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РЕАЛІЗАЦІЯ ІДЕЙ ІНТЕГРОВАНОГО НАВЧАННЯ В ОСВІТНЬОМУ ПРОЦЕСІ СУЧАСНОГО ЗАКЛАДУ ОСВІТИ: РЕАЛІЇ ТА ВИКЛИКИ

Анотація. Автори розкривають особливості реалізації ідей інтегрованого навчання в освітньому процесі сучасних закладів вищої освіти, аналізують реалії впровадження технологій інтегрованого навчання, визначають провідні завдання та функції інтеграції.

Вказують, що в педагогіці інтегроване навчання розглядається як освітній процес, у якому забезпечується взаємозв'язок між різними навчальними дисциплінами, формами діяльності або змістовими лініями з метою формування цілісної картини світу в здобувачів освіти.

Метою дослідження є розкриття особливостей реалізації ідей інтегрованого навчання в освітньому процесі сучасного закладу освіти, описати реальний стан та визначити основні виклики щодо оптимізації цього процесу.

До основних переваг інтегрованого підходу автори відносять забезпечення цілісності знань, підвищення навчальної мотивації, формування міждисциплінарних компетентностей, підготовку до розв'язання реальних життєвих проблем, розвиток комунікативних, соціальних і креативних навичок.

У статті наголошується, що інтеграція освітнього процесу є не лише дидактичним прийомом, а й філософією навчання, що відображає складність і взаємозв'язок реалій життя та практичного досвіду. Ідеї інтегрованого навчання посідають важливе місце в сучасному освітньому просторі, зумовленому потребами суспільства в компетентісно орієнтованих, креативних, критично мислячих особистостях.

Ключові слова: інтеграція, освітній процес, інтегроване навчання, форми інтеграції, інтеграційний підхід, міждисциплінарна інтеграція.

IMPLEMENTATION OF IDEAS OF INTEGRATED LEARNING IN THE EDUCATIONAL PROCESS OF A MODERN EDUCATIONAL INSTITUTION: REALITIES AND CHALLENGES

Abstract. The authors reveal the features of implementing the ideas of integrated learning in the educational process of modern higher education institutions, analyze the realities of implementing integrated learning technologies, and determine the leading tasks and functions of integration.

They indicate that in pedagogy, integrated learning is considered as an educational process in which the relationship between different academic disciplines, forms of activity or content lines is ensured in order to form a holistic picture of the world in the student.



The purpose of the study is to reveal the features of implementing the ideas of integrated learning in the educational process of a modern educational institution, to describe the real situation and to identify the main challenges in optimizing this process.

The authors include ensuring the integrity of knowledge, increasing learning motivation, forming interdisciplinary competencies, preparing for solving real life problems, and developing communicative, social and creative skills among the main advantages of the integrated approach.

The article emphasizes that the integration of the educational process is not only a didactic technique, but also a philosophy of learning that reflects the complexity and interconnectedness of reality. The ideas of integrated learning occupy an important place in the modern educational space, determined by the needs of society in competence-oriented, creative, critically thinking individuals.

Keywords: integration, educational process, integrated learning, forms of integration, integration approach, interdisciplinary integration.

INTRODUCTION

The problem formulation. The relevance of the idea of integrated learning today is indisputable. Its successful implementation opens up boundless opportunities for all participants in the educational interaction to acquire high-quality and competitive education. A high level of education is an essential guarantee for a young person to independently achieve their life goals, a source of creative growth, and a means of self-assertion in society.

The urgency of the issue of finding rational ways to integrate various educational components in the process of acquiring the appropriate level of education is intensified by serious overload due to thematic similarity of materials, resource intensity, and the significant time required for their processing.

This provides grounds to assert that without integration, neither the progress of modern science nor civilizational development in general is possible. Scientific thought increasingly tends to unite separate, isolated objects and phenomena into a cohesive whole. In this context, integration is considered an important informational and didactic tool of the educational process, aimed at developing professional competencies and fostering a holistic perception of educational content across all components and practical elements. It is crucial to accept that education is not a one-time process, but a lifelong journey that does not end with the acquisition of a particular level of education.

Analysis of recent research and publications. Today, the issue of integration in the educational process of higher education institutions is being reconsidered due to the implementation of a competency-based approach to organizing and conducting classes, as well as the global digitalization of the educational environment.

The process of «integration» in its general scientific interpretation is characterized by interpenetration, consolidation, and unification of knowledge, which manifests in unity alongside opposite processes of differentiation and delineation.

