International Journal of Innovative Technology and Exploring Engineering (IJITEE)
ISSN: 2278-3075 (Online), Volume-9 Issue-5, March 2020

Pedagogical Innovation and Methodology of Education in the Field of Information and Communication Education in Ukraine

Lina Storozhenko, Oksana Sheremeta, Svitlana Petkun, Inna Vanovska

Abstract. The purpose of the article is to study the genesis, development and current state of information and communication models of education; the selection of the main types of information and communication paradigms, analysis of their shortcomings and advantages, the main principles. The paper describes the discussion issues concerning the issues of information and communication education in the historical section of the second half of the XX – the beginning of the XXI century. The methodological basis of the study consists of the historical-comparative method, methods of analysis and synthesis. To theoretical and methodological tools, we can also cite systemic and synergetic approaches. The scientific novelty lies in the fact that the question of the history of formation, the dynamics of development and the current state of information and communication education in Ukraine and in the world remains open today. Relevance, high social significance, the innovation of the formulated problem and its lack of elaboration led to the necessity of its conceptual and systematic study, therefore this scientific development concerning this problem is extremely important. The study first observed the formation, development and current state of information and communication educational models. The cultural dynamics of modern society urgently require a radical transformation of the educational system, its correlation with the needs of a new information age. These requirements prove the necessity of a global modernization of the education system, which today, as a mode of spiritual culture, does not meet the requirements of the new information order, in which education is determinative.

Index Terms: information and communication education, educational model, educational paradigm, genesis, evolution/development, technology.

I. INTRODUCTION

At the present stage of development of education in Ukraine, information and communication technologies have become an important factor and a means of increasing the efficiency of functioning of all spheres of educational activity. International experience in providing information and technology support for educational areas involves revising the concept of creating a stable and effective education system. This is emphasized in the Laws of Ukraine "On Education", "On Higher Education", "National Doctrine of Educational Development in Ukraine in the 21st Century", "Declaration on the European Space for Higher Education" and others. The development of the modern society, the transition to information technology creates new problems. Knowledge becomes a key driving force for society's development, capital, thus defining the vector of innovative educational development and ways of its practical application. The constant increase of information volumes leads to the necessity of bringing the level of education in line with the set requirements, finding new forms and methods of increasing the practical significance of the results of education in educational institutions. One such form is the information and communication type of education, which is actively and expediently used in the modern educational process. However, there is still the question of the history of formation, dynamics of development and current state of information and communication education in Ukraine and the world. The urgency, high social significance, innovativeness of the formulated problem and its insufficient elaboration have made it necessary to conceptually and systematically study it, therefore, all scientific developments concerning this issue are extremely important.

II. LITERATURE REVIEW

An analysis of the recent research and publications, which have studied the issues of the information and communication educational paradigm at different times, includes a number of works by domestic and foreign scholars. In particular, A. Bork, V. Graves, D. Self, B. Skinner, and R. Tyler actively applied the humanistic approach in the educational process using information and communication learning technologies;

Revised Manuscript Received on March 30, 2020.
* Correspondence Author
L. Storozhenko, Department of Documentary and Information Activities, State University of Telecommunications, Ukraine.
O. Sheremeta, Department of Documentary and Information Activities, State University of Telecommunications, Ukraine.
S. Petkun, Department of Documentary and Information Activities, State University of Telecommunications, Ukraine.
I. Vanovska, Department of Linguistic Research, Taras Shevchenko National University of Kyiv, Ukraine.

the essence of the concept of "on-line learning" was analyzed by J. Kowalski, L. Telese, R. Fischler, N. Hara, L. Harasim and others. Significant contribution to the development of the concept of "innovative educational technologies" made V. Bespalko, O. Kiyashko, O. Pikhota, I. Romanova, O. Skryabin, G. Selevko, A. Cherepanova. Some theoretical statements and the new scientific approaches to the study of information and communication models of education are reviewed in the works of O. Andreev, V. Kukharenko, N. Sirotenko, S. Kalashnikov, V. Tikhomirov, R. Shalabanov; organizational and pedagogical foundations of information and communication education were studied by V. Oliynyk, N. Korsunskaya, and P. Talanchuk. The role and place of the World Wide Web in the modern society, psychological and pedagogical aspects and technologies of creating distance learning courses were investigated by V. Kukharenko, E. Rybalko, A. Petrenko.

