

## PEDAGOGICAL INNOVATIONS IN PROFESSIONAL EDUCATION AND THEIR CONTENT

Pirmatov Barkamoljon Gayratjonovich

Institute for Development of Professional Educatione

mail: barkamol87@gmail.com

### ABSTRACT

This article describes the role and importance of innovations in the development of society, the meaning and essence of the concept of innovation, and the specific features of using pedagogical innovations in the professional education system. Also, the history of the emergence of innovations is briefly covered. Pedagogical aspects of innovations and their role in the process of professional education are analyzed. Innovation is considered as a system and the main features of innovation are distinguished. The laws of innovation have been studied.

**Keywords:** professional education system, innovation, innovative development, pedagogical innovations, activity laws, innovation, production, pedagogical system.

The problem of innovation as the main way and means of updating all spheres of modern society is becoming more and more important today. The second half and the end of the 20th century are characterized as a period of "global innovation" in all spheres of culture, economy, technology, social and personal life, education system. The development of innovations and their use today is not only related to the possibilities of social development, but the ability to innovate is recognized as one of the indicators of the society's culture. At present, humanity sees the opportunity to overcome the negative manifestations of the scientific and technical revolution and various crises associated with the life of the information society in the initiated and controlled innovations. Innovation has become an important phenomenon of our time.

This is related to the wide range of meanings and aspects of the term "innovation" in modern scientific usage. In addition to technical and economic sciences, research on innovations, their essence, role, content, and forms of manifestation is being actively conducted within the framework of philosophy, sociology, management, education, etc.

The very concept of "innovation" first appeared in the 19th century in the studies of cultural scientists and means the introduction of some elements of one culture into another. This meaning is still preserved in ethnography.

At the beginning of the 20th century, a new field of knowledge - the science of innovation - was formed, within which the laws of technical innovations in the field of material production began to be studied. The science of innovation - innovation emerged as a reflection of the growing need of firms to develop and implement new services and ideas.

The initial use of the category "innovation" was noted only in relation to socio-economic and technological processes, which was associated with the understanding of innovation as one of the manifestations of the scientific and technical revolution. The need to scientifically support these processes was first recognized in the field of economics. Increased competition among firms required activation of their renewal processes in order to gain a competitive advantage. One of the consequences of this was that the heads of companies and scientists paid attention to the issues of ensuring the effectiveness of changes. German scientists V. Zombart and V.

Metcherlich, as well as Austrian economist I. Schumpeter are the founders [9, 19]. Based on the research of the most prominent philosopher-economist I. Schumpeter, innovation was considered as the most important tool for eliminating cyclical crises. I. Schumpeter described five types of innovations corresponding to the main economic sectors - consumption, production, marketing, sources of raw materials, organization of management. I. Schumpeter and G. Mensch introduced the term "innovation" into scientific discourse, considering it to be the embodiment of a scientific discovery in a new technology or product [19, p. 36]. Since then, the concept of "innovation" and the related "innovation process", "innovation potential" and others have acquired the status of high-level generalizing general scientific categories and enriched the conceptual systems of many disciplines.

Initially, the subject of studying innovation was the economic and social laws of creating and distributing scientific and technical innovations. However, the interests of the new network soon expanded to include social news, primarily innovation in organizations and businesses.

Based on practical requirements, empirical studies of innovation carried out by firms and other business organizations began to gain momentum in the West in the 1930s, and gained wide coverage in the 1960s and 1970s. The state, in turn, discovered the understanding of the value and importance of innovation as one of the most important concepts of the future [15].

Innovation has developed as an interdisciplinary research field at the intersection of philosophy, psychology, sociology, management theory, economics, and cultural studies. By the 1970s, the science of innovation had become a complex, multidisciplinary field.

Studying the foundations of modern innovation as a complex multidisciplinary science shows that innovation is a complex integrative concept that represents a holistic methodological, theoretical and technological concept of updating all areas of human life.

There are many definitions of innovation in the scientific literature, which often differ significantly from each other. There are two approaches to innovation: broad and narrow. A characteristic feature of a narrow understanding of the importance of innovation is that it consists of technical problems, often the introduction of new products and new technologies. Among the authors who interpret the problem of innovation in this way are R.E. Johnston, D. Dessen, D.A. Allaks are included [3, 6].

In a broad approach, innovation is all kinds of changes in the introduction of new or improved solutions to technology, organization, supply and marketing process, social life, etc. The basis of any thinking about the concept of innovation is the classic definition of the phenomenon proposed by I. Schumpeter, who defines innovation as "non-permanent implementation of new combinations" in the following cases:

- introduction of a new product, that is, a product that consumers are not yet familiar with or a new type of product;
- introduction of a new method of production, that is, a method that has not yet been tested in this field of production;
- the opening of a new market, that is, a market where this industrial sector of this country did not exist before, regardless of whether this market existed before;
- acquisition of a new source of raw materials or semi-finished products, regardless of whether this source already exists or has just been created;

- implementing a new organization of any industry, for example, gaining or losing a monopoly position [19, p. 49].

