

# Innovation culture as a condition of effective innovation activities in the educational process of a higher education institution

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**D. R. Khudaynazarova,**  
*d. ed. sc., senior of the  
research laboratory*



**N. V. Davidova,**  
*d. ed. sc., head of the  
department*



**I. I. Mikhail,**  
*d. ed. sc., head of the  
department*



**V. P. Chernoles,**  
*d. ed. sc., professor, head  
of the research laboratory*

## ***Military academy of communications named after Marshall of the Soviet Union S. M. Budenny***

*The transition from a «material» to an «intellectual» economy requires doing away with the lag of innovation processes in organization, management, and education behind the achievements of science and technology, and necessitates the creation of the innovation culture of an individual and society as a whole. The article discusses the essence and content of the concept of «innovation culture» in the context of the cultural universum. Educational priorities and conceptual provisions are identified, which implementation will ensure the required level of the innovation culture of professional education entities.*

**Keywords:** innovation culture, innovations, educational process.

### **Innovations are a strategic factor of the 21st century**

Given the scale and pace of transformation of socio-economic relations in the world of the 21st century, the further progress of society is only possible on the basis of knowledge. In the world, there is an increasingly pronounced tendency of shifting the main sources of national well-being from the use of physical, inefficient labor and natural resources to the maximum use of high technologies and innovations [1]. Innovation processes change not activities, but their technological ability to use what distinguishes humans from other living creatures – the ability to generate new knowledge – as a direct productive force. These changes mark the transition from a «material» to an «intellectual» knowledge economy. «In the second half of the last century innovations had all their infantile diseases, from a label to a strategic factor, to become, at the beginning of the third millennium, a concept reflecting the essence of human activity and manifestation of a person's unique ability to creatively intervene in the development of society and primarily in self-development» [2]. The substitution of labor for knowledge means the transition from purely technical to intellectual skills. The founder of the theory of value produced by knowledge, T. Sakaya noted: «... we are now embarking on a new stage of civilization in which the driving force are values created by knowledge» [3]. It is for

that very reason that modern society is called innovation-driven: Innovation Driven Society [4].

By the beginning of the 21st century, a human, in the process of his intellectual development, discovered his important ability of self-development through intellectual improvement and creating innovations. A person who has chosen continuous intellectual cognition as the purpose and form of his activity acquires a unique ability to learn about himself and the world around him, to use the power of his intelligence to further expand the knowledge area.

The new model of society provides for the expansion of job functions of an employee of «narrow specialization» to an employee of a «broad specialization» (generalist), who is able to verify, evaluate, creatively synthesize information, gain an insight into the problem, and correct the old values. «A narrowly focused specialist loses sight of the big picture; moreover, I am sure that there will always be a need for researchers-integrators who are constantly striving to study quite wide areas of knowledge. There must be someone among us who will train people to improve the means for viewing horizons, and not for looking even more narrowly at an infinitely small object» [5]. The need for creativity, as the highest form of personal needs, arises and develops on the way to comprehensive development. For such a person, free time and working time are virtually inseparable, and production activity is considered to be a form of leisure activity. Such

a perception by an individual of his social role is defined by the term «prosumerism» (A. Toffler, V. L. Inozemtsev). Thus, the replacement of labor with knowledge marks the transformation of social production from material to innovative one.

## **Innovation as a cultural phenomenon**

The term «innovation» was preceded by the centuries-old evolution of the term «development», which originated in Aristotle's philosophical system, and then in classical Latin literature. However, it was used in its normal everyday sense: «unravelling opinions» (Aristotle); «opening a book» (Cicero). Only with N. Kuzansky (1401-1464) this concept takes a philosophical meaning: a line is the evolution (evolutio) of a point. G.W. Leibniz (1646-1716) translated the Latin terms into French as «developpent» and «enveloppement». J. Brehme (1575-1624) uses the word «auswicklung», and the term «auswicklung» appears in German philosophy in the sense of internal unrolling of body parts. K.F. Wolff (1734-1794), the founder of the theory of ontogenesis, was the first to use this word as a philosophical term to give expression to the process of a new formation, transforming the old into the new (Theoria Generations).