Purpose of the article: to explore the genesis, development and the current state of information and communication models of education; to identify the main types of information and communication paradigms, to analyze their disadvantages and advantages, as well as the main principles; to describe discussion questions regarding the paradigm of information and communication education in general.

The methodological basis of the study is the historical-comparative method, methods of analysis and synthesis. We can also include systematic and synergistic approaches to theoretical and methodological tools.

III. RESEARCH RESULTS

The problems of education, its formation, as well as its present and future are quite relevant for historical and socio-cultural analyzes. After all, they, in their totality, reflected the intellectual horizon of a certain era and, to some extent, with varying degrees of expression, were part of the theoretical thinking structure of this period.

The modern stage of civilization progress of mankind is complex and contradictory. In its content, we can identify a number of new trends that interact with each other and accelerate the development, requiring constant search for a promising strategy for its progressive movement. Among these trends, as the most significant, the growing dominance of scientific, innovative and technological aspects should be highlighted. In such conditions, the value system forms the socio-cultural basis of society and, interacting with socio-economic, political and other spheres, declares modern trends, which clearly emerge against the background of social transformations, which express the main directions of of information civilization. Education is one of the leading values not only of the modern, but of the whole civilizational history of mankind. Therefore, interest in the study of its development, features of functioning is constantly increasing. The past century has been rich in ideas about the nature and content of modern models of education, which has led to a plurality of paradigms. We will consider the main of them in the historical context of the second half of the XX - beginning of the XXI century.

Sh. Amonashvili identifies humanistic and authoritarian-imperative educational models (Amonashvili, 1995). The latter is based on the classic didactic axioms, which offset the individuality through the subordination of the interests of the "student" to the will of the "teacher", thus alienating the former from participating in the process of obtaining their own education. However, there is a gap between the desire to "learn" and "to teach." After all, the determination of the process of knowledge transfer by software installations deprives the possibility of independent knowledge acquisition. As a result, the self-education of the individual, as a component of the educational process, is completely leveled in this paradigm.

The humanistic model, in contrast, is personally oriented and reflects the unity of the process of learning and self-education. The substantiation of the necessity and essence of the humanistic educational paradigm is found in the works of V. Starzhinsky, who, exploring the process of humanization of modern engineering education, states that it creates a deficiency of the humanitarian culture, which leads to a further escalation of the spiritual crisis (Starzhinskiy,1992, 30).

The humanization of education today is a systemic problem, which should be recognized not only at the theoretical level, creating its conceptual model, but also at the level of constructive practical developments, which provide a system of normative knowledge, focused on different subjects of activity, namely: a teacher-subject as a representative of the general education system; a student-subject engaged in educational activities; a subject of management and design of educational systems (Starzhinskiy, 1992, p. 307).

Undoubtedly, humanization and humanitarization of education are important educational aspects, but they do not constitute an educational paradigm. For, humanization, as a component of education, was inherent in both Eastern traditionalism, Greek paideia, Renaissance education, the classical educational ideals of the period of capitalism, and modern education. With regard to humanitarization, it is of particular importance in the period of formation of the system of technical knowledge and qualitative changes in the content and structure of training courses, during the introduction of humanities in the curricula, the penetration of philosophical methodology in the structure of this knowledge. But humanitarization is not a paradigm, but only its component in the structure of education. The humanistic and humanitaristic components play an important role in the formation of an educated person, and today those must be based on the new methodological and philosophical attitudes.

