Chernyakova Zh.Yu., Chistyakova I.A.
Activization of the development of network technologies in the context of internationalization of the European educational space of higher education

Chernyakova Zh.Yu., PhD, Associate Professor
Chistyakova I.A., PhD, Associate Professor
Sumy State Pedagogical University named after A.S. Makarenko, Sumy, Ukraine

Abstract. The article is devoted to the development of network technologies in the context of internationalization of the European educational space of higher education. The authors define the essence and the key characteristics of the concepts «networking», «network technologies», «internationalization», «European educational space». The key features of the internationalization are depicted (they are an international character that can interpret the phenomenon under study as introducing an international dimension in the curriculum and the unification of educational content internationally). The main means of internationalization of educational space (networking, network technologies) are defined by the authors.

Keywords: network technologies, innovative educational networks, internationalization, internationalization of European educational space, higher education

Introduction. Ukraine's entry into the world and European educational space leads to a qualitative transformation of education in line with trends in the international development. The main priority of the outlined changes is internationalization phenomenon that has gained rapid spread in the developed European countries.

The main focus priority of the development of the higher education system of Ukraine at the present stage is the improvement of its quality. To achieve this goal we should update the content of education, the forms and methods of organization of the educational process, improvement of monitoring of its results. However, the domestic educational theorists and practitioners recognize the insufficient level of cooperation of the teachers, the scholars, the education managers in the process of innovative search and diffusion of innovation.

A feasibility of learning of innovative activity of educational networks in the context of internationalization of educational space is determined by the need to overcome a number of contradictions in the development of national education due higher education:

– between the increasing demands of modern society to the quality of educational services and the insufficient level of preparedness of the higher education to satisfy them;
– between the need for development of innovative potential of the universities and the lack of state and public support of innovative search teachers;
– between growing innovation potential of Ukrainian teachers and the insufficient level of their willingness to cooperate with colleagues in the development and dissemination of innovative experience of professional activity.

The analysis of current research. The problem of theoretical understanding of international experience is relevant to the internationalization of domestic scientific space. Great contribution to the development of this problem has been done by the Ukrainian researchers such as N. Avshenyuk, N. Borisov, B. God, T. Desiatov, E. Lokshina, O. Matvienko, O. Ovcharuk, A. Sbruyeva and others.

The foreign researchers H. van Alston, P. Wohlstetter, D. Jackson, A. Lieberman, D. Reynolds, D. Hargreaves, D. Hopkins, J. Chapman have made a significant contribution to the research activities of innovative school networks in the developed countries. The certain aspects of innovative educational activity networks are presented in the scientific works of Ukrainian researchers such as M. Boichenko, A. Sbruieva and others. Internationalization of education is a priority vector of current education policies in Europe and the world.

The essential characteristics of the internationalization are discussed in the works of international comparativists such as Ph. Altbah, S. Arum, J. Van de Vater, M. van der Vende, H. de Vit, B. J. Ellinhgbo, J. Edwards, S. B. Klesek, R. Lembert, J. Mestenhauzer, M. Harari, E. Tonkin, D. Trosbi and others.

Spread of the process of internationalization of education at all levels of the educational space needs studying the works of the foreign authors, who discovered and characterized the educational space from the position of multidimensionality (M. Brown, T. Varner, J. Dickson, E. Kattier, G. Christoph, N. Lee, H. Neve, L. Walsh and others).

The aim of the study is to analyze the international experience of the development of network technologies, to determine the key characteristics of the process of internationalization the European educational space and to define the main means of internationalization (network technologies).

The main material. The national theory of the internationalization positions the phenomenon with integration in the European and world community market mechanisms, modernization of the content and organizational methods component of the educational process. A key feature of the internationalization is recognized: an international character that can interpret the phenomenon under study as introducing an international dimension in the curriculum of the University (O. Ovcharuk); as the unification of educational content internationally (I. Kalenyuk, A. Gaunt); as the process of implementing the international dimension meaning, purpose, function and educational services of the institution (N.Avshenyuk); as a comprehensive integration of the content, goals and priorities of the institution (G. Poberezka).

