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Research Article

THE PRACTICE OF INTEGRATING INTERDISCIPLINARY AND EDUCATIONAL NETWORKS BASED ON THE CLUSTER APPROACH IN HIGHER EDUCATION INSTITUTIONS

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ABSTRACT

This article focuses on organizing the educational process in pedagogical higher education institutions using a cluster-based approach and addressing the challenges of developing interdisciplinary and educational network integration. It substantiates the importance of effectively combining scientific and creative research activities with the educational process through the integration method, ensuring mutually beneficial collaboration between various types of education. Methods for establishing integrative connections between disciplines aimed at developing professional and creative competencies, as well as creating additional motivation for students to engage in scientific and creative research activities, are presented as examples. Additionally, the article highlights the potential of integrated approaches to foster collaborative scientific and creative research among future educators and explores how such activities contribute to the creation of a stable education and research system.

KEYWORDS

Visual arts, educational cluster, integration, professional competence, scientific and creative research, motivation, pedagogy, creative activity.

INTRODUCTION

The rapid development of international cooperation in various fields and the process of globalization necessitate the implementation of innovative approaches in the education system. Currently, there is a growing need to enhance the quality of education in higher education institutions, ensure their active participation in the comprehensive reforms being carried out in the country, and maintain their competitiveness in the education services market. The modern labor market requires adaptability in teaching

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methods and content, emphasizing the principles of flexibility and unity. Organizing the educational process in pedagogical higher education institutions based on a cluster approach ensures interdisciplinary and educational network integration, which is of critical importance for developing students' professional and creative competencies.

RELEVANCE OF THE RESEARCH

This research aligns with the tasks set forth in the Presidential Decree No. PF-5847, dated October 8, 2019, approving the "Concept of Development of the Higher Education System of Uzbekistan until 2030," which emphasizes directing research towards innovative solutions for existing social and economic issues, including regional problems, and investigating interdisciplinary challenges extensively. Additionally, it is based on the directive issued by the rector of Chirchik State Pedagogical University on January 16, 2024, aimed at enhancing the effectiveness of the Pedagogical Education Innovation Cluster (PEIC) through interdisciplinary integration. The implementation of graduation projects based on integration with other university departments, initiated by the Faculty of Art Studies, constitutes the object of this research. It highlights the process and outcomes of graduation projects conducted collaboratively by students from the Faculty of Art Studies and other faculties using a cluster-based approach.

Novelty of the Research

- Ensuring the alignment of interdisciplinary collaborative graduation projects with the university's strategic research priorities and goals.
- Coordinating the systematic integrative activities of students from various university departments within the cluster framework.

The content of teaching methods is constantly evolving in response to the demands of the modern labor market, making it essential to achieve quality and efficiency through the unity of education subjects based on the principles of adaptability. These changes are driven by critical processes in the development of modern sciences, namely their integration and differentiation. Ensuring interdisciplinary coherence and continuity requires the establishment of collaborative mechanisms between subjects through a cluster approach. Additionally, cluster collaboration has proven to be an effective mechanism for enhancing the integration of science and academic resources, bridging gaps in disciplinary connections, and addressing the practical need for competitive pedagogical personnel.

The Concept of Clusters and Integration in Education

The term "cluster" is widely recognized in discussions about the prospects of global economic development and has already been implemented in education in developed countries. Derived from the English word "cluster," it translates as "group," "collection," or "concentration." Initially emerging in statistics and computer science, it later gained traction in economics and sociology.

Similarly, the term "integration," rooted in the Latin "integratio" (restoration, completion) and "integer" (whole), signifies unification into a cohesive entity. The complementary nature of "cluster" and "integration" is evident, as both concepts focus on achieving unity and coherence. In pedagogy, integration refers to the

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process of combining previously disparate parts into a unified whole, thereby creating a solid foundation for interdisciplinary and interconnected educational practices.

Pedagogical Applications of the Cluster Approach

The integration method in scientific-creative research activities effectively combines teaching processes and fosters mutually beneficial collaboration between disciplines. Scholars identify two main types of integration in education:

1. Vertical Integration: Thematic consolidation of materials at various levels of complexity across different academic years.

2. Horizontal Integration: Combining related educational materials across different academic subjects.

According to L.V. Abakumova, integrated lessons develop the following competencies in students:

- Critical Thinking: Understanding and comprehending the purpose and significance of studied topics.
- Cultural Awareness: Knowledge of historical aspects of studied subjects.
- Information Literacy: Ability to work with computers and independently select relevant materials.
- Communication: Teamwork, active listening, engaging in discussions, and respecting different perspectives.
- Integrated education fosters creative thinking, enhances cognitive activity, and promotes systematic learning.

The Cluster Approach at Chirchik State Pedagogical University

As one of the youngest higher education institutions in Uzbekistan, Chirchik State Pedagogical University places special emphasis on implementing innovative technologies and approaches to improve education quality. Numerous research projects on educational clusters have been conducted under the university's strategic plan, many of which have been practically implemented and recognized by leading scholars. This study focuses on exploring interdisciplinary activities in graduation projects and integrating various departments' efforts to achieve significant outcomes.

For example, the Faculty of Art Studies initiated integrated activities that united students from various fields to conduct collaborative scientific and creative research. Such initiatives enhanced interdisciplinary awareness and provided opportunities for teamwork on academic projects. Students from the visual arts department collaborated with their peers in history, drawing on historical realities, clothing, and cultural artifacts to create original artworks. Similarly, history students participated in the creative process, contributing ideas and insights from their field of study. These collaborations resulted in comprehensive artistic compositions and enriched understanding for both groups.

Key Findings and Practical Outcomes

The interdisciplinary collaboration, organized as horizontal integration, proved effective in achieving mutual goals. Graduation projects demonstrated the impact of shared scientific and creative research, which included theoretical studies, practical artistic work, historical reconstructions, and innovative 3D models.

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For instance, the project titled "The Great Silk Road: A Clash of Civilizations" resulted in both detailed scientific materials and historically accurate artistic compositions. Elements such as costumes, colors, symbolic representations, and character expressions were meticulously researched and depicted, fostering mutual enrichment among participants from different specialties.

The cluster approach expanded the scope of the "mentor-student" tradition, integrating it with modern educational demands. By encouraging interaction across disciplines, this method promoted innovation, fostered professional skills, and enriched students' learning experiences.

RECOMMENDATIONS

- Support interdisciplinary research and integration of educational networks through cluster-based approaches in visual arts, employing diverse pedagogical technologies to unlock students' creative potential, critical thinking, and professional skills.
- Enhance the stability of education and research systems by emphasizing interdisciplinary collaboration to foster a well-rounded academic experience.

By embracing these strategies, the cluster approach in education can effectively support collaborative development, knowledge sharing, and innovation, ensuring that students and researchers gain comprehensive and versatile training.

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