The next educational model that has evolved at the end of the twentieth century is the cognitive and personality-educational paradigms proposed by E. Hamburg (Yamburg, 2000). The cognitive model of education is based on the intellectual development of the student's personality, the personal-educational model - on the emotional and social development of the individual. At the same time, according to the author, the combination of the proposed paradigms is an ideal dialectical interaction of both approaches.

Another approach is manifested in the ideas of I. Kolesnikov. The scientist claims that education can be implemented in three models: esoteric, scientific-technical and humanitarian.

The first paradigm is based on the process of knowing the truth through its perception by a "disciple" under the guidance of a "teacher". The scientific-technical model is based on the maximum ordering of the cognitive process and feedback, interactivity that provides the normative content of education. The humanitarian type is characterized by dialogue and is built on the involvement of the student in the independent search for the truth based on the communication of equal subjects of the educational process. This model assumes a dialogue of education in form and content. It is through dialogue that the unity of the heuristic reception of knowledge acquisition, their assimilation, as well as the process of communication of cultures (Western, Oriental, Ancient, Modern), and acculturation on the basic issues of life are revealed. Dialogue promotes creative thinking, generates interest in self-education.

These ideas are in line with the concept of the Dialogue of Cultures School. The authors of this philosophical and pedagogical model (V. Bibler, I. Berland, S. Kurganov) focus on education, oriented not just on an educated person, but on a person of culture – in a special way of understanding, artistic perception, moral consciousness, which meets the needs of the present. In this model, the ideas of art theorist M. Bakhtin about culture as a dialogue, the psychologist-humanist L. Vygotsky about the "inner language" and the position of V. Bibler's "philosophical logic of culture" are synthesized. The concept of the Dialogue of Cultures School is the central idea of the formation of "man of culture", where art, knowledge, morality are the result of "communication and dialogue of different understandings". Defining the orientation on culture as a direction in the development of education, representatives of the school of cultural dialogue consider the formation of a new "image of a person" in a culture that will be able to work with knowledge, with different types of thinking, with ideas of different cultures. Analyzing the principles of organization of these educational models, they can be divided into two groups: traditional and innovative. Traditional paradigms reflect the specifics of educational development as a socio-cultural process; they are related to humanization, humanization and informatization of education, reflect the objective nature of the development of one of the directions of spiritual production. Innovative models are associated with the search for a new methodology of knowledge translation in the system of object-subject relations. If traditional types of education presuppose the separation of education from the other spheres of spiritual production, then innovative ones are based on the principles of interconnectedness and interdependence of the processes of material and spiritual production, continuity of the education system, and continuous coverage of the population by this system. Traditional technologies, as the main function of the education system, resolve the problem of acquiring subject competencies for orientation in life processes, affirmation of a certain worldview as a way of spiritual orientation of a person in the surrounding reality, a certain worldview. But this technology is discrete in nature.

If we examine the above models as an aspect of the only universal paradigm of the educational ideal of the second half of the XX - beginning of the XXI century, then we will get a holistic, system-organized paradigm based on innovative technologies. Innovative educational technologies involve not just preparation of a specialist for a certain type of activity, but his active integration into any sphere of public life (taking into account the differentiation of his interests, reflected in the profile of the chosen profession); continuity of the basic processes of life of the "student", constant connection with society, which is an important component of the formation of a modern personality - a representative of the information society. Today we have every reason to talk about the emergence of a single, universal, innovative, educational model based on technology. If by the nineteenth century social knowledge was dominated by the classical paradigm of education, which was based on the Greek paidea with the ever-expanding content of the educational process and the methodologies for the introduction of new forms of knowledge transfer, the development of technical sciences led to the development of a non-classical paradigm of education. Today, with the construction of the information society, with the rapid growth of information, with the widespread introduction into education of new technologies that transform the content of translated knowledge, and the methodology of their transfer, with the emergence of the new forms of education – distance, preventive learning, etc., we can state the formation of the new educational models – post-classical, information-communicational. Its genesis is connected with a new stage of information/computer-information production, which begins in the middle of the last century (it is appropriate to start periodization from the time of the formation of cybernetics as a science and the rapid development of the doctrine of information in the theory of communication, which laid the beginning of a new type civilization – information one). We agree with F. Fukuyama (Fukuyama, 2005, p. 237) that at the end of XX - beginning of XXI century there was a "information revolution" that had its own specificities and tasks. First, this stage is related to the study of the nature and nature of information; information in the system of subject-subject relations becomes a particular reality, a specific object of knowledge. Secondly, since the 1970s, along with the growing rapid development of informatization of all spheres of human activity, the process of explaining the "new" future of humanity begins, and the concepts of its essence in connection with the transition to the information society are offered. And already at the beginning of the third millennium, the social world has clearly established itself in its awareness of the need to move to a new state - to the information society. We agree with Moiseyev's opinion that the information society is really "on the threshold" of our history, and the nature of civilization of the future world depends on how people will be able to understand and interpret it.

