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The role of education in the innovative society

Роль освіти в інноваційному суспільстві

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Abstract

Innovative processes in the education system were studied from the point of view of the need to continue its modernization. For the transition of society to an innovative educational regime, the primary task is the specialist's readiness for innovations, where theoretical knowledge (modern psychological and pedagogical conceptual approaches), methodological knowledge (general principles of studying educational phenomena, regularities of the process of socialization of the individual, training, education) and technological knowledge (traditional, innovative educational technologies). The meaning of the concept of "innovation" is revealed. The peculiarities of innovative activity in the field of education are emphasized. It is described by parameters that are important for the innovative potential of a person. The article shows the main components on which the education system and the socio-economic sphere are based. The strategic goal of higher

Анотація

Досліджено інноваційні процеси у системі освіти з погляду необхідності продовження її модернізації. Для переходу суспільства в інноваційний освітній режим першочерговим завданням поставлено готовність фахівця до інновацій де значимими стають теоретичні знання (сучасні психолого-педагогічні концептуальні підходи), методологічні знання (загальні принципи вивчення освітніх явищ, закономірності процесу соціалізації особистості, навчання, виховання) і технологічні знання (традиційні, інноваційні освітні технології). Розкрито значення поняття «інновація». Підкреслено особливості інноваційної діяльності в сфері освіти. Описано параметрами що мають значення на інноваційний потенціал людини. Показано основні складники на яких базується система освіти, суспільно-економічна сфера. Потрактовано стратегічну ціль вищої освіти: випускники закладів вищої освіти мають бути

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education is interpreted: graduates of higher education institutions should be competitive specialists in the modern labor market. The main tasks of higher education are highlighted. Innovative pedagogical technologies are defined as technologies of use, creation, distribution, and introduction of new technologies. The types of innovative technologies are singled out.

Keywords: education, innovative society, innovative processes, modernization, innovative activity.

Introduction

Modern progress and an innovative approach to education imperatively require the creation of an innovative person with the ability to proactively develop the scientific and educational spheres. World trends cannot allow lagging in the field of education, which will negatively affect the level of human potential, the development of society in general (Kremen et al., 2020).

The development of the educational sector is determined by global social processes that are not possible without the development of the information society. Post-industrialism is impossible without the development in all spheres of the social life of a global system of interrelationships: social, economic, spiritual, and political. The result of such an approach in various spheres of social organization was integration processes, the creation of social relations in the conditions of a holistic context, where educational processes and phenomena acquire a global character thanks to the functioning of the application of a system of unified social interaction. Management of innovative processes is of primary importance in the qualitative development of the educational system. With this thinking, we consider the research of innovative processes in the education system to be the main thing, from the point of view of the need for its modernization (Motuz & Shvydun, 2021).

The purpose of the article. To investigate innovative processes in the education system from the point of view of the need to continue its modernization.

Literature Review

Innovative activity, as a result of which innovations are created and materialized, requires optimization of innovative activity, its transfer to a high-tech level. Modern innovative technologies are the most important element and result of human labor. Aimed at increasing the

конкурентоспроможними фахівцями на сучасному ринку праці. Виокремлено основні завдання вищої освіти. Інноваційні педагогічні технології визначено як технології використання, створення, розповсюдження, запровадження нових технологій.

Ключові слова: освіта, інноваційне суспільство, інноваційні процеси, модернізація, інноваційна діяльність.

efficiency and quality of professional activity, the rational use of economic and social resources, they are an effective tool in the hands of a qualified manager that stimulates the continuous development of the team, its teaching staff as a whole and each employee in particular.

Scientific problems of innovative development of the economy, management of innovative potential, formation of effective innovation mechanisms, innovative and investment development of states and regions have become the subject of fundamental research by various scientists.

D. Homenyuk (2013) developed methodical recommendations, which highlighted the peculiarities of educational innovations in the content of education, educational and educational technologies, forms and methods of improving the educational process; the most promising views of scientists on the current state of education and the directions of development of the educational field are shown.

G. Klimova, S. Ivanov, & L. Shevchenko (2015) carried out a consistent analysis of the developed innovative educational society and proposed conditions for its development in the world. A system of legislative support for the innovative development of society has been built. The content of social innovations and its impact on these innovations, which are represented by socio-cultural conditions and affect the process of formation and development of an innovative society, are shown.