The term «innovation» has come into use in science of the 20th century through anthropology and ethnography, where it began to be used in researching processes of change in culture. In the 20th century, the term «innovation» as an economic category was introduced into scientific discourse by J. A. Schumpeter. His work laid the foundation for establishing a new field of knowledge – innovation theory – the science dealing with the transformation of new types and ways of human activities into socio-cultural norms and patterns. In the 1930s, innovations were interpreted as «novelty, introduction of new forms of organization and management» in the works of A. Adams, A. Maslow, F. Taylor, and other scientists.

In the works of Russian scientists [6], innovations are considered as cultural phenomena that did not exist at the previous stages of its development, but appeared at this stage and were socialized.

Thus, the substance of innovation can be represented as an integrated process of creation, distribution and use of new practical means (novelty) to meet human needs changing in the course of the development of social and cultural systems.

Generally, the initial idea of culture is a complex whole, formed by two types of differently directed processes: creativity and culture structuring. Under specific historical and social conditions, the relation of structuring and creativity vectors allows distinguishing between «innovative» and «traditional» types of culture. The level of innovation implementation depends not only on its significance, but also on the «readiness» of the social and cultural environment to embrace and structurally institutionalize this innovation. To a large extent, the degree of «readiness» is determined by the level of innovation culture of those entities which influence the success of innovation implementation in the socio-cultural system.

People's attitudes towards the new vary from the state *aequo animo* (indifferent in Latin) to obscurantism

(*obscurans* means darkened in Latin), i. e. to the state of endarkening, extreme hostility to education, science, and everything new (neophobia).

Excessive resistance, as well as hasty introduction of the new, is a sign of low innovation culture. To clarify the essence of such a complex and multifaceted concept as «innovative culture of a person», it is necessary to consider it in a wider context of culture as a whole.

## **Innovation culture in the context of the cultural universum**

There are various approaches to the study of culture in scientific literature. There are several hundred definitions of culture associated with the names of famous philosophers, sociologists, ethnographers, cultural scientists, historians, and others. Based on the analysis of the known ideas, culture should be recognized as a result of human activity, where in the process of mastering forces of nature and society a human creates his «second nature» and at the same time forms himself desubjectifying anything created by previous generations, mastering the values and ideas developed in the process of historical development. Culture stores, translates and generates programs of people's activity and behavior and represents a complex semiotic structure, including objects of material culture and phenomena of intellectual culture. The programs of activity, behavior and communication are a three-level structure: relic programs, programs to ensure today's reproduction of society and cultural phenomena that form social life programs addressed to the future.

The more dynamic (more innovative) society is, the more value can be acquired by the level of cultural creativity addressed to the future. At the beginning of the 21st century, it became obvious that the problem of «cultural lag», that is, a gap between the material culture and the non-material culture, characterized as «adaptive», poses a great threat [7].

The phenomenon of cultural lag is due to the internal resistance of the «adaptive» culture to change. It is characterized by natural conservatism. Another reason the «adaptive» culture lags behind is its close connection with social institutions, which are conservatively oriented due to historical reasons, and deliberately impedes inventions. Obviously, the degree of cultural lag is determined primarily by the level of innovation culture of both the community as a whole and each of its members.

The urgency of overcoming the problem of cultural lag was emphasized during its discussion at the Institute of Strategic Innovations of the Russian Federation [8]. A concept of the Charter of Innovation Culture [9] was developed, discussed, and signed by scientists, cultural figures, educationists, representatives of public organizations and business circles, government authorities of Russia.

## **Charter of Innovation Culture as a strategic innovation**

The Charter for the first time briefly and clearly defined, on the system level, the range of multifaceted problems, which ultimately determine the level of

innovation susceptibility not only of the economy, but also of society as a whole. In this sense, «the Charter itself is a strategic innovation» [10].