We still have a lot to understand, but it can be said with certainty that the information society will not be able to establish itself by its own means, without the deliberate influence of society (Moiseyev, 2004, p. 428).

Indeed, humanity has entered a new phase of its development, the beginning of which is based on studies of the nature of information. The category of information is not only the one of the central in the theory of communication and cybernetics of N. Wiener (Viner, 1958) and K. Shannon (Shennon, 1963), but also in the whole system of modern scientific and theoretical knowledge.

The appeal to the term "information" is driven by the revolutionary influences of communication theory and cybernetics on the information production of the entire global community. Today, the information and computer revolution is steadily stepping on all the continents of the planet and requires the training of a new educated person capable of successfully solving the tasks of the civilization process; requires a new approach to the education system, its quality reform (Storozhenko, Petkun, 2020). The constant growth and development of scientific knowledge, the introduction of innovative forms in the methodology of education, the improvement of methods of knowledge transfer, the development of technical sciences and their close connection with practice are the logical foundations of transformational educational processes. These processes characterize the peculiarities of the paradigm of our time, as the initial conceptual scheme, models of problem formulation and their solution, research methods.

The information-communication model of the modern education is complex in content and reflects the commonality that today constitutes the core and the semantic core of education. By its definition, it already reflects the things, implied in modern education, namely, widespread introduction of information and communication technologies. Now, in the worldview of society, information and communication technologies dominate the system of humanitarian natural and scientific and technical knowledge, as the value, obligation and necessity of translating their principles and provisions are not questioned neither by state institutions, nor by those who is engaged in the preparation of the XXI century specialist.

In fact, at the beginning of the 21st century, a system of knowledge emerged, which should be seen as the cornerstone of the entire education system convergence.

Convergence of education on the basis of information and communication technologies requires conceptual understanding of its infrastructure and semantic accents, formation of its strategic tasks in the language of scientific interpretation of the meaning and goals of the educational process. The following can be distinguished as historical and strategic tasks of the process of this educational paradigm.

The new understanding of bifurcation states in the development of the educational process. In this case, bifurcation should be understood as the creation of curricula with a significant percentage of the disciplines of the information and communication cycle, on the one hand, and the expanded curriculum of the institution, on the other. This allows during the preparation of specialist of any specialty broadly use the latest technological advances needed in the modern world, the introduction of which helps to identify promising directions for the development of theory and practice in the educational process.

In the social sciences, especially in philosophy and pedagogy, opportunities have emerged to develop the new forms of learning based on the ideas of rationality (we understand rationality as improving the quality of learning by expanding best practices), informatization, democratization, humanization and humanitarization.

Infocommunication technologies make it possible to convert the educational process as a school of dialogue between material and spiritual cultures, having as its central idea – formation of a high culture specialis.