The works of the following scientists played an important role in the research of the chosen topic.

O. Prygara (2018) proposed a model of innovative development of the educational sector, which includes in its functioning driving forces, motivations, sources, tools, methods, organizational, managerial and financial

mechanisms for generating innovations in the educational sector.

L. Berezhna (2018) considered the approaches to the constant self-improvement of a specialist, the possibilities of improving professional activity, and proposed new effective methods of work. Attention is paid to the relevance and necessity of the problem of improving the qualifications of a young specialist, his professional growth, creating a style of professional activity and a new type of specialist.

V. Kremen, V. Lugovyi, & P. Saukh (2020) substantiated the entire strategy of the educational sector, showed the directions of education development, its importance for the economy of any country, and developed tasks for the long-term perspective on the formation of human potential.

T. Motuz, & V. Shvydun (2021) analyzed the types of pedagogical technologies, showed the main stages of implementation of the educational process, and analyzed their advantages - the adaptation stage, the mobile-research stage, and the scientific-research stage.

Despite the significant number of scientific works, the need for a comprehensive study of the importance of forming a single educational space, expanding the range of professional and research tasks, and qualitatively new requirements for the educational process due to the use of information and communication technologies in the educational environment is growing.

Methodology

To achieve the stated goal of the research at its various stages, the following methods were used: theoretical: a comprehensive retrospective and prospective analysis of philosophical, sociological, psychological-pedagogical and scientific-methodological literature on the researched problem with the aim of identifying the current state, comparing different views on the researched problem, defining the theoretical - methodological principles of research, conceptual provisions, categories; terminological analysis of concepts to determine the thesaurus of scientific research, specification of definitions and essence of concepts; systematization of retrospective data and prospects for the development of an innovative approach in education and the introduction of innovative technologies for the development of professional competence of future specialists into national

professional education; analysis of concepts, theories and methods, study of directive, regulatory and program-methodical documents in the field of higher education; structural and systemic analysis to determine the tasks, functions and structure of education.

The research is based on the anthropology of the philosophical and pedagogical personality as the main provisions of the human essence, its synthesis of the natural-social-cultural sphere, ensuring individualistic formation as a value-humanistic and multifactorial process focused on personal qualities. This research approach allows:

- to show the personal regularities of the formation of a person on the object of his social interaction with society, as a social orientation; achieve the unity of tactical goals and strategic goals and, thus, achieve a focus on the complex components of professional competence, in particular, on the application of innovative processes in education in the education system from the point of view of the need to continue its modernization;
- enables the implementation in the educational process of a qualitative approach to the educational innovation model of education formation and training of competitive future specialists, to substantiate the conditions necessary for the implementation of innovative processes in the education system from the point of view of the need to continue its modernization and the development of significant personality qualities during the implementation of innovations;
- provides an opportunity to enrich the content of the educational process with innovative processes in the education system, to provide an opportunity for the formation of social values of the individual from the point of view of the need to continue its modernization, satisfaction of needs, development of motives for professional activity, which contribute to the formation of professional competence of future specialists, ready and able to solve professional tasks in the conditions of social interaction. The identified landmarks made it possible to create the conceptual foundations of the research, which make it possible to justify the methodology, theory, and technology at the level of scientific research.

The methodology of scientific research contributes to the implementation of innovative processes in the education system, the formation of professional competence of future specialists in professional training from the point of view of the need to continue modernization, it carries out the relationship and interaction of scientific fundamental approaches to the study of the problem: the competence approach in the education system from the point of view of the need to continue its modernization regarding the acquisition of professionally oriented knowledge, abilities and skills, forms the ability and motivational readiness of a specialist for the professional application of abilities, knowledge, skills in practical situations of professional activity, provides a person with high social concrete productivity, empathic interaction; a synergistic approach, in the process of professional training, contributes to the assimilation of a synergistic picture of the world and allows future specialists to model external influences with the relative instability of the educational system; systematicity as a methodology for the scientific search for high-quality professional training of future specialists determines system-forming elements, allows for the establishment of a hierarchical structure and suggests the sequence of implementation of all elements, predicts levels of practical, cognitive actions; integrative approach, provides for the formation of professional competence based on the mutual influence of innovative processes in the education system from the point of view of the need to continue its modernization, makes it possible to realize the interconnection, interpenetration of the content of professional educational disciplines for the formation of students of education dialectically interdependent, complex, holistic, from a scientific point of view, systems of scientific ideas about any phenomena of social life as an integrated interaction of a person and an educational society; the activity approach provides a methodological basis for the professional training of future specialists, makes it possible to qualitatively organize the educational process with the help of innovations in the education system from the point of view of the need to continue its modernization, in which all types of activities of future specialists (educational, scientific-research, educational-professional, extracurricular) are directed on the formation of a person's readiness for innovative professional activity; a personal approach, a methodological basis that represents a set of ideas, the purpose of which is to ensure a complete, deep understanding of the personality of the methods of applying innovative processes

