

**PEDAGOGICAL APPROACHES TO DEVELOPING FUTURE
DOCTORS' COMPETENCE IN CREATING ELECTRONIC
METHODOLOGICAL SUPPORT IN THE CONTEXT OF
DIGITAL HEALTHCARE**

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Abstract. *This thesis examines pedagogical approaches to developing future doctors' competence in creating electronic methodological support in the context of digital healthcare. The growing digital transformation of healthcare systems and medical education requires not only clinical knowledge and practical skills from future physicians, but also the ability to design, adapt, and apply electronic educational and methodological resources in professional training. The paper analyzes the didactic potential of digital learning environments, competency-based education, project-based learning, interdisciplinary integration, and practice-oriented instruction in shaping this competence. It is argued that the purposeful inclusion of electronic methodological resource development into the educational process contributes to the formation of digitally competent, pedagogically prepared, and professionally mobile medical specialists.*

Keywords: *digital healthcare, future doctors, pedagogical approaches, electronic methodological support, digital competence, medical education, professional training, instructional design.*

The rapid digitalization of healthcare has significantly changed the requirements for the professional preparation of future doctors. Modern physicians are expected not only to possess fundamental medical knowledge and clinical decision-making skills, but also to navigate digital environments

effectively, use information and communication technologies, and participate in the creation of electronic educational and methodological materials. In this regard, the development of competence in creating electronic methodological support has become an important objective of higher medical education.

Electronic methodological support includes digital educational resources that facilitate teaching, learning, and professional communication. These resources may consist of electronic manuals, multimedia presentations, interactive assignments, video lectures, infographics, test systems, clinical simulations, and digital instructional materials uploaded to learning platforms. In medical education, such resources are particularly valuable because they enable students to visualize complex biomedical processes, systematize professional information, and organize learning content in a structured and accessible format.

The formation of future doctors' competence in creating electronic methodological support should be based on a set of interconnected pedagogical approaches. One of the leading approaches is the **competency-based approach**, which focuses on learning outcomes expressed through knowledge, skills, attitudes, and the ability to apply them in practical contexts. In this framework, competence is understood not merely as familiarity with digital tools, but as the integrated capacity to design meaningful electronic methodological products for educational and professional purposes. Therefore, students should be trained not only to use ready-made digital materials, but also to create their own educational content in accordance with pedagogical and professional requirements.

Another important approach is the **practice-oriented approach**, which links theoretical training with real educational and clinical tasks. This approach is especially relevant in medical education, where abstract knowledge must constantly be transformed into applicable professional action. When students are tasked with developing electronic methodological resources on clinical

topics, they engage in searching, selecting, evaluating, and structuring professional information. As a result, they deepen their understanding of the subject matter and at the same time acquire skills in instructional design, content organization, and digital presentation.

The **project-based approach** also provides broad pedagogical opportunities for competence development. Project work encourages students to solve practical problems through the creation of a concrete product. In the context of medical education, project assignments may include designing an electronic guide on a medical topic, preparing an interactive presentation, developing digital assessment tools, producing educational videos, or creating algorithmic schemes for diagnosis and treatment. Such activities stimulate independence, creativity, collaboration, and responsibility for the quality of the final product. Moreover, project-based learning shifts the student from passive consumption of information to active production of educational resources.

An equally significant role belongs to the **interdisciplinary approach**, since the creation of electronic methodological support requires the integration of medical knowledge, pedagogy, information technology, and visual communication. Future doctors should understand not only the scientific content of the materials they develop, but also the principles of clarity, accessibility, consistency, interactivity, and audience orientation. This interdisciplinary synthesis ensures that digital educational resources are both scientifically accurate and methodologically effective. It also prepares students for future professional contexts in which communication, patient education, continuing professional development, and team-based learning increasingly rely on digital formats.

The **student-centered approach** is another pedagogical basis for competence formation. In digital learning environments, students are expected to act as active participants in the educational process, capable of independent learning, reflection, and self-assessment. Creating electronic methodological

support enables them to individualize their learning trajectory, choose relevant formats, and express professional understanding through digital products. This fosters motivation, engagement, and ownership of learning outcomes. At the same time, the teacher's role changes from transmitter of ready-made information to facilitator, consultant, and organizer of pedagogically meaningful activity.

To ensure the effectiveness of these approaches, several pedagogical conditions should be created. First, higher medical education institutions should provide an appropriate digital learning environment with access to software, online platforms, multimedia tools, and methodological guidance. Second, the content of relevant disciplines, especially courses such as **Information Technologies in Medicine**, should be enriched with tasks aimed at designing electronic methodological resources rather than limited to technical operations. Third, students should be given professionally oriented assignments that reflect real educational and medical communication needs. Fourth, clear assessment criteria should be developed to evaluate the quality of students' electronic products, including scientific accuracy, methodological value, visual design, interactivity, usability, and practical relevance.

In addition, reflective practice should be incorporated into the process of competence development. Reflection allows students to analyze the strengths and weaknesses of the electronic materials they create, identify difficulties, and improve subsequent work. This contributes to the development of critical thinking, self-regulation, and lifelong learning skills, all of which are essential for medical professionals in rapidly changing digital contexts.

In conclusion, the development of future doctors' competence in creating electronic methodological support in the context of digital healthcare is a complex and strategically important pedagogical task. Its successful implementation requires the integration of competency-based, practice-oriented, project-based, interdisciplinary, and student-centered approaches.

These approaches create favorable conditions for training future physicians who are not only digitally literate, but also capable of independently designing educational and methodological resources for professional use. As a result, medical education becomes more responsive to the demands of digital healthcare and better aligned with the needs of modern professional practice.

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