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NETWORK EDUCATION AS A SYSTEM AND PROCESS

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Abstract

The network society, as a new reality, changing the daily life of a person, transforming his consciousness, causes the need for cardinal changes in all spheres of human activity. This article examines the trends in the transformation of modern higher education under the influence of information technologies, which is now very actual issue of investigations. The purpose of this descriptive research study is to analyze the concept of the network education, overview the approaches towards the essence of the lingua-information network education as a system and as a process. An attempt is made to describe the system-administrative and process-methodological approaches to the definition of the concept of networked education. It gives the definition of lingua-information network education. The features of the transformation of the essence of higher education as a system and as a process are revealed. It presents the description of the principles the modern lingua-information network education is based on.

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1. Introduction

Throughout history, the goals and content of higher education are determined on the basis of the needs of the state and society. The third millennium society is a society of rapidly renewing technologies, expansion of international contacts, overcoming of space-time boundaries. The scholars call it in different ways: post-industrial, informational or network society. A network society in the general sense is a society in which a significant part of information interactions are produced on the basis of electronic networks. It is a society where the information and networking are the central concepts, which influence all other facets of life. The network society, as a new reality, changing the daily life of a person, transforming his consciousness, causes the need for cardinal changes in all spheres of human activity, one of which is education. As so, the purpose of investigating the foundations of the network theory in education is becoming an actual issue of studying.

2. Problem Statement

It is obvious that as a result of social transformation the higher education all of the world is experiencing an era of significant changes, changes of some fundamental principles under the influence of information technologies. One can observe the following tendencies.

On the one hand, the modern system of higher education in its general sense tends to decentralization: losing the features of hierarchy, linearity, the system of vertical links, it is turning into an educational network.

On the other hand, the system of higher education needs to be transformed, to become more open and dynamic, horizontally organized. Modern universities should adapt to the ideas of organizing the educational process following the principles of educational networks. For that purpose the educational process should be built on the new principles, which are in line with the ideas of the networking. At the same time, there can be seen a great lack of researches and methodological experience in the issue of analyzing, investigating, describing a network education, as a new already existing phenomenon.

In response to this problem, our study proposes to investigate the concept of a network education as a system and process and to set and describe its principles.

3. Research Questions

This research attempts to answer the following research questions:

1. What is understood under the term “network education”?
2. What is the network lingua-informational network education as a system?
3. What is the network lingua-informational network education as a process?
4. What are the basic principles of the process of lingua-information network education?

4. Purpose of the Study

The purpose of this descriptive research study is to analyze the concept of the network education, overview the approaches towards the essence of the network education as a system and as a process, describe the principles of lingua-information network education.

5. Research Methods

As the purpose of our research was to to analyze the concept of the network education, overview the approaches towards the essence of the network education as a system and as a process, describe the principles of network education, the main scientific method on which we based this research was the literature reviews. It helped us to observe the current approaches to the problem of investigation, to reveal the gaps in the research literature on the studied issue, to contextualize the current research, in line with best national and international practices.

Besides, our theoretical investigations were supported with the results of the methods of observation and evaluation of frequency and character of usage of MOOCs, learning management systems, Internet resources, web sites and other ICTs in the process of professional education in Russia.

6. Findings

The term "education" entered the scientific discourse in the XVIII century. At the end of the XIX century, after I.G. Pestalozzi's researches on education, the scientific world started to understand the term "education" as the formation of a spiritual or bodily image of a person. Through the course of time the concept of "education" has become multivalued. Nowadays, there exist three approaches to understanding the concept of education. The modern leading scientists view education as a system, as a specially organized process, and as a definite result of a learner's activity. For example, P.I. Pidkasisty describes education from two positions: education as a goal and as the content of the pedagogical process (Pidkasisty, Mizherikov, & Yusefavichus, 2014). B.S. Gershunskyi argues that, "in the most general form, education can and should be considered in the following four aspects: 1) education as a value; 2) education as a system; 3) education as a process; 4) education as a result " (Gershunskyi, 1998, p. 173).

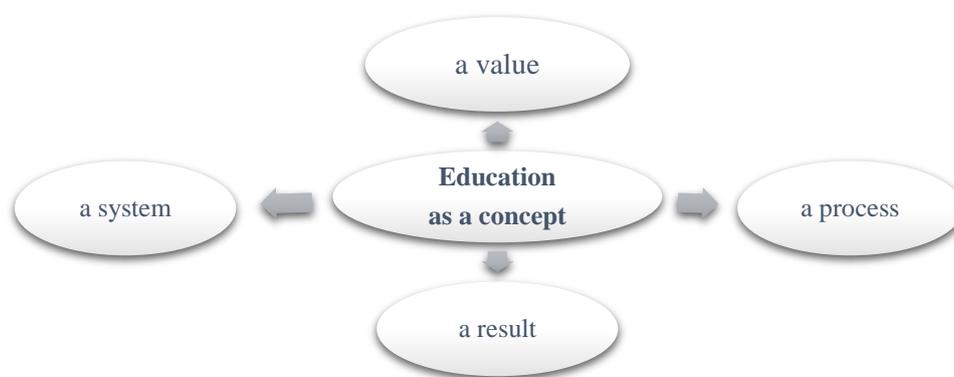


Figure 01. The modern approaches to the concept of education.