On the other hand, the introduction of infocommunication accelerates the creation of a modern unified information space, provides access of the representatives of the different specialties to the information resources of civilization, leading to continuous improvement of the specialists training process and consideration of the achievements of civilization in the field of education and the transition to the new model – infocommunication one. This transition is widely facilitated by the convergence of education, when the training of specialists is formed on the basis of the maximum streamlining of the cognitive process, taking into account feedback. Success in the development of education is linked to the fundamentally new principles of interaction in its infrastructure, which are developed on the basis of infocommunication technologies and serve as a methodological basis for the implementation of these technologies in the educational process.

In addition, the convergence of modern education based on infocommunication technologies today requires a new understanding of the classification of sciences. In the twentieth century, academician B. Kedrov (Kedrov, 1985, p. 119) developed a fundamental classification of the sciences, which have no longer had a formal and logical character as the previous ones. It clearly and consistently revealed the place of social, natural and technical sciences in the general process of cognition, but the determining discipline was philosophy as the methodological basis of all sciences. Of course, to B. Kedrov and other scientists in the 50-60's of the twentieth century, in the era of cybernetics and communication theory, such a branch as information and communication technology was difficult to identify and to predict the rapid development of computer networks, which became not only the core of the convergence of sciences, but also the basis for the development of all the connections of the world community. Today, the classification of the sciences as the foundation of its existence and development relies on information, so its structural organization is closely linked to information and communication technologies as well as information science. This interconnection of sciences is possible thanks to information and communication technologies, which today have both subject matter and research methodology. At the same time, they rely heavily on philosophy as the basic methodological discipline of scientific knowledge, which, in turn, allows them to become the dominant substantive component of modern scientific knowledge.

In addition, the development of information and communication technologies accelerates the process of enriching education with new skills in the field of information processing and transfer, using it as a leading strategic resource in the training of specialists in various industries, as an active means of implementing a system of distance e-learning based on interactivity.

It should be noted that the information and communication model of education today is based on the widespread use of the Internet, which allows not only to receive the latest information on the development of scientific knowledge, but also to expand interdisciplinary links, to disclose the general and special content of them, as well as to use the Internet as an innovative information technology.

The new information and communication type of education meets the requirements of the current level of specialist training. Continuous growth and development of scientific knowledge, introduction of the new forms in the methodology of education, improvement of methods of knowledge transfer and other components, actively used in the educational process of the beginning of the XXI century, are logical grounds for the modernization of modern education. These are the processes, which characterize the development of education as the initial conceptual model of its new relationship with spiritual culture.

However, it should be noted that this new conceptual model views education as a component of human culture. Through the lens of personality, new boundaries of their interconnection are illuminated. Without the transmission of samples of culture to the next generations, ways of human interaction with the outside world, one can hardly imagine human life and the progressive development of society as a whole. Education acts as an integrating element of all branches of spiritual production ... it is, on the one hand, the mean of broadcasting culture, and on the other, contributing to the formation of a new culture by itself (Matyash, 2006, p. 239). In this regard, it is necessary to form a new methodological culture. Today, in an exponential growth of information, this aspect is being determined. This is due to the need for constant updating of personal competences and acquiring new ones, in order for the specialist to meet the requirements of contemporary society. Therefore, the formation of new education technologies based on information and communication technologies, focused primarily on the personal development of a specialist, is needed. The task of these technologies is to create a situation for the scientific search of a future specialist, to form in him a non-standard type of thinking, to develop the capacity for scientific reflection.

As a result, there is a need to formulate a new concept of methodological culture (a measure of the ideal mediation of the expedient activity of the subject), which is reflected in the system of historical, philosophical, cultural, scientific and technical means of cognition, and on this basis - the transformation of reality.

Formation of methodological culture involves the cultivation of the methodological thought of the discipline, which is developed through the theoretical understanding of the laws of logic of thinking and their application in practice. On its basis the ability of independent and logically coherent thinking, research skills is formed, approaches to the solution of the set tasks are determined; there is a clear outlook position; being an essential component of intellectual culture as a whole, methodological culture determines the action of the subject, the system of his spiritual values.

