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THE FORMATION OF METASUBJECT SKILLS OF STUDENTS IN THE INFORMATION EDUCATIONAL SPACE

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Abstract

The article discusses the methodological issues of targeted inclusion of the potential of the information space in the educational process. The understanding of the information educational space as an environment for the formation of meta-subject skills of students is substantiated. The information educational space is defined as the object world, which is created and filled with human by various objects and processes. This world is directly or indirectly connected with the sphere of education. He is the subject of human activity. This activity includes: the human perception of these objects, actions with them, the impact on them. The key principles of formation of meta-subject skills of studying youth by means of information educational space are defined. Among these principles are the following: the humanization and democratization of strategies and models of work of young people in the information educational space; adequacy and objectivity - the compliance of the educational and cognitive activity of students in the digital information space with the requirements of educational standards and the and sociocultural level of society; the combination of the individualized nature of learning and the unity of requirements for the class, group of students; regularity and systematicity, diversity of the organization of the work of students in the digital information space; comprehensiveness and effectiveness of training - the focus of the organization of search and cognitive activity of students on their personal development and etc.

Keywords: Meta-subject skills, information space, educational space.

1. Introduction

The whole life of a modern person is connected with information and processes of its processing. Modern society is unthinkable outside of informatization; today it is obvious - the informatization of all spheres of human life will deepen and expand. This circumstance imposes special requirements on the education system, requires improvement and modernization of educational strategies for children and young people in the context of the active purposeful inclusion of the potential of the information space in the educational process.

2. Problem Statement

Unfortunately, modern general education and vocational schools do not fully meet the requirements imposed on them by society. This situation is due to a number of factors, among which the key role is played by a certain unpredictability of forecasting the dynamics and vector of development of the needs of society, science and economy. The modern education system (both Russian and foreign) provides not only substantive, but also personal and meta-subject preparation of students. For example, in Russia, state documents in the field of education determine the achievement of meta-subjective results, along with subject and personal ones, which are mandatory in the process of receiving education of all types and at all levels.

3. Research Questions

It seems appropriate to consider the following questions:

- to substantiate the understanding of the information educational space from the standpoint of the realization of its potential for the formation of meta-subject skills of young people;

- identify key principles of the organization of students in the information educational space, aimed at the formation of meta-subject skills and abilities.

4. Purpose of the Study

The purpose of the article is to develop a methodological base for using the possibilities of the information educational space for the formation of meta-subject skills among young people: to determine the essence of the information educational space, as well as the principles of organizing the educational process, which is aimed at forming a meta-subject experience.

5. Research Methods

Research methods are: terminological analysis, synthesis, comparison, comparative analysis

6. Findings

The society of the 21st century is distinguished by global informatization, affecting all spheres of human life. Informatization creates conditions for unlimited communication and human interaction in the

virtual space, access to its content and its use. Thus, for subjects of communication (including children and young people), potential opportunities are created for educational activities in the global information environment. This problematic is reflected in domestic and foreign studies. In the literature analyzes: informatization of school and university education, its methodical aspects (Yang, Yang, Wu, & Liu, 2013; Eickelmann, 2010; Robert, 2017; Joseph, 2018; Erpenbeck, Sauter, & Sauter, 2015); informatization of the system of education management (Passey & Breiter, 2013); problems of informatization of the training of personnel potential and the organization of "lifelong learning" (Ahrens & Molzberger, 2018; Noguchi, Guevara, & Yorozu, 2015). The information space is recognized by researchers as one of the innovative learning environments (OECD, 2017).

Information educational space as a phenomenon is understood ambiguously. This is due, primarily, to different approaches to understanding the information space. As the analysis shows, there are two approaches:

- in the understanding of the information space, they are oriented towards the storage of information and its use. The information space is viewed as the physical or digital room where artefacts, documents and tools are distributed and organized to get work done (Gonzalez, 2011); a place, especially a website, where information is available (Cambridge dictionary, 2018); spheres in the modern public life of the world in which information communications play the leading role (Spravochnik tekhnicheskogo perevodchika, 2013);

- as the essential characteristics of the information space are allocated information content in all its diversity, as well as the network structure of the space. Kalish (2009) defines the information space as "a collection of information that is not limited by source, form, process, semantics, or application" (p. 291). From the position of the system-network structure, the information space is interpreted in dictionaries: this is the "Integral electronic information space formed when using electronic networks ... The space in which information flows circulate ... The form of existence of information systems" (Spravochnik tekhnicheskogo perevodchika, 2013, sector "Inte", p.32).

Information educational space is understood as:

• "the space of verbal and documentary communication, formed to improve the cultural and educational level of its subjects" (Olifer, 2013, p.461);

• "The space of relations of all subjects of education and the process of relations arising as a result of educational activities between subjects (... teachers, students, training environments)" (Pronina, 2012);

• "space in which information is used for educational purposes" (Osmolovskaya, 2017, p.1).

Analysis of the understanding of the information educational space shows: in its definition, as a rule, certain key characteristics are emphasized with a focus on the goals and results of the educational process, the content and relations of the educational and information spaces. Thus, the educational information space in pedagogical research is analyzed primarily from the perspective of communication and access of the person, the student to the information in all its variety of forms and content.

The real educational sphere and the network information-educational digital space are distinguished in the information educational space. Most often, the latter is understood today as an information educational space (in this article we are talking about it).

