**"Innovative processes in education"**

**(3ч.)**

**Lecture No. 1**

**Innovations in pedagogical science and practice**

Questions:

1. Pedagogical innovation as a new branch of scientific knowledge that studies the theory and practice of innovative processes in education.
2. The meaning of the main reologicheskih concepts: innovation, innovation, innovation. New and traditional. New and obsolete, routine, conservative. New and advanced, progressive, modern.
3. Novelty (absolute and relative, objective and subjective), levels (improvement, invention, discovery) and the scope of innovation (training, education, organization of life and management of the educational institution, a joint operation of educational institutions and the external environment).
4. System classifications of innovations in education. The emergence of new things and ways of its promotion of the teaching practice. Factors positively influencing the occurrence and distribution of pedagogical innovations. Barriers to the approval and further dissemination of the new media in practice.

The company has passed the post-industrial era and moved into a new information age of its existence. What caused the radical changes in politics, economy, culture and work? In this regard, the education system is the problem of radical change in its objectives, content, forms, methods, means and its entire organization in accordance with the requirements of the New Time.

Today it is very important to understand the processes that take place in the Russian education. Are they random or of a natural character? What are the trends in education today and development prospects in the future? This set of issues will be addressed to in our lectures.

Innovation is a phenomenon which the progress of society was based on. Innovative education was based on new socio-cultural principles and focused on new models of instruction and education. It supports the creation of a new culture of thinking and activity. Innovative processes are the means of reproduction of social and cultural experience. Therefore, the value of innovative processes in education can be defined as an important factor in the renewal of culture.

Society is developing quickly, where the role of new information technologies, in the situation of globalization dictates new goals for the education system. The emergence of innovative education in our country has contributed to many socio-economic, political factors, among which are: radical economic transformation, decentralization, regionalization of education, development of innovative processes, the creation and implementation of new methodologies and learning technologies.

In pedagogical science the ground was prepared for the change of educational paradigm. The whole experience was a reliable, evidence-based framework for innovation processes.

All the trends of today convince us that today's innovative processes in education are objective, inevitable that meet the needs of development of Russia and the world community at the present stage of development.

Innovations do not arise spontaneously, but are the result of scientific research, best teaching practices of individual teachers and entire teams and the subject of study, analysis and implementation. This process needs to be managed. The problems of pedagogical innovations are studied in the Institute of pedagogical innovations RAO, in the scientific school of Andrei Viktorovich Farmhouse.

Pedagogical innovation is a new area of scientific knowledge, which studies the nature, patterns of occurrence and development of pedagogical innovations in education. In addressing to this range of issues chemical communication pedagogical traditions with designing a new future of education.

The object of pedagogical innovation is the process of occurrence, development and implementation of innovations in education and education of students, which lead to progressive changes in the quality of their education and development.

The subject of pedagogical innovation is a set of pedagogical conditions, tools, and patterns associated with the development, substantiation of efficiency of pedagogical innovations and implementation in pedagogical activity.

The origin of the term "innovation is closely related to "novation". Translated from Latin, it means "renewal, innovation or change." This concept first appeared in studies, cultural studies and linguistics in the nineteenth century, and it meant the introduction of some elements of one culture into another. Such innovation processes were interpreted as major cross-cultural, diffuse processes of interpenetration of the elements of the rites, languages from one culture to another, which led to their mutual enrichment.

At the beginning of the XX century there was an area of knowledge, innovation - science innovations, which studied regularities of technological innovations in the sphere of material production. The term has been used in Economics as a means of overcoming economic crises. It meant the activities that lead to efficient production and profit. The key words here are activities that provide effective results.

Since the middle of the last century pedagogical innovation processes have become the subject of special study in the West. And in Russia, innovation as a scientific branch of knowledge began to take shape only in the last two decades. The innovations in the Russian educational system have been discussed since 80s of the XX century. It was at this time the issue of pedagogical innovation and its concepts became the subject of special studies. The terms "innovation in education" and "pedagogical innovations" were used as synonyms. They were scientifically justified and put into the categorical system of pedagogy. However, this problem was viewed as the application of scientific achievements, compilation and dissemination of best teaching practices. Remember the names of the teachers-innovators such as Sofya Nikolaevna Lysenkova, "Life Lessons" by Yevgeny Ilyin, technique reference notes by Victor Shatalov and many others who have sponsored new techniques: the methods of advanced education.

