



ROLE OF EDUCATIONAL CLUSTER IN EDUCATION AND EMPLOYMENT

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A B S T R A C T	KEY WORDS
This article scientifically and theoretically covers the strategies of an educational cluster in the organization of a production and educational cluster, the conditions and scientific factors for the effective development of an educational cluster, as well as the main goals of an educational cluster.	Production, education, cluster, innovative, scientific, practice, potential, cooperation.

Introduction

The Resolution No. 309 of the President of the Republic of Uzbekistan, dated July 7, 2022, on "Measures for the Establishment of an Education-Production Cluster in the Oil and Gas Sector," sets forth key objectives, including the provision of highly qualified personnel for the oil and gas industry, the establishment of integration between education, science, and production in this field, the improvement of training methods and formats to enhance education quality and labor resource efficiency, as well as the direct implementation of scientific achievements into production.

Literature Analysis

This dissertation contributes, to a certain extent, to the implementation and practical application of the tasks outlined in several key legislative and regulatory documents of the Republic of Uzbekistan. These include the Presidential Resolution No. PQ-309 dated July 7, 2022, on "Measures for the Establishment of an Education-Production Cluster in the Oil and Gas Sector"; the Presidential Decree No. PF-5847 dated October 8, 2019, on the "Concept for the Development of the Higher Education System of the Republic of Uzbekistan Until 2030"; the Presidential Decree No. PF-60 dated January 28, 2022, on the "Development Strategy of New Uzbekistan for 2022–2026"; the Presidential Resolution No. PQ-4119 dated January 16, 2019, on "Additional Measures to Improve the System of Quality Control in Education"; as well as other normative-legal documents.

Research Methodology

In the context of Uzbekistan, the strategic orientations of the pedagogical education cluster can be delineated as follows:

Firstly, the coordination and implementation of the training of highly qualified pedagogical personnel in higher education institutions specializing in pedagogical fields, particularly for institutions under the system of secondary specialized and vocational education. Additionally, the development and

integration of scientific and methodological frameworks for both pedagogical staff and industry specialists to enhance their professional competencies.

Secondly, the systematic improvement of state education standards, curricula, and programs in educational institutions by considering the demands of higher education and advanced international experience. This involves the broad integration of modern pedagogical and information-communication technologies into the learning process. Additionally, it includes the coordination of methodological activities, particularly the conduct of fundamental, applied, and innovative scientific research to enhance the quality and effectiveness of education.

Thirdly, enhancing the scientific and pedagogical potential of general education schools in the regions through academic programs offered by higher education institutions. This includes the targeted training of highly qualified scientific and pedagogical personnel to support the strategic development of the pedagogical field. Moreover, it involves implementing measures to improve the qualifications and retrain managerial staff and specialists in regional educational institutions, ensuring high-quality professional development in line with national education priorities.

Fourthly, enhancing the informational support system for continuous pedagogical education within higher education institutions. This includes strengthening the prestige of the teaching profession and providing support for pedagogical innovators, fostering an environment that encourages innovation and excellence in education.

Fifthly, improving existing regulatory documents that govern the integration of production and education. Additionally, developing an innovative cluster platform that facilitates collaboration between higher education institutions and the production sector, ensuring a more effective synergy between academic knowledge and industrial practice.

Sixthly, fostering collaboration between the production sector and higher education institutions by strengthening the integration of education with industrial practices. This includes expanding cooperation frameworks to align academic programs with real-world industry needs. Furthermore, the effective development of the education cluster is directly dependent on the following conditions and scientific factors: The availability of a technological infrastructure that meets industry demands; The psychological readiness of education cluster participants for mutual cooperation; The presence of a robust strategy for cluster development; The ability to successfully implement effective project management methods; The existence of strong information technologies that facilitate seamless information exchange among cluster entities, among other factors.

Analysis and Results

Hence, the successful implementation of scientific and practical initiatives related to the clustering of production and higher education necessitates the seamless integration of existing technological and scientific infrastructures into the process, as well as the systematic promotion of these initiatives among relevant entities. Achieving efficiency in this domain requires not only the adaptation of current resources but also the strategic dissemination of information to ensure that stakeholders fully grasp the intricacies of the innovation process and recognize its multifaceted economic and developmental advantages.

Furthermore, fostering a well-conceived strategy for the advancement of modern clusters involves the meticulous formulation of methodologies for their effective governance, alongside the establishment of rapid and dynamic channels for information exchange among cluster participants.