in the education system from the point of view of the need to continue its modernization and to highlight the regularities of the personal development of a specialist, during which a unique, unique person is formed; the axiological approach is directed to the preservation and moral renewal of the axiological component of the system of innovative renewal of education from the point of view of the need to continue its modernization, the formation of professional competence of future specialists, through the study of facts and phenomena from the standpoint of their value for professional renewal; the sociocultural approach reflects the qualitative state of society regarding the provision of innovative processes in the education system from the point of view of the need to continue its modernization, which is manifested as a person's mastery of norms, rules, values, culture, which are included in the system of social relations for the assimilation of social experience, their independent reproduction; the acmeological approach provides professional motivation of future specialists, leads to the stimulation of human creative potential, provides an opportunity to identify and effectively use personal resources for self-development and self-realization.

Theoretical conceptuality defines the essence of research concepts; carries out a theoretical substantiation of the structural-functional model of the application of innovative processes in the education system from the point of view of the need to continue its modernization, forms competencies and conditions for determining the effectiveness of personality education in higher education. The structural and functional model of the application of innovative processes in the education system from the point of view of the need to continue its modernization is based on pedagogical principles (stimulation of student socio-pedagogical initiatives, a humanistic orientation, and problematic nature of the educational field; subject-subject interaction in the pedagogical process; modeling of professional activity in the educational process).

The methodically oriented educational sector contributes to the development of the system of application of innovative technologies in the education system from the point of view of the need to continue its modernization, the formation of phase competence of future specialists in the process of professional training, which provides high-quality technologies and conditions, with the help of which the positive dynamics of the specified process are achieved; diagnostics of the results of the quality of education, provides an

opportunity to introduce innovative technologies into the education system from the point of view of the need to continue its modernization, is connected with the transformation of applied skills, acquired methodical knowledge into professional activity (its implementation in the process of forming social competence is significant), is based on the mastery of algorithms subject-subject interaction in professional activity.

The methodological basis of the study is based on the provisions of the theory of scientific knowledge regarding the mutual influence and interdependence of the phenomena of objective reality, the unity of the general and the special, the theory and practice of applying innovative processes in the education system from the point of view of the need to continue its modernization; theories of systems; humanistic philosophy; dialectical theory about the general connection, interdependence and integrity of the phenomena of objective reality; position of the philosophy of human-centeredness in education; interdisciplinary combination of modern knowledge about education, regarding the application of innovative processes in the education system from the point of view of the need to continue its modernization; use of a complex of methodological approaches in professional training of future specialists; conceptual provisions regarding the systematic formation of their professional competence when applying innovative technologies from the point of view of the need for continued modernization. Within the scope of elucidating the essence of the development methodology of the innovative processes studied by the authors, the article shows that innovative education builds the educational process as a movement from social and general cultural knowledge and skills of one's profession (from profession to culture) to technological ones, which gives it an understanding of ways and methods of solving professional tasks, and from them to methodological ones, which allows you to monitor the dynamics of changes in the quality of your professional activity (from technology to innovative thinking).

Determination of the general methodological principles of innovative education, since the methodology in the process of scientific research makes it possible to systematize the entire amount of scientific knowledge and create conditions for further effective directions of research.

Results and Discussion

Higher education is important for the modernization of the entire universe and is connected with the need to improve the quality of professional training of specialists, and from this follows the need to change the status and role of the teacher in the information society. Innovative ways and methods of acquiring a profession depend on the development of the educational sector, and therefore society has determined the necessary significant substantive and structural transformations of the educational sector system. The primary result is the formation of a renewed innovative image of a modern specialist - who includes mobility, professional versatility, readiness to implement quality training, independently acquire knowledge, improve methods of action, offer innovative subject areas, effectively mobilize all forces for mobility and interaction with various participants of the educational process.

