THE CURRENT STATE OF DIGITALIZATION IN HIGHER EDUCATION

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Abstract

This article analyzes the current state of the digitalization process in primary education, the existing technologies, their impact on the educational process, and their applicability. It also highlights the advantages and challenges of digital tools in primary school lessons. The paper examines pressing issues in the field and possible solutions.

Keywords: Primary education, digitalization, digital technologies, educational innovation, interactive teaching, digital tools.

Introduction

Innovative technologies have rapidly entered our lives, and it is now impossible to imagine modern reality without digital technologies. Even the cultural field, composed of concrete works, cannot be imagined without digital transformation. Digital technologies are becoming excellent tools for promoting cultural values and expanding their influence to a wider audience. While actively involving the population in a digital cultural environment, it becomes a vital task of the state to preserve national cultural values and the cultural and national identity of the Russian people in the context of the development of a global digital society.

At the current stage of higher education development, the paradigm of education quality management is shifting from a subject-object to a subject-subject model. Philosophical and psychological conditions are being identified and manifested in the following: changes in the structure of interaction between the subjects of the educational process under the influence of digitalization and intellectualization of education; and the orientation of the educational process toward the individual abilities and capabilities of the student. The social conditions of managing the quality of higher education are determined by changes in human behavior due to the integration of information technologies and daily activities; and the real integration of education with "production." Pedagogical conditions include the process of digitalizing education, intellectualizing education, and directing the educational process toward the student's individual abilities and opportunities.

In the context of digitalization in higher education, it is crucial to recognize each participant of the educational process as an active subject of knowledge, taking into account their dignity and individuality, personal characteristics, and the ability to independently manage their own activities. This defines the necessary process of adapting to the rapidly changing conditions of

life and transforming the quality of education into a personalized concept of "life" in the global information society.

In the context of digitalization, it is appropriate to consider the concept of "quality of education" as a distinctive feature of the student's individual achievements. At the same time, an individualized educational path becomes a means to achieve educational quality, enabling the student's consistent development and personal transformation based on their interaction as a subject in the educational process.

In managing education quality under digitalization, the "management – support" model is applied, which significantly differs from the currently existing "management – control" model. This ensures the student's participation in building an individual educational path and choosing forms, methods, and technologies of professional training "for themselves," in accordance with their individual opportunities, needs, and capabilities.

The concept of designing an individual learning path for students is grounded in the leading idea of "partnership as a form of self-development." This idea reflects the essence of the student's partnership in defining the goals of their educational trajectory; organizing and implementing the learning process; refining, modifying, adjusting, and making decisions in their future professional field; and developing responsibility for the activities performed and jointly made decisions. This concept, based on the aforementioned idea, demonstrates a collaborative approach by the subjects of the educational process to address the crucial task of improving the quality of higher education.

Implementing the idea of "partnership as a form of self-development" necessitates a participatory-synergetic approach that directs both the teacher and the student to jointly organize the learning process as an open system:New goals and objectives of education are emerging;A continuous process of exchanging information, knowledge, and experience among the subjects of the educational process is ongoing;The interdisciplinary level of educational content is increasing;Working conditions are characterized by dynamism and variability.

The participatory-synergetic approach is presented at various levels:**Philosophical level**: as a component of the methodology;**General scientific level**: in the "mobile" structure of professional training that ensures interaction among the subjects of the educational process;**Specific scientific level**: in its technological component.

The conceptual idea is concretized in the selected patterns and principles of designing the student's individual learning path, aimed at:

Providing students with the opportunity to interact with the subjects of the educational process by jointly studying achievements of various scientific directions of an interdisciplinary nature, constructing the student's individual learning path together, and adjusting its development;Reflecting the student's personality and their self-organization.

At the philosophical level of the methodology, the principles of designing the student's individual learning path include:

Openness;Entropy-information principle,Variability of management strategies and technologies.

At the general scientific level:**Cluster transformation principles,Instrumental flexibility**.At the specific scientific level:**Personalization of activity,Principle of self-development**.

The content of the principle of openness determines the use of various methods and technologies in the learning process, facilitating open dialogue and mutual understanding in the joint activities of the student and teacher.

The entropy-information principle involves organizing the learning process in such a way that new educational content, methods, and technologies of activity are continuously supplemented.

The principle of variability of management strategies and technologies entails introducing new forms of organizing the learning process, ensuring students' freedom to choose the pace and mode of study.

The principle of cluster transformation ensures the modification of educational programs and their implementation processes not only considering the requirements of educational standards and demands but also in accordance with students' individual achievements.

The content of the principle of instrumental flexibility involves developing unified digital tools that integrate the processes of learning, diagnostics, control, and monitoring.

The principle of personalization of activity and self-development ensures the selection of the most prioritized direction of the student's individual learning path in accordance with their developing and formed abilities and competencies.