A number of scientists pointed out the urgency of the problem considered in the Charter. «Dividing a single world into two environments – culture and technology – will turn into a catastrophe for us» (H. J. Varneke, Germany). Russian philosopher V. M. Mezhuyev sees a dramatic and even tragic problem in the divergence of science and culture, assuming that «today the ways of modern science in its entirety – humanitarian and natural, and culture – are so diverged that scientists have no right to claim the status of a cultural person» [8]. Hard conclusion, but it is true in many respects. These two spheres have gone separate ways too far. Their convergence requires tremendous and versatile efforts. The Charter defines a constructive attitude to innovations as «one of the most significant social values» and emphasizes that «sustainable development of the modern civilization is possible only thanks to continuous innovations in science, education, culture, economy, management».

Taking into account the strategically critical importance of the innovation culture, a number of conclusions can be drawn from the content of the Charter.

1. The lag of innovation processes in organization, management, education, law, and life order behind the achievements of science and technology puts a brake on the development of these achievements, hinders their effective use.
2. It is necessary to create such an atmosphere in society, in the education system, in which a constructive attitude to a new idea, innovation would be not only the need of every citizen, but also one of the most significant social values.
3. Conceptual transformations in the education system are required. A student who generates new ideas should receive understanding and support from teachers and peers, and a «friendly environment» should be created for him. There is a need for methods to build the innovation culture and assess its level in all professional education entities.
4. The mass media will have to create a mindset which makes people believe that an attitude of every citizen to innovations is an attitude to their future, to the wealth and dignity of the state.
5. Humanities, especially pedagogy, sociology, psychology, need to more intensively use the phenomenon of the innovation culture, its organizational component, to prove effective means against inertia, conservatism, cowardice, lethargy of thought and other personality defects that impede innovation processes.
6. It is necessary to promote the development of legal culture in terms of supporting and protecting the author's rights to intellectual property, stimulating innovation activity and increasing responsibility for obstructing it.

These conclusions do not exhaust all relevant problems that should be solved in order to establish the innovation culture in society, in the system of professional education and to build the innovation culture of an individual.

## The essence of the innovation culture and its components

Up to the present researchers' views on the understanding of the innovation culture cannot be considered to be well-established. Human culture, especially in its dynamically developing forms, is innovative in nature. Therefore, on the one hand, as F. T. Mikhailov, academician of the Russian Academy of Education, notes, «innovation culture is much of a muchness, because culture, by definition, is natura naturans – nature naturing. But, on the other hand, new problems are not typical for the old industrial civilization characterized by domination of the objectified and thus dead labor. The prerequisite for the results of this quiet, but radical, post-industrial revolution was the leading role of living, creative labor» [11].

In most cases, the term «innovation culture» is used in the scientific literature to emphasize that now it is not enough just to speak about knowledge and skills necessary for innovation activities, but it is also important to understand how a person interacts with this knowledge, how new knowledge can influence the structure and inner world of the person [12]. Generally, the innovation culture as a social phenomenon is the readiness and ability of society to innovations in all of their aspects: in management, education, production, legislation [13].

The innovation culture finds expression in positive perception of novelty by an individual, as well as in the readiness and ability to participate, to promote or, at last, not to hinder the implementation of innovations having a predictable positive effect. To do this, it is necessary that the achievements of science and technology be implemented quickly enough; that changes in management, education, law, and life order do not lag behind technical changes and help them; that a healthy conservatism inherent in people does not develop into inertia and a brake on development.

Thus, the innovation culture can be considered as a complex social phenomenon that organically combines issues of science, education, culture with social and, above all, professional practice in various areas of the community: management, economy, education, and culture.

At this point the key determinants of the development of the innovation culture are science and education, since they must provide a clear vision of not only the goals, objectives, methods and mechanisms of the innovation culture, but also an accurate empirical analysis of its components, their state and interaction.