The issue of applying integration in education is the focus of many academic studies. The methodological foundations of integration and integrated learning are presented in the works of S. Honcharenko, M. Ivanchuk, I. Kozlovska, Ya. Kmit, K. Levkivska, and Yu. Malovanyi.

THE AIM AND RESEARCH TASKS

To reveal the features of implementing the ideas of integrated learning in the educational process of modern educational institutions, describe the current state, and identify the main challenges to optimizing this process.

RESEARCH METHODS

The following methods were used during the research: analysis of scientific, methodological, and practical literature that reveals the essence of organizing integrated learning; analysis and synthesis – to specify existing technologies of integrated learning and to generalize and systematize them; interviews, surveys, and questionnaires of students; observation of the implementation of innovative integrated learning technologies in the educational process of modern educational institutions.

RESULTS OF THE RESEARCH

The term «integration» (from Latin *integratio* – whole) was introduced into scientific discourse in the 1960s by the English researcher H. Spencer. However, at that time, the concept only remotely reflected the essence and realities of educational processes, which are now described by the term «integration». Modern dictionaries define «integration» as «the unification into a single whole of previously isolated parts, elements, or components, accompanied by the complication and strengthening of connections and relationships between them» [6].

The term «integration» (from the Latin *integer* – whole) refers to the process of combining separate parts or elements into a whole. Translated from Latin, the term implies restoration, completion, and merging of different components into a coherent structure. The definition of «integration» comes from the Latin word «integratio», which means filling, or «integer» – whole. This concept has many definitions in the scientific literature. For example, in the Oxford University Dictionary, integration is considered as «the act or process of combining two or more parts in such a way that they function together» (Oxford Advanced Learner's Dictionary of Current English, Sixth Edition, 2000).

The concept of «integrated learning» is one of the key ideas in modern pedagogy and didactics, as it reflects trends toward interdisciplinary interaction, the development of an understanding of the interconnectedness of the surrounding world, and the cultivation of critical and systemic thinking in students. Considering the transformations in 21st-century education, the integration of knowledge is gaining particular relevance in the context of competency-based learning, interdisciplinary education, STEM education, project-based activities, and more.

In the philosophical sense, integration means the process of combining diverse elements to form a new quality. In pedagogy, integrated learning is viewed as an educational process that ensures the interconnection between various



academic disciplines, types of activities, or content lines, aimed at forming a holistic worldview in the learner. «Integration is a process of interaction of elements (with given properties), accompanied by the establishment, complication and strengthening of essential connections between these elements on the basis of a sufficient basis, as a result of which an integrated object (holistic system) with qualitatively new properties is formed while preserving the individual properties of the original elements in its structure» (Kozlovska, 1999).

In scientific and pedagogical literature, many approaches exist to interpreting the essence of integrated learning. A synthesis of researchers' perspectives allows us to highlight several key aspects:

1. *Content Aspect* – integration of educational and didactic material from various educational components (e.g., integration of physics and mathematics, biology and chemistry, literature and history).
2. *Processual Aspect* – integration of methods, forms, and types of learning activities (e.g., combining lectures, experiments, and project work).
3. *Value Aspect* – formation of a holistic worldview, moral orientations, and social competencies in learners.
4. *Technological Aspect* – the use of educational technologies that involve interdisciplinarity: STEAM, CLIL, project-based learning, problem-based learning.

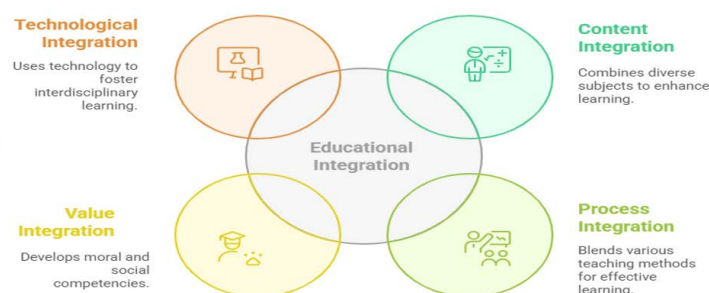


Figure 1. Educational Integration Framework

Integration can be implemented in various forms:

Interdisciplinary integration – the combination of knowledge from different educational components (for example, the project «Urban Ecology» may include elements of environmental science, computer science, biology, and mathematics).

Intradisciplinary integration – the alignment of topics and concepts within a single subject (for instance, in a literature course, students may study works that are thematically connected). Integration of knowledge and life experience – linking educational content with students' real-life experiences, which contributes to the development of practical skills.