A holistic view of the studied phenomenon is presented in the works of N. Avshenyuk and O. Matvienko, who have characterized the spatial field of internationalization of education. Thus, N. Avshenyuk emphasizes that internationalization covers the national and institutional levels. O. Matvienko extends the frames of internationalization of education. It is the first time in science when the term «internationalization of educational space» is used.

In solving the research problems the scientists have defined the key characteristics of educational space, educational reality, which is the balance of cultural and civilizational and expressed through symbolic learning environment (A. Leonov); a structural coexistence and interaction of all possible educational systems, their components, educational events (A. Veryayev, I. Shalaev), an ordered structure, which expresses a relationship between the objects of educational activities (A. Tsymbalar); a set of social relations, educational theories and institutions that determine the development of education and people's attitudes to education (Yu. Shabalin), a set of elements of

a complex system of social relations educational institution and the result of constructive activities (I. Shendrik).

The study has found that the structure of educational space is disclosed in the works of A. Tsymbalar through a set of different levels: global, European, regional, institutional (local).

The detailed analysis of the levels of educational space have been made by B. Hinetsynsky, B. Vulfson, Z. Batyukova, A. Liferov (global educational space), O. Matvienko (European educational space), V. Kremen (national educational space), M. Kornyushkin, A. Novikov (regional educational space), V. Slobodchikov, V. Stepanov (local educational space).

Understanding the key features of the world educational space has revealed that internationalization is a major condition and a means of the development. The generalized views are based on a scientific vision of the world educational space as a combination of all education and educational institutions, scientific and educational centres, public education and public organizations in different countries, geopolitical regions and globally, and their mutual interactions in intensive internationalization of various spheres of social life in modern world (B. Vulfson); a set of common (global) elements of the content, teaching methods and tools specific to the international community as a whole, the transfer of scientific and cultural experience of previous generations younger generation (S. Batyukova); an interaction zone of national educational systems and their components (A. Liferov); as a product of educational thought developing (M. Leshchenko).

Considerable interest for our study are the works of O. Matvienko, which reflected the basic principles of the analysis of formation of the European educational space. O. Matvienko has noted that the formation of European educational space and its development is based on the basic principles of the EU member countries (multicultural Europe, mobile Europe, Europe training for all skill Europe - improving the quality of basic education, Europe, which is open to the world, creating a common European home, based on knowledge of European values, spiritual roots and cultural heritage of Europe) [2].

The strategic objectives of the formation of European educational space (to identify priority areas of European education, implementation of educational innovation, conservation of European cultural heritage, strengthening European system of values in educational activities) are analyzed and presented in the works of N. Lavrychenko [1].

The comparative analysis of the scientific papers allow foreign researchers to find that the internationalization of education is the integration of the international dimension in teaching and learning, research, social services institution (J. Knight, J. de Wit) [7]; develop educational strategies of education aimed at building global thinking with international perspectives (B. Bjorn) [5].

The priorities of the internationalization of European educational space is the creation of a single European education policy, the introduction of the European dimension of education, the intensification of integration processes in education, the development of network technologies. In this context, the outlined aspects of internationalization of European educational space include further development of academic mobility, international educational cooperation, European policy-making, multilingualism.

The main means of internationalization of educational space are the international programs and projects, infor-mation and communication technology, international educational network, internationalized curriculum.

The process of internationalization of European educational space encourages the countries to fruitful communication convergence of national cultures, traditions and diversity of world, understanding and respect for other nations. The instruments of such cooperation are the common European programs, projects that cover higher education.

A wide variety of modern international educational programs (global, European, national, regional) aimed at internationalization of educational space, forming intercultural and language competences, citizenship, national identity and consciousness, understanding and respect for different cultures and nations in the modern globalized society.