On the understanding that the innovation culture reflects a person's value orientation, embodied in motives, knowledge and skills, as well as in patterns and norms of behavior in relation to innovations, the following definition can be provided.

The innovation culture of a person is an area of his spiritual life, reflecting his value orientation, embodied in motives, knowledge, skills, patterns and norms of behavior and ensuring his receptivity to new ideas, his readiness and ability to support and implement innovations in all spheres of life.

Providing a high level of the innovation culture of professional education entities requires finding ways to

solve a number of topical methodological and didactic problems, as well as introducing new elements into the content, organization and management of the educational process.

## Priorities of educational activities for building the innovation culture of education entities

One of manifestations of the innovation culture in education is forming a person's image which expresses his potentials to the fullest extent possible. «The potential is an inactive ability that can be realized under certain conditions. Turning the ability into reality is the process of actualization of the potential» [14]. Moreover, the category of actualization is of a dual nature of its underlying phenomenon: on the one hand, efforts of the teacher, on the other, activities of the student. That is, the forms of manifestation of a person's potentials are always dialogic and mutually creative; they act as the result of student-teacher interaction.

In this regard, it is important to determine the priorities of personal development. Any pedagogical concepts are based on the ethical ideal of the phenomenon «human», which is formed by a certain culture and accumulates its values as a combination of spiritual, social and physical components. From the standpoint of the educational theory and practice, the components of the phenomenon «human» are the main development strategies that should be provided with a multi-level pedagogical set of values, goals, knowledge, methods, and resources [14]. These components also determine the priorities of educational activities aimed at the creation of the innovation culture of professional education entities.

First, spiritual development, orientation to the creation of three areas: value-normative, cognitive (rational) and activity (technological). Second, social development – development of a person as a subject of social relations and, above all, the mastery of professional knowledge and skills. Third, physical development.

The listed priorities of educational activities show that the problem of building up the innovation culture of professional education entities covers a wide range of separate issues and defines a number of conceptual provisions that should form the basis for the development of specific technologies to establish the innovation culture of a person [15]:

- creating technology for teaching innovation activities;
- forming a system of views of innovation processes;
- creating a structure of the innovation environment of a higher education institution;
- developing didactic tools to provide for the dialogue of students and teachers in the process of innovation activities;
- developing technologies and methods for identifying individual characteristics of students and their level of readiness to participate in innovation activities.

These conceptual provisions reveal that the process of the creation of the innovation culture of a person in the system of higher professional education should be considered in the combination of innovative cultures of the teacher, the student, and education entities.

Based on the analysis of the essence of innovation activities and a set of the relevant problems, a clear conclusion can be drawn that the innovation culture is an integral concept, and its main components are: cultural universum, professional culture, culture of creativity, culture in the field of intellectual property rights, culture of perception of the new, culture of management, physical culture.

It is this view and understanding of the innovation culture that will guarantee against failures in the implementation of innovation processes in the system of professional education.

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## Инновационная культура как условие эффективной инновационной деятельности в образовательном процессе вуза

**Д. Р. Худайназарова**, к. пед. наук, доцент, старший научный сотрудник научно-исследовательской лаборатории.

**Н. В. Давыдова**, к. пед. наук, начальник кафедры.

**И. И. Михаил**, к. пед. наук, профессор, начальник кафедры.

**В. П. Чернолес**, д. пед. н., профессор, начальник научно-исследовательской лаборатории.

(Военная академия связи им. Маршала Советского Союза С. М. Буденного)

Современная экономика требует высокого уровня инновационной культуры не только субъектов экономической деятельности, но и субъектов образовательных процессов высшей школы. Показано, что при таком подходе возможна ликвидация отставания инновационных процессов в организации, управлении, образовании от достижений научной и технической мысли. Определены образовательные приоритеты, являющиеся необходимым условием становления инновационной культуры субъектов во всех сферах жизнедеятельности общества.

**Ключевые слова:** инновационная культура, инновации, образовательный процесс.