With the development of information and communication technologies in the methodological culture appears a new mode of its existence – information one. Therefore, the information culture resolves a complex of problems related to the search and production of information, its accumulation, processing, storage, transfer, transformation and practical use. However, in our opinion, the main issue remains – the process of education of the information culture of the subject, which is primarily based on his information needs.

By information culture we mean the unity of the ways, conditions of information activity of the subject aimed at setting or solving the new research tasks, and the presence of competencies that help the subject in the work with information. Today, information culture is an essential component of a specialist's intellectual culture. It largely contributes to the reorganization of the formed style of thinking and determines the actions of the subject, his worldview, value system, socialize him.

Information culture, depending on the degree of its development in a particular subject, reflects its information needs, significantly influences the choice of means of its implementation, the pace of problem solving, reduces the degree of unjustified risk. The new information culture is manifested in information interaction that is inherent in any kind of activity. Through information interaction we understand, first of all, the exchange of social information between the subjects - the main participants in the social activity system. In real interaction, there is a direct and feedback information link, providing for the development of the new forms of communication, deepening of personal and professional connections via the Internet, fax, e-mail, and provides communication in a dialogue mode, without the obligatory personal presence.

However, successful exchange of information between participants of information interaction is possible only if they have a developed information culture and information needs. An information need can be defined as a dialectical attitude of a subject to one of the most important factors of his activity - to the social information shaped by the need for a certain amount of information, as a set of messages and information about the properties of a particular aspect of reality.

Generated by information need and activity information culture, in turn, is a prerequisite for realization of information need in the activity of the subject.

The complex interrelation of information culture and information need, revelation of the specific mechanism of their interdependence require research from the complex sciences: informatics, history, philosophy, psychology, sociology and a number of technical sciences.

The culture of communication of the early 21st century has led to the emergence of the new forms of personal communication and professional communication through email, social networks,

the Internet, cellular communication and more. Such forms (without the personal presence of their participants, but in the mode of dialogue) are now actively used during conferences, briefings, roundtables, social surveys, various PR-events, communication of authorities and population management, etc.

Modern information culture, on the one hand, shapes, levels, modernizes the ways of defining the knowledge produced by science in specific educational forms - reveals the content of the educational act as a tangible form of social relations (this, of course, includes education); it is not just a translation/transfer of knowledge, it is an objectification of the reality that reflects the objective content of knowledge.

On the other hand, educational infoculture, on the basis of acquired objective competences, forms a new intersubjective world of man - education appears in the context of culture as a special world of man and society being.

The development of a methodological information culture through the education system requires consistent implementation of a set of measures that make up the content of the information process. Given the dynamics of this process and the possibility of filling it with real content, taking into account the specific historical features of the development of society, we can agree with the definition of informatization, proposed by Belarusian scientists (A. Lazarevich, A. Khankevich, D. Shirokanov), who under the term "informatization" consider a system-activity process aimed at mastering the information-intellectual resource in a broad sense. According to researchers, computerization involves development and implementation of the new technologies, systems of accumulation and transfer of data that ensure the full and timely use of information and knowledge in various fields of social activity (Lazarevich, 2006, p. 5).

The cultural and historical dynamics of the process of informatization reveals its influence on culture. In essence, it is an ambiguous process with respect to trends of development, delineation of periodization and functioning of informatization in world information cultures. It is now, when an intense interaction of cultures occurs, and for the first time since the formation of nations, nation-states and national consciousness, national cultures are under tremendous pressure from the global information culture. Therefore, for each country, it is an important task to develop innovative information resources that would minimally influence national issues and ensure stability in the perception of information.

Of course, in the 21st century, there is a number of technological prerequisites for the constant interaction of information cultures, so it is difficult for the state to control or isolate its population from various information influences. On the one hand, it is a positive process that contributes to the optimal development of the information culture. On the other hand, global IT culture leads to cultural unification, being dangerous due to possibility of disappearance of certain cultural forms inherent in small ethnic groups. These are the negative effects of the unification of culture, since a single global technological common standard is being built. Consequently, mobilization legislation has been emerged in many countries, where mobilization processes, together with information processes, cover all areas of social activity. The former – mobilize the potential of society, the latter – develop its innovative side.