The education sector nowadays requires an active position from the teacher, constant improvement, and involvement of innovative approaches to the education sector.

Consider the role of a teacher working in the traditional system. The main directions of such educational activity are methodical and special knowledge. With such an approach, it is enough to possess pedagogical skills, to use pedagogical techniques, this will allow the teacher to implement the educational process at a professional level and provide it with high efficiency (Shunkov et al., 2022).

Let's consider the role of a teacher who is moving into an innovative mode of work. With this approach, readiness for innovation is decisive in his work. Here, priority is given to knowledge:

- theoretical (knowledge of innovative psychological and pedagogical concepts);
- methodological (knowledge of the basic principles of studying the patterns of socialization of the educational space, and pedagogical phenomena);
- technological (knowledge of traditional and innovative educational technologies).

Let's reveal the main meanings in which the term "innovation" is used:

- the form in which the organization of innovative activity takes place;
- the application of a set of new professional actions of a mobile teacher, aimed at solving

modern important problems of education from the standpoint of a personally oriented orientation;

- innovative changes in the practice of education;
- a complex process aimed at the application of expansion, use, and creation of new for practical application of means of innovation in the field of engineering, pedagogy, technology, and scientific research; the final result of the innovation process (Kotiash et al., 2022).

According to I. Dychkivska (2012), the phenomenon of innovative activity is the main, multifaceted, complex content, which includes: "the process of interaction of individuals, aimed at the development, transformation of the object, its transfer to a qualitatively new state; systematic activity regarding the creation, mastery, and application of new tools; a special type of creative activity that combines various operations and actions aimed at acquiring new knowledge, technologies, systems". This creates a characteristic feature of innovative activity in the field of education.

"Innovation", in the educational interpretation, should be referred to as a special form of thinking, pedagogical activity, which is oriented not only on innovation, but also on the organization in the educational space, or as a process of innovative development, creation, dissemination, the introduction of new methods in education.

We consider the innovative educational process as a relationship of purposeful new actions, consistent teaching methods that lead to the renewal of the educational system, improve the goal, update the content, organizational forms and methods of the educational field, lead the adaptation of the educational process, give impetus to new socio-historical conditions (Plakhotnik et al., 2022).

Innovative processes in the education system from the point of view of the need to continue its modernization and personal potential are associated with the following main parameters:

- the ability to creatively produce and generate new knowledge, ideas, ideas and skillfully model and project them in practical forms;
- the openness of the individual when applying innovative technological processes in the education system from the point of view of the need to continue its modernization in a new way, different from

one's capabilities and ideas, which is based on flexibility, panoramic thinking, human tolerance;

- cultural and aesthetic education of a person and its development;
- readiness of the specialist to improve his activity; the presence of methods, and internal means of a person that ensure such readiness;
- developed innovative consciousness of the individual when implementing innovative processes in the education system from the point of view of the need to continue its modernization (motivation of innovative behavior, the value of innovative activity compared to traditional, innovative needs) (Sherudylo, 2019).

As for the formation of an innovative person, innovative processes in the education system from the point of view of the need to continue its modernization, innovative human potential and capital, in all countries this happens due to: improving the quality of the educational process, improving scientific research in education, improving the level of qualifications of specialists. Thus, under the auspices of UNESCO, a study was conducted that showed the great influence of education on the level of a person's income and quality of life (60%).

Like every socio-economic sphere, the education system is based on the following components:

- 1) first of all, this regulatory and legal support is an institutional component that plans innovative processes in the education system from the point of view of the need to continue its modernization;
- 2) management bodies in the field of education, a network of educational institutions, and other participants in educational activities that ensure the functioning of the system by introducing innovative processes into the education system from the point of view of the need to continue its modernization;
- 3) tools and mechanisms for regulating relations between all interested parties in the implementation of innovative processes in the education system from the point of view of the need to continue its modernization (Kravchenko et al., 2022).