Given the extensive scope of this organizational transformation, its realization demands a substantial investment of time and a highly targeted, purpose-driven approach.

It is imperative to highlight that Russian scholars—N.N. Davdov, B.M. Igoshev, M.G. Sinyakova, and S.L. Fomenko—who have extensively studied the clustering of production and education, have concluded through empirical research that the tangible and measurable impacts of cluster development generally begin to manifest within a timeframe of five to seven years.

Conclusion

The cluster model of higher education development encompasses key areas such as teaching, the creation of educational literature, enhancing the scientific potential of pedagogical personnel, and ensuring the coherence of education and upbringing. This highlights the fundamentally methodological nature of the issue. At the same time, these overarching directions necessitate the effective management and organization of education, the integration and alignment of various educational forms and specializations with production processes, as well as the continuous improvement of teaching methods and tools.

The primary objective of the educational and industrial cluster is as follows: Ensuring effective continuity in the higher education sector and guiding the most qualified professionals toward their professional careers.

Conducting the professional training of higher education pedagogues based on practical experience while ensuring prompt feedback from relevant stakeholders. Creating an environment for preparing future specialists within a framework of innovative and experience-based practices, aligning students' industrial training with the objectives of the cluster.

Reducing the time required for specialists to acquire professional skills.

Developing a new generation of educational, methodological, and scientific materials, tools, and didactic resources for both industry and education. Enhancing scientific and pedagogical potential at the intersection of industry and education. Integrating intellectual resources to address pressing issues in the development of production and education.

Identifying and implementing various forms and methods of education, science, and pedagogical practice. Improving mechanisms that ensure the coherence of education and upbringing. Establishing a rapid and effective feedback system between higher education institutions and the training of future specialists. Providing a scientific foundation for the necessity of interconnection, integration, and collaboration between the industrial and educational sectors.

- Based on these objectives, the pedagogical education innovation cluster undertakes the following tasks:

- Preparing highly qualified pedagogical personnel with modern knowledge and skills for educational institutions.
- Effectively utilizing innovative pedagogical technologies to enhance the quality of education.
- Establishing a systematic approach to scientific research in both industry and education.
- Ensuring the coherence and continuity of education through core textbooks, electronic resources, and laboratory tools.
- Organizing periodic internship programs to bridge knowledge gaps between the industrial sector and educational institutions.

Organizing scientific-practical seminars to address challenges related to production processes and subject teaching. Enhancing the scientific potential of university professors by aligning their research with existing industry challenges and strengthening collaboration with scientific research centers. Engaging industry professionals with research capabilities in scientific studies to foster innovation and problem-solving in production.

Organizing internships in leading foreign universities and developed countries to study advanced international practices in education and industry. The oil and gas education cluster enables the timely identification of existing challenges within the system, allowing for a comprehensive assessment of its strengths and weaknesses.

The analysis and synthesis of information regarding the state of activities within the cluster hold significant importance. By leveraging the cluster approach, education can be closely integrated with practical experience, and various innovative practices can be effectively applied, yielding productive outcomes.

A cluster-based approach to education facilitates efficient interaction with the industrial sector by providing specific tools that enhance the understanding of challenges, enable the scientific planning and design of industrial development strategies, and establish a solid foundation for future advancements.

All of these factors contribute to:

- Firstly, it confirms that the educational cluster is a scientifically and practically significant phenomenon, as this system achieves a new synergistic quality through integration.
- Secondly, it creates an environment and conditions that ensure the system's competitiveness.
- Thirdly, its political, economic, and social significance plays a crucial role.

This entire set of initiatives is aimed at enhancing the competitiveness of education, which serves as the fundamental foundation for training scientific and professional personnel. However, it is important to recognize that not all entities integrated within the cluster will yield immediate tangible results [3].

The significance of educational clusters in higher education can be classified by sector:

Economic sector – Establishing an efficient market for educational services. Social sector – Ensuring employment opportunities for university graduates. Marketing sector – Optimizing the use of innovative educational technologies and enhancing the opportunities for educational institutions in academic and developmental activities. Educational sector – Establishing collaboration within the cluster and legal and regulatory frameworks. To define the specific goals and objectives of the higher education innovation cluster and to anticipate its activities, it is crucial to determine the principles on which it is based. Considering national education policies and existing conditions the following principles for the educational cluster are proposed: Natural interconnection – Ensuring organic links between education and industry. Collaboration among cluster entities – Strengthening cooperation between participating institutions. Objective relevance of interconnection – Ensuring that the relationships within the cluster are regionally, sectorally, or functionally justified.

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