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Innovative Integration Models in Pedagogical Training

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A B S T R A C T
This article explores the significance and role of integration in modern pedagogical education. It examines the theoretical foundations of integrated education, scientific approaches in the pedagogical process, and methods for enhancing the learning process through integration. The article highlights the importance of interdisciplinary connections in consolidating students' knowledge, addressing shortcomings in the curriculum, and enhancing the overall educational experience by fostering deeper interrelationships between subjects.

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The importance and role of integration in modern pedagogical education is increasing. Attention to the issue of integrated education is growing. Some teachers consider this problem to be a primary means of developing and solving the educational process, renewing and improving it. The process of integration itself is not a new concept, but very little research has been conducted in this area. It has been mentioned several times in pedagogical literature; however, it is rarely discussed theoretically, due to the relevance of the integration issue and the difficulties in its implementation. Integration (derived from the Latin word 'integratio' — to restore, to complete, from the word 'integer' — whole) has several meanings. However, its role in pedagogical education is interpreted in the context of the rapprochement and interaction of disciplines.

The term integration is often used alongside the term differentiation. Integration is closely related to differentiation. These processes manifest in the construction of the system of educational disciplines and in searching for ways to generalize students' knowledge. Differentiation refers to dividing a whole into its component parts. Currently, there is more focus on the issue of integration in the organization of education. In modern schools, integration is understood as one of the directions in actively seeking new pedagogical solutions that help improve the work being done and develop teachers' creative potential to have a more effective and rational impact on students.

Integration means development in an interconnected manner, the unification of components into a whole. Integration is the process of uniting various parts and elements into a single entity. Integration processes can occur in organized systems; in this case, they increase the degree of integrity and the organizational level of the system. Integration processes serve as a basis for connecting previously unrelated elements and occur in established systems, resulting in increased integrity and organizational levels of the system, with the relationships between elements and components becoming more complex. Components connected into a whole have varying degrees of autonomy.

The analysis of curricula across various subjects shows that they provide an opportunity for effective utilization of the integration process. Some aspects of improving education and upbringing from the perspective of integration have been addressed in the works of renowned classical educators (such as J. Comenius, J. Locke, I. Herbart, M. Pestalozzi, K. Ushinsky) as well as didactic scholars (I. D. Zvereva, M. A. Danilov, S. P. Baranov, N. M. Skatkin), psychologists (E. N. Kabanova-Meller, N. F. Talizina, Yu. A. Samarina, G. I. Vergeles), and methodologists (M. R. Lvova, V. G. Goretsky, N. N. Svetlovskaya, Yu. M. Kolyagina, G. N. Hujumov, and others).

Uzbek scholars are also conducting necessary research in this field. In the process of professional training, the interconnection of subjects, improving the preparation of future educators for teaching activities based on integrated education, and the use of information communication technologies in continuous education are being studied by U. Sh. Begimkulov, R. Kh. Jo'raev, N. A. Muslimov, Q. T. Olimov, F. M. Zakirova, M. H. Lutfillayev, N. I. Taylaqov, and others. The scientific understanding of integration in education is being explored by scholars and practitioners across various fields of knowledge.

The psychological basis of the integration process can be found in M. Samarin's ideas about associative thinking, which state that any knowledge is a system of organized associations. In developing a general theoretical model of integration, M. Lotman introduces the concept of integration mechanisms. A. Y. Danilyuk illustrates the types of integration mechanisms through the integration of cultural fields into humanitarian subjects.

The concept of integration is defined as a facet related to the process of development and the holistic unification of elements. Integration is characterized by the increase in the volume and intensity of relationships and interactions between elements, their regulation, and the emergence of new qualitative properties that form a specific holistic education.

Regarding the educational system, the concept of "integration" can have two meanings. First, it involves creating a holistic idea of the surrounding world among school students (where integration is viewed as an educational goal). Second, it refers to finding a common platform for the rapprochement of subject knowledge. This means that children regularly expand their existing knowledge base, assimilating more and more new ideas and concepts. V. I. Yakovleva presents a different perspective. He emphasizes that it is still early to talk about a fully integrated system: "…the programs and skills in different subjects are so specific that their integrity cannot be disrupted. Neither pedagogy nor didactics nor individual methods are ready for this." However, the creative practice of progressive teachers independently seeks ways to address the problems of renewing the educational system.