From this definition follows the technical, economic and organizational nature of innovation. The subject of innovation can be: product, production process, as well as organization, provided that they are new and implemented.

The complexity and versatility of this term created the need to understand the new, innovative concept from the point of view of philosophy, economics, technology, management, sociology, and pedagogy, because the important features of innovation are manifested in the interrelationship of various aspects that comprehensively describe this phenomenon.

The positive role of innovation as an integral part of human culture is evidenced by the fact that innovation is a way of social progress, provides development through innovation and creativity, allows to adapt to changing conditions, solve existing problems using new and effective methods. In addition, innovation is the main method and means of the individual's functioning and adaptation in the high-tech information post-industrial society. Positive aspects of innovation are described by rationalist (neorationalist) philosophers who see reason, logic, technology and innovation as a way out of the modern ecological and anthropological crisis. According to them, innovations in all areas of human activity, including education, can solve the most serious problems of our time (G.P. Shedrovitsky) [21].

Science, innovative development of society is the highest value and dominates all spheres of human life. Only because of science, they believe, can life be orderly, manageable, and successful.

Pedagogical side of innovations is manifested in the ability to meet personal, educational and professional needs of people with the help of various innovations in the field of professional education and production (professional training, acquisition of general and professional culture, adaptation to the professional environment, development of important professional personal qualities development, personal and professional development and creativity, etc.) [1, 12, 23].

Pedagogical innovations ensure higher quality and more efficient adaptation and realization of abilities and potential in all aspects of human life - social, professional, cultural, household, etc., independent education for the future specialist, z-creates conditions for independent self-education, self-independent development.

If we consider the essence of innovation, it should be noted that the main concept behind innovation is the concept of novelty, which is often expressed through innovation.

The ambiguity of the concept of innovation is especially evident in relation to social systems, as opposed to technical systems. Describing innovation in social systems, including pedagogical systems, it should be noted that they are characterized by greater complexity. Pedagogy, like all humanities, develops its ideas from eternal ideas. From a historical-pedagogical point of view, innovation appears as a natural "type of pedagogical activity", due to "deep traditions" in local pedagogy, it takes the place of the previously formed one [5].

The main goal of pedagogy, since ancient times, despite the fact that each era has put its own content on the concept of "all-round development", the main ideal goal was the all-round development of a person. This goal has been concretized in various pedagogical systems, and the science of pedagogy, in fact, has been searching for ways, means and methods to achieve this goal throughout the entire history of its existence. Therefore, it is unlikely that pedagogy

will be able to find a completely new goal that is qualitatively different from all previous experiences in terms of educating a person and developing him as a person.

However, the accumulated experience developed the theory and practice of education and training, new styles, methods, and forms of education and training appeared, that is, the conceptual, methodological, and technological aspects of pedagogy developed. Based on the accumulated experience, these innovations and innovations provided a positive result of the practical application of the new idea in specific historical, social, political and other conditions. Pedagogical innovation is, first of all, a practice-oriented phenomenon that allows the implementation of qualitatively new, effective innovations in conditions of attention to the ideal and rarely radically changing goals of education.

An important feature of pedagogical innovations is that any, even the most advanced and effective innovative theories, methods, technologies have limits of application in pedagogical activity and therefore cannot be a universal tool for solving pedagogical problems [10, p. 13].

At the same time, both in psychology and in a number of modern pedagogical studies, the deep connection between the ideal and the new has been repeatedly emphasized. Indeed, it is important to understand that the true innovation process is intrinsically ideal. Advancing from reality, ideal categories stimulate the pursuit of innovation, contribute to the real renewal of pedagogical theory and educational practice. In essence, all psychological components of creative activity are ideally manifested: fantasy, guesswork, intuition, anticipation, understanding, which work together with the logical side of the analysis of the studied processes and objects [64, p. 122].

Another integral aspect of innovations is their deep connection with creativity, which overcomes tradition and becomes the source of system development. By studying the relationship between pedagogical creativity, creative and innovative activity, V.I. Andreyev, V.I. Zagvyazinsky, V.A. Kahn-Kalik, A.V. Morozov and others [4, 7, 13, 16]. The existence of thinking to develop the teacher's creative abilities, to overcome traditional thinking patterns, to creatively change reality is the main condition for mastering innovations and a source of innovative pedagogical activity. P. G. Shedrovitsky emphasizes that innovation is a mechanism for repeating innovation and development; this is a form of creative mental activity that ensures the development of certain elements, blocks, structures, contents, not from one area to another [21]. The components of the form of creative mental activity of innovation are as follows:

- direction on the application of creative pedagogical mental activity and educational practice;
- the presence of a research component;
- the presence of a management (especially organizational design) component [20, p. 59].