The structural and functional model of designing the student's individual learning path is a complex integrative, goal-oriented, and coordinated process of information interaction among all participants of the educational process. This allows for the identification and continuous adjustment of the student's personal educational trajectory, facilitating the development of their professional and personal qualities.

The model includes the following stages:**Goal-setting**: developing an effective system for managing the quality of education that ensures the student's learning process aligns with their interests and capabilities, as well as adapting them to future professional activities; ensuring the individualization of the learning process in higher education;

Content and activity: restructuring the system of designing and developing educational programs in higher education; transforming student activities from educational sessions to research and projects that ensure the formation of self-control, introspection, self-assessment, and mutual assessment skills; creating a new system of interaction among all participants of the educational process based on the acceptance of common goals, harmonization of interests, and the creation of an environment of constant "immersion" in the process of effective activity;

Instrumental and technological: the student's route in an individual digital learning environment;**Evaluation and diagnostics**: criteria for the quality of education and individualization of the learning process;**Reflective**: the impact of the student's individual learning path on the quality of education.

The digital learning environment serves as the primary condition for designing a student's individual learning path, as it possesses a number of distinctive features:The environment creates a professional network that integrates digital, technical, telecommunication resources, and network communities. Their centralization enables effective interaction between the subjects of the educational process. The implementation forms of these resources include developed and conducted webinars, discussions, forums, digital quests, web conferences, and others.The environment provides a comfortable educational and research platform for the subjects of the learning process. To implement these conditions, the following have been

developed and introduced: a new "scheme" for building the educational program, practical training resource centers, simulators, online laboratories, network departments, and an online learning platform using hybrid computational intelligence.The environment ensures a process that combines the direct outcomes of each student's activities through mutual understanding, constant information exchange, decisions, conclusions, and joint results. This is supported by specially designed procedures for diagnosing learning achievements and constructing competency development stages based on solving professional problems and situations. As a result of these procedures, individual educational statistics are formed as a pedagogical "diagnosis."

The functions of the digital learning environment include: self-management, self-organization, motivation, design, adaptivity, integration, and development. The self-regulation of the environment provides optimal conditions for comprehensive regulation of the learning process, ensuring interaction between all its elements and participants, as well as its integrity and effectiveness. The self-organization function of the environment is revealed through the creation of individual conditions for each participant's activity and interaction.

In a digital learning environment, the learning process is distinguished by its problem-based and research-oriented nature, which encourages students' educational and cognitive engagement in solving tasks and problems. The design function of the environment is realized through the conditions for planning, implementing, and evaluating the learning process, defining learning outcomes that correspond to the set goals of the educational program.

The adaptive function ensures the effective use of various learning processes and pedagogical tools (methods, forms, and means) that align with the individual characteristics of the student. The integrative function of the environment supports the creation of a unified "space of opportunities" that combines the efforts of all participants in implementing the individual learning path.

The digital learning environment contributes to students' intellectual and personal development through educational interaction, technological organization of the learning process, and continuous monitoring of students' academic achievements.

Technology for Designing the Student's Individual Learning Path in the Digital Learning Environment

This technology reveals mechanisms for organizing and implementing the learning process at the university that ensure its successful construction and development by students. The technology represents a system for the personalized construction and development of a student's individual learning path and includes the following components:**Diagnosing** students' academic achievements and individual characteristics through the construction of an information and knowledge database. This is carried out using electronic testing supported by special diagnostic tools and software, employing standardized psychodiagnostic methods, open-ended questions, completed assignments, and audio-video reports on completed work.**Collaborative design** of the student's individual learning path. A "supportive" tutoring mechanism (and activity mode) has been developed and implemented to assist students in choosing disciplines, modules, and forms of learning.**Implementation of the educational program** according to the individual learning path. Pedagogical mechanisms for creating a personalized study schedule, a flexible curriculum, and the integration of additional educational

modules have been developed and introduced.**Adjustment and support** of the development process of the student's individual learning path. A unified electronic platform has been created, which includes electronic learning materials and digital libraries. The result of a student's activity on the platform is the formation of their personal portfolio.

The main conceptual idea—**"partnership as a form of self-development"**—ensures the design of a student's individual learning path by organizing continuous interaction among all subjects of the educational process in a digital environment, reflecting the student's professional and personal qualities, self-organization, and reflection.

Conclusion:

Conducting lessons through computer animation elements enhances lesson effectiveness, as these tools combine computer-generated images, movement, and realistic atmospheres. Their main innovation lies in **interactivity**, which includes direct access, hyperlinks, and interactive searches. This not only increases student interest but also creates opportunities for participation.

In **primary education**, the most common forms of digitalization are: creating artificial environments and characters, modeling scenery and objects on the computer, generating effects, synthesizing and editing artistic sounds, nonlinear video editing, sound processing, and more.

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