Integrated learning performs the following functions:

Educational – promotes a deeper understanding of educational material through multifaceted analysis of problems.

Developmental – activates thinking, creative imagination, abilities for analysis, synthesis, comparison.

Educational – forms value orientations, social responsibility, tolerance;

Motivational – increases students' interest in learning through updating the content.

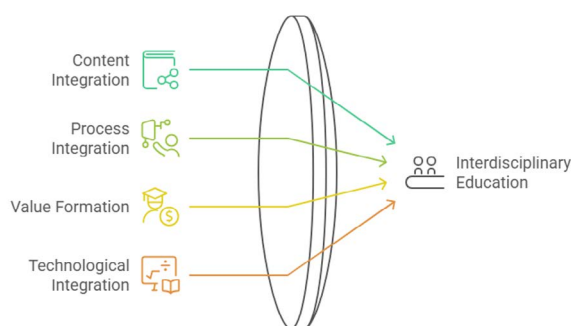


Figure 2. Unified Educational Approach

The main advantages of the integrated approach include ensuring the integrity of knowledge, increasing learning motivation, forming interdisciplinary competencies, preparing for solving real-life problems, developing communicative, social and creative skills.

However, it is worth noting that integration has certain challenges and limitations. The main ones include: the complexity of developing integrated programs, high requirements for the professional training of teachers, the risk of superficial mastery of the material, inconsistency of curricula of different disciplines. As Yu. Pryshupa notes, «Knowledge of practically all key disciplines is based on knowledge from other disciplines, and only a deep understanding of the complex of all disciplines can ensure work at the proper level» (Pryshupa, 2014).



So, integrated learning is a modern educational strategy aimed at overcoming the fragmentation of knowledge, developing a holistic worldview and competencies of the 21st century. Its implementation requires a systematic approach, appropriate training of teachers and adaptation of the educational environment to new conditions. Integration of the educational process is not only a didactic technique, but also a philosophy of learning that reflects the complexity and interconnectedness of reality. The ideas of integrated learning occupy an important place in the modern educational space, determined by the needs of society in competency-oriented, creative, critically thinking individuals. The implementation of these ideas in the educational process of educational institutions involves not only changing the content of learning, but also transforming pedagogical interaction, updating methods, forms and means of learning.

The main directions of implementing integrated learning in a higher education institution:

Inter-subject integration. One of the most common approaches that involves combining educational material from several subjects for a holistic consideration of phenomena and processes.

Use of integrated educational programs. Use of integrated educational programs as directions of implementation of integrated learning in higher education institutions. Integrated learning in higher education institutions (HEIs) is considered as a strategic direction of improving the educational process, which ensures interdisciplinary interaction, development of critical thinking, formation of complex professional and general cultural competencies. One of the key tools for implementing this concept is integrated educational programs, which provide a holistic vision of the educational material and contribute to the adaptation of graduates to the modern labor market. Integrated educational programs involve combining the content of several academic disciplines around a common topic, problem or practical task. This approach allows us to move away from fragmented assimilation of knowledge and ensure their deeper awareness, contributes to the formation of interdisciplinary thinking and teamwork skills.

Ways to implement integrated learning through the introduction of integrated educational programs into the educational process in higher education institutions may include:

1. Creating interdisciplinary courses by combining professional disciplines with courses in critical thinking, academic writing, and digital technologies that prepare students for comprehensive problem solving.

2. Project-based learning based on the integration of knowledge – students work on real cases using knowledge from different fields (for example, ecology + economics + law).

3. Integration of educational and research activities – implementation of educational programs that involve students in interdisciplinary research, startups, and innovation laboratories.

4. Joint programs with other faculties or universities – integrated master's or bachelor's programs at the intersection of specialties (for example, «bioengineering and business», «psychology in information technologies»).

5. Use of digital platforms for interdisciplinary interaction *Moodle, Google Workspace, Microsoft Teams, Miro*, etc. The main conditions for the integration of learning include the use of search, problem-based and creative methods, the formation of research skills, the development of oral speech, familiarization with culture and physical development. These conditions contribute to the integration process, including the integration of information, ways of knowing, interaction with the world, culture and objective phenomena.

The use of integrated educational programs in an educational institution requires flexibility in the organization of the educational process, updating the content of education, involving teachers from different fields of knowledge and readiness for pedagogical innovations. This approach not only meets the requirements of modern education, but also contributes to the training of competitive specialists who are able to act effectively in conditions of rapid change and interdisciplinary challenges.

