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DIDACTIC FOUNDATIONS OF THE INTEGRATIVE APPROACH IN DEVELOPING THE METHODOLOGICAL READINESS OF FUTURE PRIMARY SCHOOL TEACHERS

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Abstract

This article examines the theoretical and didactic foundations of an integrative approach in developing the methodological readiness of future primary school teachers. A model for forming a holistic professional worldview in students through the integration of Technology education with other subjects (Mathematics, Fine Arts, Natural Sciences, and the Mother Tongue) is presented. The study provides a comparative analysis of traditional and integrative approaches and scientifically substantiates the development of future teachers' creative and design thinking through the transformation of interdisciplinary connections.

Keywords

Technology education, integrative approach, methodological readiness, primary education, interdisciplinary connections, design thinking, creativity, innovative model, professional competence.

The integration of educational and upbringing processes in primary schools is considered one of the priority directions of modern pedagogical science from both theoretical and practical perspectives. In the context of globalization, the rapid changes occurring in the fields of science and production are generating new requirements for the professional activity of primary school teachers, particularly for their methodological readiness to teach Technology education. These requirements necessitate the identification and scientific substantiation of effective pedagogical models based on an integrative approach in developing the methodological readiness of future primary school teachers.

In the modern primary education system, the comprehensive development of a student's personality cannot be confined to a single subject. In today's era of information flow, the subject of "Technology" should serve not only as a means of developing manual skills but also as a central component for fostering intellectual potential, design thinking, and technological culture.

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An analysis of the scientific and pedagogical literature shows that the issue of integration has been studied by many local and foreign scholars. According to R. Mavlonova, modern Technology education aims to develop students' culture of thinking, their ability to understand the world as a whole, analyze events, and grasp their essence deeply. Sh. Abduraimov interprets integration from the Latin meaning "to restore" or "to unite into a whole" and considers it as a process of extensively utilizing the possibilities of knowledge and interdisciplinary connections.

In this study, the methods of systematic-functional analysis and pedagogical modeling were used to develop the methodological readiness of future primary school teachers to teach the subject of "Technology." The conceptual basis of our research is represented by the following authorial definition:

Integrative approach — a modern pedagogical approach aimed at forming a holistic system of knowledge, strong practical skills, and active cognitive thinking in students through the logical, systematic, and didactically coherent integration of educational content, methods, forms of activity, and competencies.

To identify the differences between traditional and integrative approaches in the educational process, the following comparative analysis was conducted:

Table 1.

Comparative analysis of traditional and integrative approaches in the educational process

№	Traditional Approach	Foundations of Educational ess	Integrative Approach
1	Directed according to specific irements and needs in different s	Qualification uirements of the ary Education ialization	Directed in accordance with the lopment trends of science, nology, and engineering, as well as loyer requirements
2	The volume, sequence, and brief ent of theoretical and practical es for subjects in professional ing directions	Curricula and rams	Regulation of the volume, sequence, brief content of theoretical and tical classes for subjects based on the t-module system
3	Conducting lessons in group n) format	Forms of nizing education	Organizing lessons by dividing ents' activities into small groups or in orm of collective discussions
4	Organizing the teaching process	Technologies	Effectively organizing the

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	‹r the teacher's guidance in ‹retical and practical forms	methods used in organization of ation	ational process based on innovative ›ing technologies and methods ›blem-Based Learning – PBL, ›storming, CLIL, Project Method, al technologies, demonstration, eling, and examples)
5	In an education system oriented ›rd the teacher, education, cula, and the process of lessons approached strictly from the ›pective of the institution and the ›er's preferences	Role of the ›er in the ational process	Implemented based on a student-‹ered approach, taking into account ents' interests, needs, specialization, labor market requirements through epth analysis
6	Students' learning content, me, and methods are etermined; they act as "listeners," ‹ivers," or "memory keepers"	Role of students the educational ess	Aimed at developing students' ›ies for independent thinking, essing their opinions, engaging in ussions, critically approaching lems, and making their own ›ions
7	Assessment based on Q&A and ework results (5–excellent, 4– l, 3–satisfactory criteria)	Monitoring and ›uation	Evaluation of outcomes in vative technologies and methods ugh non-traditional tasks, creative ›, video projects, problem-based nments, case studies, and creative ›, using motivational, practical, ity-based, and reflective criteria and s

As a result of the conducted study, a model for developing the methodological readiness of future primary school teachers was designed. This model consists of six stages and ensures the synthesis of different subjects:

1. Goal-setting stage: The teacher defines the overall objective and directs students toward understanding interdisciplinary connection.

2. Justification stage: Concepts from various subjects are generalized, and students' volitional and intellectual qualities are developed.

3. Content stage: A set of integrative evidence and problems is introduced. Interdisciplinary practical skills are developed.

4. Selection of tools stage: Tables, scenarios, and digital resources that facilitate the generalization of knowledge are selected.

5. Outcome stage: The transformation of creativity, design thinking, and practical skills becomes evident.

6. Assessment stage: Students' methodological readiness is evaluated in terms of its compliance with employer (school) requirements.

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The content of teaching the subject of Technology in connection with other subjects is reflected in the following table:

Table 1.2.

The content of teaching technology in connection with other subjects.

Natural Sciences				
Technology	**Mother Tongue and Literacy**	**Mathematics**	**Natural Sciences**	**Fine Arts**
Skills are developed in cutting and folding paper, simple and complex folding techniques, understanding general concepts, using work tools, selecting and distinguishing colors, performing appliqué work, creating mosaics, and independently designing compositions.	It strengthens speech culture, comprehension skills, and the ability to express thoughts clearly.	The parallelism of straight lines and planes in space, and the properties of polygons.	Selecting materials, observing their properties, and the processes of construction and creation align with students' initial knowledge about objects and properties in nature.	This helps develop students' aesthetic taste, spatial imagination, color perception, and compositional thinking skills.

Integrated lessons help students grasp the wholeness of the world. For example, when a connection between Technology and Mathematics is established, a student not only creates an object but also analyzes its dimensions from a geometric perspective. In connection with Fine Arts, the aesthetic value and design of the object take priority.

Our observations indicate that in traditional education, knowledge is presented in a "fragmented" manner, which can lead to difficulties for future teachers during school practice. The integrative model we propose increases students' emotional and cognitive engagement while preventing excessive mental strain. In particular, within the framework of the concept "Modern lesson – modern teacher – modern student," integrated lessons prove to be the most effective form. In such lessons, the teacher is not merely an information provider but becomes a moderator guiding the student's research activity.

Based on the conducted theoretical and practical studies, the following conclusions were drawn:

The integrative approach elevates the methodological readiness of future primary school teachers to a qualitatively new level and ensures their competitiveness in the labor market.

By synthesizing Technology with other subjects, the content of education can be didactically improved. In this process, design thinking and creativity serve as key indicators.

Higher education institutions need to revise the curricula of the "Methods of Teaching Technology" course based on interdisciplinary integration and trans-subject principles.

As a practical recommendation, it is suggested that pedagogical higher education institutions introduce specialized courses on "Designing Integrated Lessons" for students and provide them with digital learning resources, which can increase the effectiveness of methodological training by 25–30%.

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