In pedagogy the concept of "innovation" is used in the following meanings:

- a form of organization of innovative activity;

- a new approach to the usual tradition, which gives positive mass effect - defines the term of V. Bespalko.

- a set of new professional actions of the teacher, aimed at solving urgent problems of education and training from the standpoint of the personality-oriented education;

- changes in educational practice;

As we can see, there is disagreement in the interpretation of the term. Some of them are convinced that innovation can only be considered as something new, which has resulted in dramatic changes in a particular system, others relate to this category any, even minor innovations.

So, the innovation is a purposeful change, contributing to the educational environment of stable elements (innovation), improving performance of individual parts and of the education system as a whole. Innovation is an extensive concept, which has different types and forms of manifestation.

Innovation types are classified according to various criteria, for example:

1. Activity: pedagogical, managerial. Such innovations provide the organization of the pedagogical process or its management.

2. The nature of the changes: radical modifier. They are based on fundamentally new ideas and approaches.

Radical innovation involves the use of fundamentally new ideas and technologies that had no analogues. The examples of radical innovations may be: the educational system "School of Dialogue of Cultures" by V.S. Bibler; The Concept of Developmental Education by Zankov; The Theory of Meaningful Generalization by D.B. Elkonin and V.V. Davydov.

The introduction of modifying innovations is aimed at improving or partial modification of what is already in use, for example: programs, procedures, algorithms, etc. or improvement of the individual components of the educational process. An example of such innovation can serve as the basis, developed by V. Shatalov or a constructive new connection of previously known techniques, which, in this combination, has never been used.

In pedagogical practice, modifying innovations are the most common. They attach to the soft changes, evolutionary character. Radical innovations occur less frequently, although they have the greatest potential. The nature of the transformations is revolutionary, they qualitatively change processes in updated objects.

3. Scale changes: local, systemic, modular.

The scale of innovation is determined by the number covered by the conversion of parts of the system. Local innovations involve small changes modifying the character on a narrow site. Examples of local innovations are the development and use of teachers of mathematics of computer programs, simulators, allowing to improve the computational skills of the students; the introduction of different systems of evaluation of the results of the educational process at the evaluation stage of the learning process.

Modular innovations provide holistic change some subsystems of the school. Example of modular innovation is a modified program on any subject in all classes or in the same grade classes, if mastered and a new program specifically designed for new technology.

System innovations are innovations that restructure the entire educational system of the school under one common idea, the concept or the creation of an innovative educational institution based in the former. For example, the creation of schools of different types and profiles, high schools, colleges, educational complexes and educational institutions.

4. On the issues: innovation aimed at developing new forms, technologies and methods of the educational process. Innovations aimed at development of new educational content and new ways of structuring. Innovation aimed at developing new forms and systems of governance.

5. Depending on the area of implementation or implementation in the content of education in learning technologies, in the field of educational functions of the educational system in the structure of interaction of participants of pedagogical process, in the system of pedagogical tools, etc.

6. By source: external (outside the educational system); internal (developed within the educational system).

7. Scale use: single; diffuse.

The following concept, which we will consider is the "Innovation process".

We will speak first about the patterns of the emergence and development of innovation in education to determine the stages of its formation, to identify the mechanisms for managing the development and implementation of innovations into practice.

The innovation process involves a comprehensive work on the creation, design, development, use and dissemination of innovations. According to Valeriy Semenovich Lazarev, the innovation process consists of three main stages: generating ideas (in a particular case – a scientific discovery), the development of ideas in applied aspect and the implementation of innovations in practice.

There are the following stages of action being performed in it:

- Determining the need for changes;

- Information gathering and analysis;

- Pre-selection or self-development innovations;

- Decision-making about the introduction (mastering);

- The implementation stage, including the trial use of the innovation;

- Institutionalization or prolonged use of innovations in the process of which it becomes part of everyday practice.

The combination of all these stages forms a single innovation cycle.

Activities which ensure the transformation of ideas into innovation and shaping the system of management of this process are innovation.

Innovation as a result provides for the process of creation (play) that has a specific name "novation". On this basis, the distinction between the "novation" ("new tool" - these are new ideas, methods, techniques, technologies, programs, etc.) and "innovation", which is broader in meaning, because it means the process, the subject of which is innovation.