At the same time, analyzing and reviewing the scientific literature, we can see that at the moment the most widely used and discussed term is the term "network education". In some resources this term is even used as a synonym for the term "higher education", but only in two senses: networked education as a process and networked education as a system.

The fact of appearance in the language of a new term, a neologism "network education", reflects the need to designate a new social phenomenon, which modern sociologists call "the society network structures". The main tendencies of the network society, society based on information as the basic value, are: the weakening of vertical, hierarchical social systems, the actualization of such phenomena as a "horizontal career" or "career in breadth", the prevalence of self-organization and mutual control, etc. In this connection, the university's position, as an institutional embodiment of higher education, is weakening and according to Barber, "the classical education system is changing, losing the features of hierarchy, linearity, centralization, the system of vertical ties" (Barber, Donnelly, & Rizvi, 2013, p. 43). So, these trends of social development become the pre-requirements for transformation of modern classical higher education into network education. Having analyzed the scientific literature, we can view two main approaches to understanding of the phenomenon of network education. They are: system-administrative and process-methodological.

From a legal point of view, these social trends are supported at the state level in Russian education. For example, Article 15 of the Federal Law "On Education in the Russian Federation" refers to the network form of implementing educational programs, and even more, the Law defines the concept of an "educational network", which is "an institutional configuration, which is of interest to learners of the networked educational program" (The federal law of the Russian Federation "On education in the ..., 2012). From the point of view of organizational and administrative approach, the educational network is understood as an environment in which any educational institution can interact with any educational and other institution or teacher on issues of coworking: the exchange of ideas, the creation of a new intellectual product, etc. In this case, we understand networked education as a system. And in this case, networked education is network, the nodes of which are faculties, institutes and entire universities, i.e. educational institutions. This approach to understanding network education can be called system-administrative, since it develops theoretical foundations (principles, methods, features) of interaction between institutional organizations in the field of education. Within the framework of this approach, not only the terms "network education", "network forms of educational programs", "network educational programs" become functional, but also "network interaction".

Networking is the term that defines the essence of network education from a procedural point of view. In this connection, P.I. Pidkasisty writes, "education is associated with the process, i.e. the replacement of one state by another, the movement from the aims of education to its results through the pedagogical interaction of its immediate participants" (Pidkasisty, et al. 2014, p. 87). So, he develops the procedural aspect of network education through the concept of "pedagogical process". And B.T. Likhachev, in turn, defines the pedagogical process as "a purposeful meaningfully saturated and organizationally formed interaction of the pedagogical activity of adults and the self-development of the child in active life activities under the leading and guiding role of educators" (Likhachev, 2001, p. 211).

That is, network education as a process is the interaction of the participants of the network interaction. But if the education is treated as a process, then its participants, which are nodes of the educational network, in this case will

not be faculties and institutions, but individuals or groups of individuals, and the network itself will be formed by the ways of their network interaction. This approach to understanding of the educational network and network interaction can be called process-methodological. Comprehension and description of network education from the point of view of the process-methodological approach is one of the most topical areas of the modern methodology of higher education. It can enrich the modern theory of teaching with new methods, forms and means, which will subsequently provide higher education with new effective mechanisms and technologies. In this sense, there seem to be very reasonable the words of V.P. Shestak, E.B. Vesna, V.N. Platonov "network education is associated with other content and organization, other methodological and personnel support for the entire educational infrastructure. Actually, we are talking about a qualitatively new "network pedagogy," which has not been practically developed and investigated at the moment " (Shestak, Vesna, & Platonov, 2013, p. 140).

Considering the network education from the process-methodological approach as pedagogical interaction, we note that the emergence of an educational network, which nodes are individuals directly involved in the network interaction for which education will be the result and value, is possible only if certain conditions are set. These conditions will be the language community of the subjects of interaction, as well as information support for the process of network interaction.