Modern global science and education in the context of innovative processes in the education system, from the point of view of the need to continue its modernization, constant human development, must respond to the following key challenges:

- improving the quality of human capital during innovative processes in the education system from the point of view of the need to continue its modernization, increasing the competence and professional potential in the conditions of ultra-fast technological changes;
- creation of an educational and scientific basis for the introduction of innovative processes in the education system from the point of view of the need to continue its modernization, for large-scale technological modernization of education, digital transformation in the world, and increase of labor productivity throughout the planet.
- ensuring the social sustainability of innovative processes in the education system from the point of view of the need to continue its modernization in the conditions of accelerated changes in the economy and social life and high uncertainty of the future (Kuzminskyi et al., 2018).

The strategic goal of higher education when applying innovative processes in the education system from the point of view of the need to continue its modernization: graduates of higher education institutions should be competitive specialists in the modern labor market.

The main tasks of higher education:

- provision of innovation mechanisms in the education system from the point of view of the need to continue its modernization, ways of increasing the competitiveness of higher education institutions;
- creation of consolidated regional universities for the possibility of qualitative implementation of innovative processes in the education system from the point of view of the need to continue its modernization, and optimization of the network of higher education institutions;
- conducting annual monitoring of the possibilities of implementing innovative processes in the education system from the point of view of the need to continue its modernization, clarifying the needs for specialists who work in areas that require higher education;
- ensuring a scientifically based difference in decent pay for people with higher education and people without higher education;
- providing motivation and opportunities for the professional personal development of teachers;
- introduction of an innovative model of state funding of higher education institutions into

the educational process as a necessary component of their economic activity (Kremen et al., 2020).

Since the traditional focus on classical classes does not fully meet modern educational requirements, the introduction of innovations into the education system from the point of view of the need to continue its modernization, in our opinion, is impossible without the use of new methods, forms of organization of the educational process. The tendency to ignore the application of an individual approach in the educational process, the predominance of the informative and instructive nature of the use of innovative technologies in the education system from the point of view of the need to continue its modernization, led to the emergence of contradictions in educational activity between the practice and theory of extensive development of education, and the demands of society for the education system, which, in our opinion, proves the need for the introduction and constant use of educational and pedagogical innovations (Biletska et al., 2021).

Another problem in the implementation of innovations in the education system from the point of view of the need to continue its modernization is the presence of contradictions that arise among teachers during their practical activities. These are such contradictions as the inconsistency of traditional forms, techniques, and methods of the educational process of education seekers with advanced technologies, state requirements for a competitive graduate, for example, the presence of a system of formed professional competencies; reducing the duration of the educational process, the pace of updating information, the application of innovative processes in the education system from the point of view of the need to continue its modernization, which leads to the problem of choosing the optimal level of knowledge that is important and sufficient for a modern person; unpreparedness of the teacher for the introduction of innovations in the education system from the point of view of the need to continue its modernization at the appropriate level; the contradiction between the need to update the educational process and the inability of conservative colleagues, etc. (Shvydun, 2020).

Scientists consider innovative technologies in the education system from the point of view of the need to continue its modernization mainly as technologies of distribution, creation, use, and introduction of new technologies. In particular, the following types are distinguished:

- radical (in which the educational process or most of it is completely restructured);
- combined (the elements of a certain technology are separated and combined into a new innovative technology);
- modifying (a technological modernization that does not lead to any significant change) (Hrynyova, 2016).

We believe that the management of innovative processes in education should be carried out according to the following positions:

- determination of primary skills, knowledge, and values with the help of a teacher to spread innovative processes in the education system;
- formation of teacher competence in the field of information technologies, which manifests itself both as a tool during the learning process and as a component of teaching in the educational process;
- modernization of educational institutions by introducing innovative processes into the education system from the point of view of the need to continue its modernization, providing opportunities for professional autonomy of teachers when making decisions regarding the content of innovative technologies and teaching methods, organization of innovative educational programs, etc.;
- elimination of the problem of using outdated technologies in the education system from the point of view of the need for its modernization, establishment of innovative types of relations between teachers and their partners in education;
- improvement of material and moral stimulation of teachers (Shchyrbul et al., 2022).

Let's consider the peculiarities of foreign experience in the introduction of innovative processes into the education system from the point of view of the need to continue its modernization, the organization of the professional activity of teachers, which carries out the innovative activity of the teacher, in particular, and the innovative development of the education system, in general.