One of the effective types of application of integrated learning is project and research activities. After all, educational projects as a means of implementing integration cover various subjects, contributing to the development of research, analytical, and communication skills. For example, the project «*Ecological Map of My City*» combines geography, biology, computer science, technology, and civic education. Project and research activities as a direction of integration in a higher education institution.

Project and research activities are one of the key directions of integration of the educational process in higher education institutions. Its implementation ensures the combination of theoretical knowledge with practical experience, contributes to the formation of interdisciplinary thinking, and the development of analytical, communicative, and organizational skills of students.

Project-based learning involves organizing the educational process around solving specific, often complex problems or tasks. Typically, students work in teams to create a work product, develop models, carry out social initiatives or technical developments. This format involves the involvement of knowledge from various disciplines (for example, computer science, economics, biology, ecology), which implements the principles of integrated learning.

Research activities at universities also play a significant role in the integration of education, science and practice. It allows to form skills in scientific analysis and critical thinking, to develop individual and collective responsibility for the results of work, to integrate students into the scientific and educational environment through participation in conferences, scientific circles, hackathons, and publication activities.

Involving students in project and research activities is often implemented through educational projects within disciplines that end with the defense of the work, interdisciplinary research projects with teachers and partners from business or the public sector, preparation of bachelor's and master's qualification works that have a practical or experimental component, participation in grant programs, innovation incubators and student scientific associations.



Thus, project and research activities contribute to the effective implementation of integrated learning, as they create conditions for combining different types of activities (educational, scientific, practical), integrate the content of educational programs and form in students a holistic idea of the application of knowledge in real life. An effective form of integration in the educational process of higher education institutions is integration with real life and practical activities.

In the context of the competency approach, vital integration of knowledge is important - the transfer of acquired knowledge and skills to the practical plane. This can be implemented through the case method, educational excursions, simulation games, and modeling of life situations.

The integration of educational content with real life is a key principle of the implementation of the competency-based approach, which underlies modern higher education. It involves the creation of such educational conditions under which students' knowledge, skills and abilities are formed not in isolation from reality, but in connection with real problems, situations and challenges of a professional and social nature.

In the context of the competency-based approach, the goal of learning is not only to master theoretical material, but to form a readiness for the practical application of knowledge in various life and professional contexts. Such an approach requires flexible thinking, the ability to analyze and make decisions, communicative and social competence, as well as the ability to adapt to new conditions.

Forms of implementation of integration with real life and practice may include:

- project and research activities focused on solving current social, environmental, economic problems;
- cooperation with employers, conducting trainings, guest lectures and industrial practices that reflect the real conditions of professional activity;
- use of case methods, simulations, imitations of real situations that help students «experience» typical scenarios of professional interaction;
- interdisciplinary modules that combine knowledge from several subjects to solve complex real-world problems;
- digital tools (virtual laboratories, artificial intelligence platforms, social networks) that provide a connection with real sources of information and behavioral models.

Psychological and pedagogical conditions aimed at integrating learning contribute to the integration process as a whole, which includes the following components:

1. Integration of information (educational content), which is presented in the educational program.
2. Integration of ways of knowing (students' ideas and skills or experience of activity, which are also widely represented in educational programs for each educational field).
3. Man in relations with the world (man and nature, man and society, man and man).
4. Man and culture (familiarization with various types of art and understanding that art is a reflection of the phenomena of reality).
5. Objective phenomena, processes, objects of the surrounding world; types of human activity, images, emotions, professions; types of knowledge, systems of scientific concepts, laws, leading ideas, systems of actions, models of objective processes and phenomena of life.

Integration of the educational process with real life ensures the formation of key and professional competencies, such as critical thinking, team interaction, ethical attitude to professional activity, the ability to continuous learning and self-development.

CONCLUSIONS AND PROSPECTS OF FURTHER RESEARCH

Thus, integration with real life and practice within the framework of a competency-based approach not only makes the educational process more meaningful and motivating, but also creates the prerequisites for training competitive, flexible and responsible specialists who are able to act effectively in a changing social environment. Successful implementation of integrated learning is possible only with a systematic approach, support from the administration of higher education institutions, professional development of teachers and a high level of motivation of students.

The implementation of the ideas of integrated learning in the educational process of higher education institutions contributes to the formation of a holistic perception of the world, the development of key competencies, and the preparation of specialists for life in a rapidly changing information society. Integration is not an end in itself, but an effective information and didactic tool that allows you to teach not just subjects, but to apply knowledge in real-life situations.

We see prospects for further scientific research in the study of innovative technologies for applying forms of integration in the educational process of higher education institutions.

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