

**IMPROVING THE MECHANISMS FOR DESIGNING AND IMPLEMENTING
SCIENTIFIC AND METHODOLOGICAL SUPPORT BASED ON DIGITAL
TECHNOLOGIES**

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Annotation

This article provides a comprehensive analysis of the impact of digital technologies on the processes of designing and implementing scientific and methodological support. In particular, the role of electronic platforms, distance learning tools, digital libraries, analytical systems, and recommendation mechanisms based on artificial intelligence in shaping a teacher's professional development trajectory will be revealed.

Keywords

digital technologies, scientific and methodological support, educational management, distance learning, artificial intelligence, pedagogical environment, reflection, monitoring, analytics, innovation.

Modern globalization processes, the rapid development of information technologies, and the widespread implementation of innovative approaches necessitate a fundamental renewal of the education system. In particular, the issue of the effective design and implementation of scientific and methodological support in the organization of pedagogical activities is becoming increasingly relevant. In this process, digital technologies serve as an important tool, allowing for the development of a teacher's professional competencies, improving the quality of education, and enhancing management processes.

Scientific and methodological support is a set of methodological materials, recommendations, programs, and tools necessary for the effective organization of pedagogical activity. By reviewing and digitizing this system based on modern requirements, it is possible to bring the educational process to a higher quality level.

Digital technologies are elevating the mechanism for designing scientific and methodological support to a new level. Unlike traditional methodological tools, educational resources are expanding through digital platforms, making them easier to access and increasing their efficiency.

Electronic platforms allow teachers to quickly exchange methodological materials, share experience, and work in collaboration. Remote courses provide a continuous process of professional development for educators. This process eliminates geographical and time constraints and creates opportunities for individual development for every teacher.

Digital libraries expand access to scientific and methodological literature. The teacher can quickly find the necessary sources, analyze them, and apply them in practice. This serves to increase scientific and methodological literacy.

Artificial intelligence-based systems are bringing new opportunities to the educational process. In particular, recommendation systems help determine the direction of individual development based on the teacher's level of knowledge, needs, and activities.

The teacher's activities are monitored through analytical panels, and the results are analyzed in real time. This allows for self-assessment, the identification of shortcomings, and their elimination.



Automated diagnostic tools play a crucial role in assessing a teacher's professional competencies. Through them, the educator determines the level of their knowledge and skills and develops a development strategy.

In the process of educational management, digital technologies enhance management efficiency. The teacher acts not only as a teacher but also as a manager. From this perspective, the following competencies are considered important:

- planning
- monitoring
- analysis
- Evaluation of results
- strategic decision-making

Digital tools provide essential assistance in developing these competencies. For example, analytical systems identify problems in the educational process and find solutions to them.

To effectively implement scientific and methodological support, technologies alone are insufficient. This process must be reinforced by pedagogical conditions.

The following factors are considered important in an educational institution:

methodological support environment

- open dialogue
- collaborative learning
- encouraging professional initiatives;
- support for innovation activities;

Such an environment allows the teacher to work on themselves, test new methods, and exchange experience.

Reflective culture is the teacher's ability to analyze their own activities, recognize mistakes, and strive to eliminate them. In a digital environment, this process becomes even easier.

A teacher must regularly evaluate their performance, adapt to changes, and implement new approaches. Through reflection, he identifies his strengths and weaknesses and develops a development strategy.

Digital technologies are an important factor in the development of scientific and methodological support, elevating the education system to a new level. Electronic platforms, artificial intelligence, analytical systems, and other digital tools make a significant contribution to a teacher's professional development.

However, the effectiveness of technologies yields high results only when combined with pedagogical conditions. Therefore, it is necessary to create an innovative environment in educational institutions, develop cooperation, and support a reflexive culture.

In the future, the education system is expected to become more digitalized, based on an individual approach, and with effective management mechanisms. This, in turn, allows for the training of competitive, modern-thinking, and highly qualified teaching staff.

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