Summarizing the above, it is necessary to clarify the definition of innovation, which is defined as a complex phenomenon in this study, as an interdisciplinary category, which is characterized by innovation, purposefulness, effectiveness, efficiency, demand in certain historical, socio-political, economic, technical, technological, cultural conditions. and is carried out in the unity of procedural components, ensures qualitative renewal and development of technical, social, economic, pedagogical systems.

Innovation is often used as a synonym for innovation and innovation process. Innovation is the process and result of development and implementation of innovation in certain technical, social,

economic, pedagogical and other systems. The innovation process is a set of methods and actions that ensure the purposeful transformation of innovation into effective and efficient innovation. In turn, innovation is the result of practical and fundamental research, theoretical and experimental developments in any field of activity, which has novelty and contains the potential to increase the efficiency of technical, social, economic, pedagogical and other systems. is an idea.

The concept of innovation is closely related to the concept of innovative activity. Innovative activity is a complex activity aimed at improving the efficiency of technical, social, economic, pedagogical and other systems in specific conditions.

That is, the content of pedagogical innovation is concentrated in the idea-innovation, and its implementation is expressed in the innovative process that brings the social, technical, pedagogical, organizational system to a new state. Therefore, to understand the essence of innovation, it is necessary to consider it as a whole. The conflict between understanding innovation as a process and as an event can be resolved if we consider it from the perspective of a systemic approach.

Considering innovation as a system allows us to talk about its integrity, a certain structure, elements and connections, as well as features such as the existing state of innovation at a certain time related to the life cycle. As an integral element of a complex innovation system, innovation potential is created and it serves as a basis for putting innovations into practice.

The systemic nature of innovation is manifested in the fact that a simple sum of many components is not enough to implement innovative changes in the system, without the structural links and laws characterizing the innovation process as a whole. Any innovation as a system is a subsystem of a higher level, so it appears and develops according to the laws of this system. For the pedagogical system, the educational system is such a higher system. Therefore, the emergence of pedagogical innovations has a natural, necessary nature, and is determined by a set of stable external conditions for their emergence, that is, by the development laws of the entire educational system. Innovative processes that include the creation, assimilation and application of pedagogical innovations, due to their unity, can have a significant impact on the processes of updating the entire educational system.

A holistic understanding of any innovation as a system requires revealing the leading laws of their development. If we consider the pedagogical system in accordance with the goals of the research, we can determine the following laws of activity:

- the law of irreversible instability of the pedagogical innovation environment;
- the law on the final implementation of the innovation process;
- the law of stereotyping pedagogical innovations;
- cyclic repetition, the law of the return of pedagogical innovations.

The law of irreversible instability of the pedagogical environment means that any innovative process in the educational system inevitably causes destructive changes in the environment in which it is implemented. And this leads to the failure of holistic ideas about any pedagogical process or events; the system of evaluation and judgment is fragmented, which leads to the polarization of judgments about innovation, its importance and value. As a rule, it turns out to be impossible to restore these holistic visions later, which leads to inevitable personnel or moral

costs in the pedagogical community. The more important the pedagogical innovation, the more fundamental the instability: communicative, theoretical, practical, spiritual.

The law of the final implementation of the innovative process means that sooner or later this process must be implemented spontaneously or consciously. Any vital innovation, even if at first it seems completely hopeless to be adopted by teachers or their students, leaders or parents of students, eventually makes its way.

The law of stereotyping of pedagogical innovations is that any pedagogical innovation, even the most revolutionary, eventually turns into banality, a stereotype of thinking or practical action. Any innovation is doomed to fanaticism and becomes an obstacle for other innovations.

The essence of the law of cyclic repetition of pedagogical innovations lies in the repeated revival of innovations in other conditions. It is not for nothing that they say that every new thing is a well-forgotten old thing.

General and private laws of pedagogical innovation are not limited by these laws. However, these laws are important for a general understanding of the development dynamics and contradictions of innovative processes in the educational system.

Thus, innovation is defined as a purposeful change in the activity of a technological, technical, economic, social, pedagogical system, and in a broad sense, it can be qualitative and (or) quantitative changes in various areas and elements of the system.

The main characteristics of innovations include: a concrete historical feature in a specific social practice space; dynamic, socially determined; flexible relationship with traditions; arising on the basis of creativity; demand and optimality in specific historical, economic, pedagogical, social, political conditions and at a certain level of scientific and technical development; comprehensiveness of purpose, controllability, impact and result; procedural; efficiency; economic, technical, technological, pedagogical, social, spiritual efficiency.

Considering innovation as a system, it is characterized by integrity, structure and internal logic, the regular development and change of situations over time (life cycle) and close contact with the environment and with the traditional method of problem solving. allows us to describe it as a dynamic system. The emergence of innovations has a natural, necessary nature, and is determined by a set of stable external conditions for their emergence, that is, by the laws of development of the entire system.

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