modern school.

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