We will single out the main innovative tasks formulated for teachers and the main innovative processes in the education system from the point of view of the need to continue its modernization in the countries of Western Europe:

- ensuring the continuous development of the individual, including the innovativeness of acquiring knowledge and skills;
- awareness of a valuable individual and identification of worldview positions that will lead to the creation of a healthy human society;
- building an active position of applying innovative processes in the education system from the point of view of the need to continue its modernization, its growth to participate in the affairs of not only the local community but also the entire society;
- ensuring effective innovative management of the innovative environment and its resources;
- the ability to connect the educational programs of the educational institution with the needs of society;
- the ability to give advice and train students in the field of educational innovation from the point of view of the need for its modernization and to manage groups of students, choosing and using different pedagogical methods;
- understand innovative scientific and research educational methods (Pukhovska, 2017).

We emphasize the importance and necessity of granting autonomy to educational institutions (management, financial, pedagogical), which is the main trend aimed at the development of innovative processes in the education system (Motuz & Shvydun, 2021).

Nowadays, the theory of "open" innovations is relevant. Its content is necessary to stimulate innovative activity in the educational sector. Organizations with this approach should focus on the external environment. In this sense, the issues of application of innovative processes in the education system, inclusion of education and science in the system of "open" innovations, and modernization of education in terms of professional training of specialists (entrepreneurship, business) from the point of view of the need to continue modernization of the open innovation search system are relevant (Kuchai et al., 2021).

Open innovations in the field of education provide an opportunity for the formation of a mechanism for the organization and implementation of scientific cooperation between educational institutions and scientific institutions, provide opportunities for the implementation of joint research projects and scientific programs, and support state support for

innovative projects, consulting scientists on the implementation of innovations, creating online platforms support of innovative projects and create working conditions for scientists in the international space to implement joint projects (Kuchai et al., 2022).

Innovative methods are used in the training system of qualified specialists:

- interactive forms of learning (business games, discussions, role-playing games, case methods, problem situations);
- situational and problem-oriented approaches to the field of education;
- scientific research projects according to needs, according to the order of the employer, and active forms of cooperation with employers;
- creative work, stimulation of independent and individual work;
- effective dialogue in "student-teacher" interaction;
- mobility of personnel training and retraining depending on the development of the working environment and the educational services market;
- information and communication technologies (webinars, web conferences, Internet forums, virtual teams);
- a system of the educational process that forms the ability to analyze information;
- self-organization, self-learning, self-training;
- academic mobility.

The implementation of such measures will bring the educational and scientific system closer to market principles, and overcome the shortcomings that exist between education, science, practical activities, and entrepreneurship (Prygara, 2018).

In the field of higher education, we will present the hierarchy of the structure of the innovation process:

- *activity structure (sequence of components: motives, purpose, tasks, content, forms, methods, results of innovative activities of the higher education institution);*
- *subject structure (coordinated work of innovation development subjects: the administration of a higher education institution, scientists, a team of teachers and students, employees of educational authorities, etc.);*

- *level structure (innovative educational activity of subjects at the level of higher education institutions, regional level, city level, district level, international level);*
- *content structure (genesis, assimilation, development of innovations in the educational process);*
- *the structure of the life cycle of a pedagogical innovation (stages of emergence, maturity, growth, diffusion, mastering, routinization, saturation, modernization, crises);*
- *management structure (organization, planning, control, management).*
- *organizational structure (prognostic, diagnostic, organizational, generalizing, practical, implementing components.*

The mentioned structures are interrelated, therefore we claim that in the field of higher education, the innovation process is a complete system.

During the transition of a higher education institution to the mode of innovative development, the realization of certain intermediate goals is foreseen:

- 1) *the need to implement a single space of a higher education institution (scientific, cultural, educational);*
- 2) *in the preparation for bachelor's and master's degrees, it is mandatory to create an innovative competence-contextual model;*
- 3) *involving the staff of the higher education institution in the innovation process;*
- 4) *modernization of educational activities;*
- 5) *application of business relations with educational institutions, state authorities, scientists, public organizations, and employers;*
- 6) *implementation of coordination programs for innovative development with partners of higher education institutions;*
- 7) *expansion of educational programs within the framework of international cooperation.*

The innovative development of higher education is based on a theoretical and methodological basis, while the components are:

- *competence approach;*
- *culture-centric paradigm;*
- *contextual learning (psychological-pedagogical theory).*

Therefore, innovative development of higher education institutions, and innovative processes

in the education system from the point of view of the need for modernization do not occur spontaneously. Favorable factors are necessary for their implementation (for example the formation of an innovative climate in higher education institutions) (Klimova et al., 2015).