It is important to note that the effectiveness of educational space depends on the use of information and communication technologies. We agree with the opinion of A. Appadurayi that modern education is beyond the classroom and takes on new forms, distance learning, open and independent learning, online training, computer training and multimedia. Thus, the emergence of global media network information industry provides vast information flows and cultural imagination that define traditional boundaries [3].

The networking is the particular important thing in the process of innovative development of education for successful achievement of the University objectives. H. van Aalst argues that the concept «networking» means «systematic development (management) of internal and external relations (communication, interaction, coordination) between people, groups or organizations («nodes») for the purpose of improving the results of activity» [11, p. 34].

A synthesis of different approaches to the definition of the investigated concepts has allowed us to conclude that the network is a non-hierarchical structural control unit which is composed of a group of organizations. These organizations are united by the horizontal connections and are aimed at developing an innovative product; it is based on ideological unity agents. So, the network is not only a common inter-organizational association but the specific institutional forms of organization of interaction between different institutions for the purpose of creation, dissemination and use of new technologies and knowledge.

Educational networks in English-speaking sources on the theory of education is considered as a powerful impetus to innovative development of the educational system. In his work P. Delin describes such structures as «temporary social network where individuals can obtain maximum information with minimal effort» [8, p. 52]. In the early 90-ies of the XX century J. Lave and E. Wenger investigated the networking. They define innovative educational networks as ways of developing social capital and the creation of new knowledge, stimulating innovation, or sharing of tacit knowledge existing within the organization [6, p. 51]. According to E. Wenger, a network is a group of individuals who constantly carry out some activities through positive contribution to practice their own communities [12]. In «Enabling Knowledge Creation» G. Krough notes that a critical factor in the creation and use of new knowledge is the exchange of information in the network. The organization generates new knowledge only by expanding the opportunities for the exchange and transformation of knowledge of its members [8]. L. Resnick and J. Spillane propose the creation of organizational structures that could create optimal conditions for professional learning. Such structures can be educational network [10].

OECD experts have identified innovative educational networks as social structures that meet the society's requirements on quality, focus and concentration on results. Innovative educational networks contribute to the development and dissemination of progressive practice; enhance the professional development of the teachers [9, p. 54].

We interpret innovative educational networks as organizational structures that represent a set of educational institutions, which are united by a common innovative idea and activity that is aimed at improving the efficiency of educational process and quality of outcome, management, and dissemination of innovative experiences within the network of educational institutions and beyond.

We should notice that networks provide a new design for the expansion of educational space and a new means to achieve changes in the educational system. In addition, innovative educational networks provide the intensification of the process of cultural change in the educational space. It is necessary to combine horizontal and vertical educational structure for improving the quality of the educational system. Networks may be one way of achieving such links.

The famous British theorist of education and researcher process of school networking T. Bentley notes that changes must occur through the formation and fostering innovation within the educational system, as well as through the creation of an infrastructure capable of spreading ideas, knowledge and new methods. And the network technologies can be this infrastructure transformation of the educational system [4, p. 3]. Therefore, in higher education there is a need for the use of network technology to develop their innovative potential that is realized in the conditions of innovative education networks, including the University.

Network technology combines the methods, techniques, tools, information and technological support of the education process and is aimed at improving and enhancing the quality and effectiveness of educational achievements of the students of the universities, which are based on the idea of collaboration and cooperation.

Network technology should be viewed as an executive system, new organizational forms for higher education institutions not only in the dissemination of experience, but also in helping them to develop partnerships that lead to quality practice. It is important to understand the fact that network technologies do not only facilitate the process of creating and disseminating innovations, but also facilitate an innovation in them.