IV. CONCLUSION

Thus, the cultural dynamics of the modern society urgently requires a radical restructuring of the education system, its correlation with the needs of the new information age. These requirements prove the need for a global modernization of the education system, which today, as a mode of spiritual culture, does not meet the requirements of the established new information order in which education is of determinative importance.

The cultural and historical dynamics of educational development reflects the processes of modernization and the peculiarities of each cultural era. And today it expresses those revolutionary global transformations that serve as objective conditions for the formation of a new information civilization, at the core of which are the cultural values such as education and informatization of society.

REFERENCES

1. Amonashvili, Sh. (1995). Dukhovnaya osnova obrazovaniya [The spiritual basis of education]. Moskva : Izdatel'skiy Dom Shalvy Amonashvili, 496 p. [in Russian].
2. Fukuyama, F. (2005). Konets istorii i posledniy chelovek [The End of History and the Last Man]. Moskva : AST Yermak, 588 p. [in Russian].
3. Kedrov, B.M. (1985). Klassifikatsiya nauk: prognoz K. Marksa o nauke budushchego [Classification of Sciences: K. Marx's forecast about the science of the future]. Moskva : Mysl', 543 p. [in Russian].
4. Lazarevich, A.A., Khankevich, A.V. (2006). Gryadushcheye informatsionnoye obshchestvo [The Future Information Society]. Minsk : Belorusskaya nauka, 392 p. [in Russian].
5. Matyash, T.P. (2006). Philosofiya nauki [Philosophy of Science]. Rostov-na-Donu : Feniks, 496 p. [in Russian].
6. Moiseyev, N.N. (2004). Informatsionnoye obshchestvo [Information Society]. Moskva : AST, 507 p. [in Russian].
7. Shennon, K. (1963). Raboty po teorii informatsii i kibernetike [Works on information theory and cybernetics]. Moskva : Izd. inostr. lit., 830 p. [in Russian].
8. Starzhinskiy, V.P. (1992). Novoye myshleniye i problemy prepodavaniya sotsial'no-gumanitarnykh nauk [New thinking and problems of teaching the social sciences and humanities.]. Minsk : MVIZRU PVO, 438 p. [in Russian].
9. Storozhenko L. Petkun S. (2019). Electronic Communications as an Element of Management. International Journal of Innovative Technology and Exploring Engineering (IJITEE). Volume-8 Issue-11, September 2019, P. 459-466 [in English]. URL: https://www.ijitee.org/wp-content/uploads/papers/v8i11/K14010981119.pdf.
10. Viner, N. (1958). Kibernetika i obshchestvo [Cybernetics and Society]. Moskva: Izdatel'stvo inostrannoy literatury, 200 p. [in Russian].
11. Yamburg, Ye.A. (2000). Shkola na puti k svobode: kul'turno-istoricheskiye pedagogiki [School on the way to freedom: cultural and historical pedagogy]. Moskva : «PERSE», 351 p. [in Russian].

AUTHORS PROFILE

Lina Storozhenko, PhD in Philology, Associate Professor of the Department of Documentation and Information Activities of the State University of Telecommunications. Sphere of scientific interests: modern communication systems, communication education, information technologies.

Oksana Sheremeta, PhD in History, Associate Professor of the Department of Documentation and Information Activity, State University of Telecommunications. Sphere of scientific interests: modern communication systems, state e-government, information technologies, history of communications.

Svitlana Petkun, PhD in Philosophy, Head of the Department of Documentation and Information Activities of the State University of Telecommunications. Sphere of scientific interest: document science, state e-government, communication systems.

Inna Vanovska, PhD in History, Associate Professor Leading researcher Linguistic Research Boardt of the Military Institute of Taras Shevchenko National University of Kyiv. Sphere of scientific interest: modern communication, document science, communication systems.