The development of the pedagogical idea of the integration process is significantly influenced by the advancement of scientific knowledge. Yu. M. Kolyagin states that students often acquire knowledge based on stratified educational courses. However, often, a child's school knowledge remains artificially divided into fragmented information on the subject of the surrounding world. The necessity to overcome this contradiction has led to the active search for interdisciplinary connections. "Integration and differentiation are interrelated processes. It is essential to strive to create a system that successfully combines the ideas of integration and differentiation at all levels of education." This viewpoint is supported by L. N. Bakhaeva, who considers integration as a process that occurs alongside differentiation processes, resulting in the rapprochement and connection of disciplines. Integration improves the thematic system, helps eliminate its shortcomings, and aims to deepen relationships and interconnections between objects.

The task of the field of pedagogy is to assist teachers in implementing integration, aimed at restoring and unifying the individual elements and components of various objects with uniformity in educational goals and functions. The uniformity of lessons in our school has long been an obstacle to the development of education. "The curriculum is the most crucial indicator of the advantages or disadvantages of the educational process. It defines the names of subjects, the sequence of their study, the time allocated for each subject, forms of assessment, and more."

The curricula of general educational schools suffer from significant shortcomings. The most important of these is the presence of many subjects, meaning that there are very few hours allocated for certain subjects in school. The integration of academic subjects allows avoiding numerous topics and eliminating

those subjects that have very few hours with low efficiency from the educational material. Integration improves the thematic system, helps eliminate its shortcomings, and aims to deepen relationships and interconnections between objects. Therefore, organizing integrated subjects in general educational schools is a requirement of the times.

The field of pedagogy faces the crucial task of assisting educators in implementing integration, which aims to unify individual elements and components of diverse educational subjects while aligning them with common educational goals and functions. The traditional uniformity observed in lessons across schools has long been an impediment to the advancement of educational practices.

The curriculum serves as a fundamental indicator of the strengths or weaknesses of the educational process, shaping the learning experiences of students. It determines not only the subjects to be taught but also the sequence in which they are studied, the time allocated for each subject, and the forms of assessment utilized. This comprehensive structure profoundly influences how knowledge is imparted and understood.

However, the current curricula of general education schools often suffer from significant shortcomings. One of the most pressing issues is the overwhelming number of subjects, many of which receive insufficient instructional time. This overcrowding can dilute the effectiveness of teaching and hinder students' ability to engage deeply with the material. By integrating educational subjects, it becomes possible to streamline content delivery, focus on key concepts, and eliminate less critical topics that do not contribute meaningfully to students' educational journeys.

Integration not only improves the coherence and relevance of the subject matter but also fosters a more interconnected understanding of knowledge among students. It encourages learners to see the relationships between different disciplines, facilitating a holistic approach to education that reflects the complexity of the real world. For instance, combining concepts from science and mathematics or merging historical context with literature can enrich students' comprehension and spark greater interest in their studies.

Moreover, the implementation of integrated subjects can address the deficiencies in the existing educational system by fostering collaboration among educators and encouraging innovative teaching methods. Teachers can work together to design curricula that incorporate various perspectives, leading to a more dynamic and engaging learning environment. This collaborative approach also enhances professional development, as educators share insights and strategies that benefit their teaching practices.

In conclusion, the organization of integrated subjects in general education schools is not merely a pedagogical trend but a necessity to meet the demands of modern education. It responds to the need for a more effective, relevant, and holistic approach to teaching and learning. As educational paradigms shift, embracing integration will equip students with the skills and knowledge necessary to navigate an increasingly complex world, fostering critical thinking, creativity, and adaptability. Therefore, it is imperative for educational institutions to prioritize and invest in the development of integrated curricula that will prepare students for future challenges and opportunities.

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