The idea of networking of higher education institutions in Europe was discussed on the pages framework of the EEC, founded in 1980, in the context of the development of European policy in the sphere of scientific research. So we can say that the scientific world focuses on networking of higher education through the introduction of tools such as networks of excellence and integrated projects. To sum it up we should stress that as a result network collaboration is not only productive activity, but also establishes a long-term process of communication between the participants. The systematic use of all network capabilities ensures the accumulation of the necessary information needed in order to remain at the level of modern requirements.

The conclusions. Thus, networks have significant advantages over traditional hierarchical structures because they are more mobile and adaptive, aim at internationalization of educational space. Therefore, the main objectives of creating a University network is to allow for a constant exchange of ideas and interaction of educational innovators, practitioners and theorists with the aim of improving the work of each institution of education in the network.

This article does not cover all aspects of the problem. Further study deserves generalization of the perspective of foreign pedagogical experience of teacher training to the professional activity in university networks; the development of mechanisms for involving civil society organizations and local educational administration in cooperation with higher education institutions in the context of internationalization of European educational space.

REFERENCES (TRANSLATED AND TRANSLITERATED)

1. Lavrychenko N. Information and communication technologies in school education UK / N. Lavrychenko // Informatika ta informatsini technologii v navchalnukh zakladakh. – 2007. – № 5. – P. 33-40.
2. Matvienko O.V. Strategy of secondary education in the European Union : Monographiya / O.V. Matvienko. – K: Lenvit, 2005. – 381 p.
3. Appadurai A. Modernity at Large : Cultural Dimensions of Globalization / A. Appadurai // University of Minnesota Press, 1996. – Vol. 1. – P. 34–56.
4. Bentley T. Developing a network perspective / WALWA / Establishing a networks of schools / T. Bentley, D. Hopkins, D. Jackson. – Networked Learning Communities, 2005. – 12 p.
5. Burn B.B. Expanding the International Dimension of Higher Education / B. B. Burn. – San Francisco : Jossey-Bass, 1980. – 56 p.
6. Lave J. Situated Learning : Legitimate Peripheral Participation / J. Lave, E. Wenger. – New York : Cambridge University Press, 1991. – 141 p.
7. Knight J. Internationalisation of Higher Education in Asia Pacific Countries, European Association for International Education / J. Knight, H. de Wit. – Amsterdam, 1997. – P. 11.
8. Krough G. Enabling Knowledge Creation / G. Krogh, I. Nonaka. – Oxford : Oxford University Press, 2006. – 302 p.
9. OECD. Networks of Innovation: Towards new model of managing schools and systems. – Paris : OECD Publications, 2003 (b). – 182 p.
10. Resnick L.B. From individual learning to organizational designs for learning / L.B. Resnick, J.P. Spillane // Instructional Psychology: past, present and future trends. Sixteen essays in honour of Erik De Corte [ed. L. Verschaffel, F. Dochy, M. Boekaerts, S. Vosniadou (eds.)]. – Oxford : Pergamon, 2006. – P. 259–276.
11. Van Aalst H.F. Networking in society, organizations and education / H.F. Van Aalst // Networks of Innovation. – Paris : OECD Publications, 2003. – P. 33–40.
12. Wenger E. Communities of Practice: learning meaning and identity / E. Wenger. – New York : Cambridge University Press, 1998. – 318 p.

Чернякова Ж.Ю., Чистякова И.А. Активизация развития сетевых технологий в контексте интернационализации европейского образовательного пространства высшего образования

Аннотация. Статья посвящена развитию сетевых технологий в контексте интернационализации европейского образовательного пространства высшего образования. Авторы определяют сущность и основные характеристики понятия «сеть», «сетевые технологии», «интернационализация», «европейское образовательное пространство». Ключевые особенности интернационализации выделены (международный характер, что может интерпретировать изучаемое явление, как введение международного аспекта в учебный план и объединение содержания образования на международном уровне). Основные средства интернационализации образовательного пространства (сети, сетевые технологии) определяются авторами.

Ключевые слова: сетевые технологии, инновационные образовательные сети, интернационализация, интернационализация европейского образовательного пространства, высшее образование