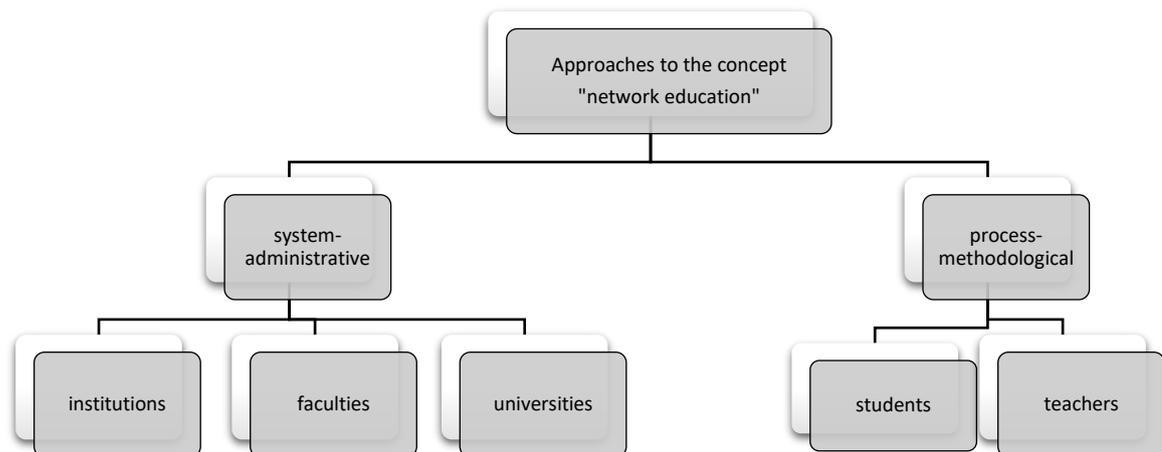


Figure 02. The modern approaches to the concept of network education.

Having presented the main approaches to the concept of the network education, the logic of our research leads us to the presentation of its principles.

The point of our precise attention here is the definition of the pedagogical interaction by N.L. Moscovskaya who sees educational interaction as "an open type system consisting of elements, linked by a structure, where educational events are subordinated to a single goal, represented in the form of a specialist model reflected by all participants of the pedagogical process, and the principles of integration and communicativeness are the basic principles" (Moscovskaya, Masyukova, 2016, 171). At the same time, V.P. Shestak, E.B. Vesna, V.N. Platonov say that, "network education should not be fully associated with the use of an Internet" and further "although information-communication technologies, apparently, will become its natural element" (Shestak, et al. 2013, p. 137). Thus, since the factors that make the implementation of a network education possible, are the availability of information support for network interaction, as well as lingua franca (common language for participants of network interaction), we can name two main principles that lie in the basis of network education. They are the principle of network structure,

informatization and technology and the principle of linguistic intercommunity. Moreover, as far as these two principles of network education form its basis we can call it lingua-information network education.

Therefore, we assume that the lingua-information network education is a joint educational communicative-oriented activity of students and teachers, conditioned by the presence of a common language of communication, implemented in the network on the basis of new information technologies, and aimed at forming competencies declared by the higher education standards.

In the framework of this research we made an attempt to single out the main principles, which make up the theoretical basis of the scientific concept of lingua-information network education. These principles can conventionally be divided into - general and specific.

General principles are the rules inherent in the educational process of higher education in general, and are characteristic of the process of network education in particular (since networking is part of educational interaction in higher education). These principles are currently widely recognized scientific and educational community. Specific principles are the rules inherent in the process of network education as a special form of interaction in the educational process of higher education.

The general principles of lingua-information network education are as follows: the principles of developing and upbringing education, the principle of sociocultural correspondence, the principle of scientific basis of network education, which is reflected in the theory and practice connection, the principle of systematic character of network education, as well as the principles of students' consciousness and activity in learning, accessibility, positive motivation and appealing emotional climate of learning environment, a combination of individual and collective forms of learning, the principle of reflection and feedback.

Describing specific principles of lingua-information network education, we consider it reasonable to refer to the works of V.A. Mikhailov, in which the characteristic features of virtual communication are presented. The author outlines the following characteristic features of virtual communication: globality, anonymity, virtuality, interactivity, hypertextuality, creativity and mosaicism (Mikhailov, Mikhailov, 2014). Lingua-information network education, which by its nature is a mediated network communication, will be characterized by such mandatory features as interactivity, hypertextuality and virtuality. However, given the pedagogical nature of the lingua-information network education, we note that the features of anonymity, creativity, globality and mosaic are optional for it.

The specific principles of the lingua-information network education include: the principle of virtuality, multiculturalism, interdisciplinarity, hypertextuality, interactivity, the integrity of linguistic and informational training, as well as the principles of modularity, divergence of methods and forms of interaction, mobility, polysubjectiveness.

Table 01. Principles of lingua-information network education

	General principles	Specific principles
1	the principle of developing and upbringing education	the principle of multiculturalism
2	the principle of sociocultural correspondence	the principle of virtuality
3	the principle of systematic character of network education	the principle of interdisciplinarity,
4	the principle of scientific basis of network education, which is reflected in the theory and practice connection	the principle of hypertextuality and interactivity
5	the principle of students' consciousness and activity in learning	the principle of the integrity of linguistic and informational training,
6	the principle of accessibility	the principle of modularity
7	the principle of positive motivation and appealing emotional climate of learning environment,	the principle of divergence of methods and forms of interaction
8	the principle of a combination of individual and collective forms of learning.	the principle of mobility
9	the principle of reflection and feedback.	the principle of polysubjectiveness

7. Conclusion

In conclusion we can say, that the analysis of the scientific literature on concept of network education gave us clear understanding of the nature and the essence of the term, helped to overview main approaches to its defining and to describe the principles of network education. We need to admit that comprehension and description of network education from the point of view of the process-methodological approach is one of the most topical areas of the modern methodology of higher education. It can enrich the modern theory of teaching with new methods, forms and means, which will subsequently provide higher education with new effective mechanisms and technologies.

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