Information educational space has a number of characteristics and properties that create the prerequisites for the development of personal qualities and the formation of meta-subject skills of their subjects. Informational educational space, in particular, is characterized by: a high level of integration and interaction of educational and social institutions; free access on equal terms to all citizens to information content, educational and cultural values; academic and professional mobility of subjects of the education system in the information environment; the variability of the content and models of education based on the capabilities of the information educational environment; high degree of informatization of the educational process. The most important characteristic of the information educational space is its policulturism (Borisenkov, Gukalenko, & Pustovoitov, 2018).

We consider these characteristics to be considered reasonable as the potential of the information educational space, which is important for modern education and its development in the future.

As a result, it is expedient to consider the information educational space from the position of a personality as a space-time continuum, in which a personality goes through its formation and development in interrelation with other individuals, groups, communities, manifests individual characteristics. Taking the understanding of the educational space of Ivanova (2015), we define the information educational space as an object world that is created by man and filled with objects and processes that are directly or indirectly related to the sphere of education. This world is the subject of a person's activity: the person's perception of these objects, actions with them and their impact on them.

In the information educational space, there are allocated managed (specially organized - formal sites, educational resources, etc.) and uncontrolled (chaotic, relatively manageable - forums, social networks, blogs, etc.) subspaces. These subspaces differ in content, methods of its accumulation, presentation to the user. The managed subspace is rather structured in terms of educational resources (Borisenkov, Gukalenko, Pustovoitov, & Panova, 2018). A substructure of the information educational space (we note that the scientific literature substantiates the subordination of both the first category of the second and vice versa) is the information educational environment, "purposefully created for the implementation of the educational process" (Osmolovskaya, 2017, p. 3).

The essence of the activities of the person in the information educational space - the processes of communication, search, processing and providing information. These processes are initially associated with the formation of a person's world outlook and the development of skills for planning, implementing and reflecting cognitive, communicative and regulatory activities - specific meta-subject skills.

Meta-subject is not something completely new in education. In modern domestic science, the development of problems of metadisciplinarity is based on: studies on the theory, as well as the practice of forming general educational skills; the results of the development of meta-subject methodology in the field of education; complex theoretical and methodological substantiation of the implementation of the meta-subject approach in teaching students; the development of certain aspects of the methodology of teaching schoolchildren in the context of the profiling of education, the use of interactive technologies; taking into account the specifics of individual academic disciplines.

We define the meta-subject capacities (competencies) of a student as the methods of performing actions learned by him that affect the cognitive, regulatory, and communicative aspects of the cognitive, educational and social activities of the student, which are the manifestation and result of the experience of

such activities. Accordingly, meta-subjective skills are automated meta-subjective capacities (competencies) of the student. Meta-subject knowledge - is interdisciplinary knowledge, as well as knowledge of how to obtain knowledge and information processing. Meta-subject learning outcomes of a student are knowledge, skills and abilities, as well as their associated personal qualities, which are formed in the process of teaching a student to study subjects and underlie his present and future cognitive, educational and social activities. The basis of meta-subject learning outcomes is the student's cognitive competence (Pustovoitov, 2018). The structure of the meta-subject results of learning includes universal learning actions, including general educational skills - "interdisciplinary skills that have a wide range of transfer to different school subjects and types of learning activities" (Demidova, 2006, p.40).

Meta-subject learning outcomes are clearly defined by state documents in the field of education. For example, the Federal State Educational Standard of Secondary General Education among the meta-subject requirements for the results of mastering students of the main educational program calls: "mastered by students interdisciplinary concepts and universal educational actions (regulatory, cognitive, communicative), the ability to use them in cognitive and social practice, independence in the planning and implementation of educational activities and the organization of educational cooperation with teachers and peers, ability to build an individual educational trajectory, possession of research, project and social skills". It is obvious that all of these qualities are formed in a young person in the process of activity in the information educational space.

Among the principles of the organization of work of children and youth in the information educational space, aimed at the formation of meta-subject skills, the following can be singled out:

- humanization and democratization of students' strategies and models in the information educational space - the requirement is implemented in the context of the personality-oriented education paradigm;

- adequacy and objectivity - the compliance of the educational and cognitive activity of students in the digital information space with the requirements (subject, meta-subject, personal) of the federal state educational standards and basic educational programs of the corresponding level of general education, social and cultural level of development of society;

- the combination of the individualized nature of learning and the unity of requirements for the class, group of students, implemented in the content, methods, forms and means of educational and cognitive activity of students in the digital information space;

- regularity and systematic, diversity of the organization of the work of students in the digital information space;

- comprehensiveness and effectiveness of training - the focus of the organization of the search and cognitive activity of students in the digital information space on their personal growth and development by taking into account the subjective experience of cognitive activity, the level of formation of cognitive competence of students.

7. Conclusion

The digital information space, de facto, is the living environment of modern youth and schoolchildren. Given the high importance for the younger generation of information and communication

technologies, it seems appropriate and reasonable to use the educational potential of the information space.

At present, scientific developments in the field of information educational space are largely aimed at using the content of the global network and the capabilities of information and communication technology tools in education. At the same time, the development of science, technology, and society already requires the comprehension and development of the problem of the formation and development of the meta-subject skills of young people by means of the information educational space.

Acknowledgments

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