Innovation as a means of partial or large-scale change of the system state, which is characterized by qualitatively new characteristics. The result of innovation is the Innovation.

V. Palamarchuk says innovation is the results of creative search of the person or team that opens something fundamentally new in science and practice; innovation is the embodiment of new ideas. It is the embodiment of new ideas; it is a sign, which is distinguished by innovations from innovations: if the teacher opens something fundamentally new, he is an innovator, if transforming a research idea into practice - innovator. The fundamental difference here is the degree of novelty.

Novelty is one of the main criteria for the evaluation of educational research; the main result of the creative process, property. Novelty is the value of innovation.

The relative newness: what is new for one teacher may not be new to another.

The novelty is absolute when it covers previously unknown innovations. Absolute novelty is correlated with radical innovation. It is fixed for the lack of analogues, prototypes, innovation. This degree of absolute novelty possessed of a large-scale experiment conducted by Leonid Vladimirovich Tankovy, which was discovered and proved the regularity of the developmental nature of learning. The learning process was organized differently from traditional training.

The nature of the pedagogical interaction and management of the process of assimilation was based on the organization of educational activity in which students are led out of knowledge through a theoretical understanding of learning objectives.

The organization of the learning process in educational technology covers all structural system components: objective, educational content, methods, organizational forms of teaching. The result is qualitatively new, effective – students learn methods of educational activities.

**Relative novelty.** Reveals itself in several ways - as a partial novelty, which is to update one of the elements of the system, when it becomes the new in some one respect;

- relative novelty that occurs due to an unusual combination of known elements. Local novelty features the use of innovations that were used at other sites, in a new environment.

Some innovations may include changes in one or two named components, and the others are comprehensive, involving changes in all or most of the components. For example, the development of such new learning tools as computerized tutorial requires the updating of methods and forms of organization of educational process, but not necessarily due to a revision of its goals. But the transition from learning-oriented knowledge transfer, to developing education, providing for the production of qualitatively different educational goals, requires changes in all components of the educational process.

**Subjective novelty**. The subject is new to some subject or society. For example, object or phenomenon can be completely new for one person, new normative for a particular community and not new, obsolete in another country for another community. For example, the solution to the problem of inclusive education in Russia is a relatively new problem, but in countries such as Italy, Germany, America, this problem is not new, as these countries have had twenty years or more experience in solving issues of inclusion.

In addition to novelty, innovation must possess the potential for innovation – that is, the ability to provide a long useful result from its use. If the innovation does not provide a useful effect, it is pseudo-content. This happens when the introduction in educational process has to deal with computers.

It is not a sign that the computer as a technical training tool has innovative potential; such potential does not possess the means of its inclusion in the educational process. We use it as a technical tool, but the nature of the organization of the learning process does not change (goal, methods, and forms), it does not have innovation potential.

Summarizing the above, we note that pedagogical innovation is the innovation in pedagogical activity, changes in the content and technologies of training and education, aiming to increase their effectiveness. In relation to pedagogical process innovation means the introduction of new objectives, content, methods and forms of training and education, the organization of joint activity of the teacher and the student. It represents, as defined by Prigozhin, purposeful change, contributing to the educational environment of stable elements (innovation), improving performance of individual parts and of the education system as a whole.

**Lecture No. 2.**

**The implementation of pedagogical innovation processes**

**Questions:**

1. Directions of innovative pedagogical activity.

2. Causes of pedagogical innovation processes.

3. Problems of realization of pedagogical innovation processes.

Activities which ensure the transformation of ideas into innovation and shaping the system of management of this process are innovation.

The reasons for the development of pedagogical innovations

1. One of the reasons for the development of innovative teaching and developing pedagogical innovations is a crisis of education, which is recognized throughout the world as a fait accompli. The education system has failed to adequately respond to rapid acceleration of scientific and technological progress since the mid-twentieth century. The content of education is increasingly falling behind from the modern skyline of the development of science and technology, as well as its incompatibility with the changed conditions of society gradually lead to the devaluation of the value of higher education.

Сontradictions, which are the cause of innovation

- between the needs of an evolving social practice and the real level of preparedness of graduates of the higher school;

- new production goals of the institution and the organizational structure and forms of governance;

- the interests and capabilities of the subjects of the educational process.