In the modern world, the system and content of innovative education are developing in the context of innovative processes in the education system from the point of view of the need to continue its modernization, among which the most notable are:

- continuity and mass education;
- the importance of the educational environment for society and the individual;
- orientation to methods of cognitive activity of the individual;
- adaptation to the needs of the individual, and his requests;
- focus on the democratization of education, innovation, personality, self-disclosure, and self-development.

Therefore, human development is the main function of education, particularly its culture. Education provides ample opportunities for obtaining innovative conditions for human development and preparing him for an active life:

- knowledge about society, nature, man, and innovative processes in the education system from the point of view of the need to continue its modernization;
- formation of a scientific picture of the world as an orientation in the choice of future professional activity;
- mental, emotional, communicative, physical, labor activities for the formation of basic labor, intellectual, organizational abilities, and skills necessary in social production;
- experience in creative activity for the development of individual abilities of a person.

Methods of innovative activity - special procedures and operations of empirical knowledge of the results of pedagogical practice (method of scientific understanding, methods of research, method of formalization, method of modeling, method of approval, method of analysis, method of diagnosis, method of forecasting, etc.) (Homenyuk, 2013).

In the 21st century, the professional activity of a teacher requires a special approach to innovative pedagogical activity, the application of

innovative processes in the education system from the point of view of the need for its modernization. This activity is aimed at creating values necessary for the formation of a personality. A modern specialist must be ready for the opportunity to go beyond ordinary situations, for changes, and to improve pedagogical skills. These positions contribute to the development of professional growth of the individual, direct innovative processes in the education system from the point of view of the need to continue its modernization (Berezhna, 2018).

Conclusions

Innovative processes in the education system were studied from the point of view of the need to continue its modernization.

The meaning of the concept of "innovation" is revealed. A characteristic feature of innovative activity in the pedagogical sphere is singled out. The main parameters affecting the innovative potential of the individual are highlighted. The main components on which the education system is based, as well as every socio-economic sphere, are shown.

The strategic goal of higher education is interpreted. The positions to which the management of innovative processes in education should be directed in the future have been declared. The main tasks formulated for teachers of Western European countries are prescribed. The key characteristics of learning technologies are listed. Interactive learning technology and the theory of open innovation are considered.

We see the prospects for further research in the identification of the components of innovative development of higher education, which is based on a theoretical and methodological foundation.

Bibliographic references

Berezhna, L.V. (2018). The development of the professional growth of the teacher under the conditions of the innovative educational field. The role of innovations in the transformation of the image of modern science: Materials of the II International Scientific and Practical Conference (Kyiv, December 28–29, 2018). NGO "Institute of Innovative Education"; Scientific and educational center of applied informatics of the National Academy of Sciences of

