

THEORETICAL AND METHODOLOGICAL BASIS OF THE CLUSTER APPROACH IN EDUCATION AS THE BASIS OF PEDAGOGICAL INNOVATIONS

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Abstract. *This article discusses the theoretical and methodological foundations of the cluster approach in the educational system, the use of innovative ideas in the educational process.*

Keywords: *educational cluster, logistics, educational holding, cluster approach, innovation, pedagogical innovation.*

The unique positive qualities of the cluster approach in the field of education are that it allows for constructive and effective cooperation between relevant production enterprises, the state, educational institutions and research laboratories, and other participants.

The educational cluster is widespread in developed foreign countries, and in Germany it defines the scope of activity of state research institutes, gives them appropriate powers and provides them with the necessary material base. The Ministry of Education and Science of this country supports the exchange of international knowledge and key innovations in the fields of health, biotechnology, information technology, ecology and transport, as well as educational and scientific programs.

In Germany, there are close ties between business and academic environment. University professors regularly cooperate with research institutes and production enterprises.

Special persons (coordinators) who carry out the mutual activities of the participants of educational cluster networks are designated, and they are usually selected from among professors and teachers of higher educational institutions. Maintains close relations with research institutes, universities and production enterprises. The effectiveness of creating educational clusters is first of all reflected in the positive results of its implementation of innovations. After all, in order to create innovations in a higher educational institution, it is necessary to establish the activities of specialists with all the necessary scientific and methodological potential in order to guarantee their effective results.

Educational clusters provide a high level of education in the region as a generator of new knowledge and innovations, unlike traditional industrial clusters. All elements of cooperation in the cluster organize a multi-level system of training specialists with the necessary qualifications. The employer determines the requirements for education, educational institutions-approaches to training, local authorities ensure the integration of education with production. At the same time, in the process of training specialists who meet the demand, their professional adaptation begins.

As a result of the creation of an educational cluster, it becomes possible to raise the rating of "red" and "yellow" general education schools.

Such development is the creation of modern, practical scientific-research and production complexes and business centers, attraction of investment resources and communication, increasing the level of employment, conditions and incentives for the emergence of business structures, attracting scientists to entrepreneurship and other through roads.

In conclusion, we can recognize that the cluster approach to education is a necessary condition for increasing the efficiency of innovative development in the field, raising competitiveness among participants of development and education.

Viewing innovations as a way of managing the development of any system encourages their emergence in all aspects of society, including in the field of education. The breadth and intensity of innovation is such that the modern paradigm of the national education system can be called development through innovation (A.A. Bocharov). They are becoming the most important attribute of the educational system, the main condition for competitive advantages and social success of the individual. This path requires a theoretical understanding of innovations in education, the formation of a methodology that corresponds to the characteristics and laws of a post-industrial society, and the determination of methods of their management.

The solution of these problems may be related to the reference to the scientific foundations that determine the forms and methods of practical activities that differ from each other in appearance in various economic sectors, which effectively solve educational problems while observing the general laws and mechanisms of development. used in solving. Today, such foundations can be connected with the cluster approach, which is a scientific direction that combines the theory and practice of the development of the educational system through the creation and management of educational clusters.

Currently, in the conceptual field of education, the terms "cluster approach in education" and "educational cluster" formed as a result of taking general categories from economics are widely used (E.I. Sokolova). The application of these concepts occurs simultaneously in several semantic contexts, the differences between which are related to the qualitative characteristics, scope and limits of influence of the objects that make up the cluster. For example, the expression "educational cluster" is used in the meanings of "educational competence", "educational program", "educational organization" and "association of social institutions". This leads to the filling of the concept of "educational cluster" with different content, inaccuracies in interpretation and practical application.

Objects belonging to different contexts are characterized by subordination relations: authorities work as part of the educational program, which is an element of the life of the educational organization, and it, in turn, can be a member of the association of social institutions. This allows us to talk about differences not only in terms of quality characteristics, scope and impact of educational clusters, but also in terms of clustering levels. The second is a controlled process of creating and changing a cluster by combining the resources of its constituent objects to achieve a synergistic effect, which is manifested in the creation of innovations that are the result of activity and a condition for development. The content of each of these levels defines a unique framework for understanding the essence of the cluster approach in the differentiation of education and innovation.

This situation creates great difficulties in determining the ways and means of effective influence on the development, testing and promotion of pedagogical innovations. The latter must meet the requirements of competitiveness, demand and economic attractiveness. Their emergence requires systematic innovation, high-level use of existing knowledge, simultaneous integration of forces and resources of several educational subjects (D.S. Berezovsky, A.P. Petrov).

The combination of these conditions is a characteristic feature of educational holding, which is a combination of educational and other organizations based on cooperation and horizontal

integration under the auspices of educational authorities (or higher education institutions) to create a common educational space.

For example, an example of an educational holding in the Ulyanovsk region of Russia is an innovative infrastructure in the educational system, which includes organizations participating in the program for the development of innovative processes in educational organizations of the Ulyanovsk region (hereinafter referred to as the IJR program).

Founded in 1992, the holding has developed as a regional educational cluster that creates innovations that ensure system development. During the holding's activity, issues related to the management of innovative activities, covering the entire process from the creation of pedagogical innovations to testing and promotion, remained extremely relevant.

The movement mechanism of innovations throughout the entire life cycle is characterized by the concept of "logistics", which refers to the theory and practice of managing the movement of resources in various systems. While in scientific language logistics offers this management methodology, in practical terms it appears as a universal tool for harmonizing the interaction of processes in the organization and managing flows (directed movement of any resources) (A.M. Gadzhinsky; V.P. Melnikov; Y.M. Nerush, A.Y. Nerush, V.A. Shumaev and others).

The study of this mechanism in the educational system was accompanied by the formation of two points of view. The first is educational logistics, which solves the problems of ensuring the stability of the infrastructure of the educational system, which is an educational institution or their combination (V.A. Denisenko; N.Yu. Sklyarova; O.A. Trofimova). The second position is related to pedagogical logistics, the purpose of which is to ensure the effectiveness and quality of the educational process (Z.N. Bulakhova, Yu.N. Shestakov; E.A. Zhitnov; V.M. Livshits; A.L. Nosov). In conclusion, I can say that the issues of developing the pedagogical system and the educational organization in which it is implemented remain outside the scope of these types of logistics. Taking this variability into account can only be done when integrating educational and pedagogical logistics based on the cluster approach. The result of this combination is the logistics of pedagogical innovations, which provides a flow of pedagogical innovations that is both a product of activity and a factor in the development of educational clusters.

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