In 1979, scientists — members of the "club of Rome called the current education system "support", i.e., having "fixed methods and procedures in order to cope with the already known, recurring situations." The club of Rome is an international social organization that brings together representatives of the world of political, financial, cultural and scientific elite. It addresses the problems of biosphere evolution and promotes the idea of harmonizing the relationship between man and nature.

Alternative "support" is an "innovative" training that prepares learners to take responsibility for the future and provides them with faith in themselves and in their abilities to influence that future. A group of scientists headed by J. Botkin in the report to the club of Rome" described innovative training as a special type of mastering knowledge, alternative to traditional, normative learning.

Regulatory training is aimed at learning rules in recurrent situations", while the innovative learning "involves the development of abilities to work together in new situations". The emphasis is shifting from getting students ready scientific knowledge to master the techniques of its receipt.

2. Another reason is related to the period of perestroika in Russia. In the 1990s, many schools had the opportunity of self-development. They tried to innovate. For the introduction of new forms, methods, educational technology, it is not enough to know these innovations. It requires an understanding of how to implement, develop and maintain these innovations. There is a need for scientific support of innovative activity. Pedagogical innovation began to develop as a result.

**Difficulties in the implementation of innovative processes**

The difficulty is psychological barriers to innovation; psychological causes, due to inertia, routinization, reluctance, laziness of learning something new, fear of failure. Removing psychological barriers to innovation;

1 reason is the wrong interpretation, an understanding of the requirements of innovation, the desire to do it faster, without delving into the essence of processes. The principle of humanization and democratization had a misunderstanding and a complete implementation was not found.

Innovations can be initiated by management structures. The main source of the emergence of pedagogical innovations is teaching science. It was during the development of this science of changing ideas about the meanings and purposes of education, its content, educational process. Pedagogy must act as a generator of pedagogical innovations. However, this does not always happen, so scientists must rely on other customers of the changes - the students themselves, their parents, society.

Pedagogical innovation is not only the result of the work of scientists or government officials. They have their origins in practice, in the solution of disagreements, satisfaction of personal and societal needs. For example, the need to ensure the profile of teaching in high school, forcing teachers and school leaders to seek the help of science in the curricula of educational-methodical support of the process.

Innovative changes in the national education system are in the following areas: change of goal-setting in accordance with the humanistic orientation and the requirements of the time, such as computerization of the society; creation of new educational content, so that it would be close to the rapidly changing life and would maintain the fundamental basis; the introduction of a 12-year-old structure of the secondary school as the best; the creation of specialized training in high school; development and implementation of new educational standards; development of a competence-based approach; the implementation of student-focused, health-saving technologies of learning; the application of methods, techniques, means of individualization of learning; creation of conditions for self-identity in the learning process; the creation and development of innovative creative collectives of schools; changes in the activities of teachers and students associated with the introduction of the unified state exam, student portfolio (portfolio of achievements).

Changes in the content and organization of the activities of educational institutions, their innovative nature are closely linked to changes in the methodological and technological training of teachers and administrators. This process today doesn't have the necessary scientific and institutional framework.

There are no scientific studies and recommendations for the management of innovative activity of teachers, administrators, managers. Therefore, errors at the level of government decisions occur. For example, the decision to connect all Russian schools to the Internet without scientific-pedagogical and methodological support of innovation processes is taking place.

It is important that innovative processes allow us to develop professionally and are self-actualized by teachers and administrators who contribute to the development of pupils' life skills in a changing world.

**Stages of the innovation process.** The following steps are distinguished:

- determining the need for changes;

- information gathering and analysis;

- pre-selection or self-development innovations;

- decision-making about the introduction (mastering);

- implementation itself, including the trial use of the innovation;

- institutionalization or prolonged use of innovations in the process of which it becomes part of everyday practice.

The combination of all these stages forms a single innovation cycle.

As a content innovation may be: scientific and theoretical knowledge of a certain novelty, new and effective educational technologies, made in the form of process descriptions the project of effective and innovative teaching practices, ready for implementation. Innovations is a new qualitative state of the educational process, forming at putting into practice the achievements of pedagogical and psychological Sciences, using advanced teaching experience.