- Ukraine. Kyiv: NGO "Institute of Innovative Education", 264.
- Biletska, O., Kuchai, T., Kravtsova, T., Bidyuk, N., Tretko, V., & Kuchai, O. (2021). The Use of the Activity Approach in Teaching Foreign Languages in Higher Education Institutions. *The Romanian Journal for Multidimensional Education*, 13(2), 243-267. DOI: <https://doi.org/10.18662/rrem/13.2/420>
- Dychkivska, I. M. (2012). *Innovative pedagogical technologies: a textbook*. Kyiv: Academvidav.
- Homenyuk, D.V. (2013). Basics of innovative activity in the system of general cultural development of the teacher's personality: Methodical recommendations. K.: IPOOD.
- Hrynyova, V. (2016). Modernization of national education on the basis of the competence approach: conceptual and terminological apparatus and the essence of the problem. *Native school*, 4, 20–24. <https://acortar.link/J5dMab>
- Klimova, G. P., Ivanov, S., & Shevchenko, L. (2015). Conceptual foundations of the formation of an innovative society in Ukraine: monograph. H.: Right. (In Ukrainian)
- Kotiash, I., Shevchuk, I., Borysonok, M., Matviienko, I., Popov, M., Terekhov, V., & Kuchai, O. (2022). Possibilities of Using Multimedia Technologies in Education. *International Journal of Computer Science and Network Security*, 22(6), 727-732. <https://doi.org/10.22937/IJCSNS.2022.22.6.91>
- Kravchenko, T., Varga, L., Lychanko-Kovachyk, O., Chinchoy, A., Yevtushenko, N., Syladii, I., & Kuchai, O. (2022). Improving the Professional Competence of a Specialist in Poland by Implementing Multimedia Technologies. *International Journal of Computer Science and Network Security*, 22(9), 51-58. DOI: <https://doi.org/10.22937/IJCSNS.2022.22.9.8>
- Kremen, V., Lugovyii, V., & Saukh, P. (2020). Youth education and science are the basis of innovative human development. Scientific and analytical reports and materials. *Bulletin of the National Academy of Sciences of Ukraine*, 2(2), 1-5. <https://doi.org/10.37472/2707-305X-2020-2-2-14-3>
- Kuchai, O., Skyba, K., Demchenko, A., Savchenko, N., Necheporuk, Y., & Rezvan, O. (2022). The Importance of Multimedia Education in the Informatization of Society. *International Journal of Computer Science and Network Security*, 22(4), 797-803. <https://doi.org/10.22937/IJCSNS.2022.22.4.95>
- Kuchai, O., Yakovenko, S., Zorochkina, T., Okolnycha, T., Demchenko, I., & Kuchai, T. (2021). Problems of Distance Learning in Specialists Training in Modern Terms of the Informative Society During COVID-19. *International Journal of Computer Science and Network Security*, 21(12), 143-148. <https://doi.org/10.22937/IJCSNS.2021.21.12.21>
- Kuzminskyi, A. I., Kuchai O. V., & Bida, O. A. (2018). Use of polish experience in training computer science specialists in the pedagogical education system of Ukraine. *Information Technologies and Learning Tools*, 68(6), 206–217. <https://doi.org/10.33407/itlt.v68i6.2636>
- Motuz, T., & Shvydun, V. (2021). Innovative processes in the education system of Ukraine: problems and prospects. *Humanities studies. Series "Pedagogy"*, 45, 58-63. (In Ukrainian)
- Plakhotnik, O., Strazhnikova, I., Yehorova, I., Semchuk, S., Tymchenko, A., Logvinova, Ya., & Kuchai, O. (2022). The Importance of Multimedia for Professional Training of Future Specialists. *International Journal of Computer Science and Network Security*, 22(9), 43-50. <https://doi.org/10.22937/IJCSNS.2022.22.9.7>
- Prygara O.Yu. (2018). Innovations in science and education: modern challenges. Innovations in science and education: modern challenges. A collection of scientific essays by trainees for educators. Warsaw, 14-17. <https://acortar.link/V9UGNg>
- Pukhovska, L.P. (2017). Professional education and innovation: experience of the European Union countries. *Scientific Bulletin. Institute of Vocational and Technical Education of the National Academy of Sciences of Ukraine. Professional pedagogy*, 14, 124–130. (In Ukrainian)
- Shchyrbul, O., Babalich, V., Mishyn, S., Novikova, V., Zinchenko, L., Haidamashko, I., & Kuchai, O. (2022). Conceptual Approaches to Training Specialists Using Multimedia Technologies. *International Journal of Computer Science and Network Security*, 22(9), 123-130. <https://doi.org/10.22937/IJCSNS.2022.22.9.19>
- Sherudylo, A. V. (2019). The essence, content, structure and functions of the teacher's innovative activity in the conditions of the modernization of pedagogical education.

- Professional training of future primary school teachers: competency-based and integrated approaches: monograph. Sumy: Vinnychenko M. D.
- Shunkov, V., Shevtsova, O., Koval, V., Grygorenko, T., Yefymenko, L., Smolianko, Y., & Kuchai, O. (2022). Prospective Directions of Using Multimedia Technologies in the Training of Future Specialists. *International Journal of Computer Science and Network Security*, 22(6), 739-746. <https://doi.org/10.22937/IJCSNS.2022.22.6.93>
- Shvydun, V.M. (2020). Preparing future teachers for the use of pedagogical technologies in the context of the new Ukrainian school. *Pedagogy of creative personality formation in higher and secondary schools*, 70(4), 50–53. http://pedagogy-journal.kpu.zp.ua/archive/2020/70/part_4/11.pdf