

DEVELOPMENT OF PROFESSIONAL COMPETENCE OF MEDICAL STUDENTS

Buranova Nilufar Shavkatovna

PhD of Pedagogical sciences, docent of Department
Teaching Languages in medicine
Andijan branch of Kokand University

Abstract: In this article, the author addresses the issue of developing professional competence in students. Conceptual and technological approaches to preparing qualified workers who are competitive in the labor market and capable of effectively performing their profession at a global level are defined. The author's primary methods in this area include interdisciplinary integration, simulation training, virtual reality, and Problem-Based Learning (PBL).

Keywords: competence, competency-based approach, professional training, conceptual building blocks, medical students.

Introduction: The relevance and sociocultural context of transforming the higher medical education system in the Republic of Uzbekistan are dictated by the requirements of the "Uzbekistan 2030" Strategy and the need to integrate into the global educational and scientific community. Given the rapid accumulation of biomedical knowledge and the introduction of high technologies into clinical practice, the traditional "knowledge-based" paradigm is recognized as insufficient. Higher education in Uzbekistan is currently undergoing numerous changes due to ongoing educational reforms aimed at creating a common educational space and increasing the mobility of students and graduates.

The modern medical services market requires not just a translator of academic knowledge, but a clinical leader capable of making decisions under uncertainty, possessing developed critical thinking and a high level of empathy. The dynamic pace of technological innovation, the digitalization of healthcare (e-Health), and the expansion of international communications challenge medical schools to train specialists whose competencies enable them to be competitive not only locally but also globally.

The modern world is experiencing an unprecedented technological transformation, characterized by accelerated technological innovation, the widespread adoption of computers, and the exponential growth of information flows in key areas manufacturing, education, and science. This process inevitably entails fundamental changes in society's demands for the qualifications and quality of specialist training. Consequently, there is a decline in demand for a number of traditional professions and, simultaneously, a pressing need for new specializations, as well as a significantly higher level of professional competence among today's workforce.

Materials and methods. The development of a competency-based approach in pedagogical science has deep roots. To substantiate the methodological basis, it is necessary to refer to the works of domestic, Russian, and international researchers.

The theoretical foundations for the development of a competency-based approach in general pedagogy include the works of the following scholars. R. White and, later, D. McClelland, who contrasted traditional intelligence tests with the assessment of behavioral competencies, are considered the founders of the understanding of competencies as activity-based characteristics in global practice.

The theory of a competency-based approach is covered in the works of such Uzbek researchers and scholars as A.Kh. Makhmudov, R.Kh. Juraev, Sh.K. Mardonov and others. Makhmudov writes in his monograph: "The competency-based approach, considered by the scientific and pedagogical community as a conceptual direction for the modernization of higher

education as a whole, requires a revision of the foundations of the “knowledge” (qualification) paradigm of education. The solution to this problem requires reconsidering the content, rethinking the goals and outcomes of education, and optimizing the methods and technologies for organizing the educational process”.

In Russian pedagogical science, fundamental contributions to the development of this aspect have been made by scholars such as I.A. Zimnyaya, A.V. Khutorskoy, O.E. Lebedev, T.N. Dolmatova and others.

In particular, I.A. Zimnyaya views competence as an actualized quality based on an intellectually conditioned personality [6, 14]. She identified three groups of key competencies: those related to the individual, those related to social interaction, and those related to human activity.

A.V. Khutorskoy proposes a hierarchy of such competencies: key, general, and subject-specific.

Educator O.E. Lebedev, who defines the competency-based approach as a way of modeling educational outcomes, believes that the priority is students' ability to independently solve problems [5, 16].

At the current stage of educational development, professional training is implemented based on state educational standards, which are based on the concept of a competency-based approach. A competency-based approach is commonly understood as “a set of general principles for defining educational goals, selecting educational content, organizing the educational process, and assessing educational outcomes” [1, 12]. “Competence includes a set of interrelated personal qualities (knowledge, abilities, skills, and modes of action) and the ability to successfully act based on practical experience in solving general problems, as well as in a specific broad area” [2, 43].

Training a competent, broad-based professional within higher education, writes T.N. Dolmatova in her article, is becoming increasingly difficult [8, 53]. Such training, according to the author, requires not only fundamentally different technologies at different stages of the educational process when studying various disciplines, but also a modernization of the very methodology of professional training, a change in the educational paradigm, and approaches.

In medical education, competency-based methodology takes on a special character. Here, “competence” is viewed through the lens of Miller’s Pyramid, where the ascent proceeds from the level of “knows” to the level of “does” in real-life clinical practice.

Methodologically important are the works of R. Epstein and E. Hundert, authors of the article “Defining and assessing professional competence”, who define a physician’s professional competence as “the habitual and judicious use of communication, knowledge, technical skills, clinical reasoning, emotions, values, and reflection in daily practice for the benefit of the individual patient and society as a whole” [10, 34]. The authors of this article offer the following definition of competence: “the regular and judicious use of communication, knowledge, technical skills, clinical reasoning, emotions, values, and reflection in daily practice for the benefit of the individual and the community served”.

Developing the professional competence of medical students, which encompasses a range of professional and personal qualities—scientific knowledge and skills, the ability to engage in independent creative work, and the presence of moral culture and spiritual values – presupposes the development and theoretical substantiation of the following conceptual and technological ideas and principles.

It is important to consider the following aspects of the conceptual principles of student professional competence, which represent:

the competency-based approach to education focuses on what graduates should be able to do, not just know. This means that learning outcomes are not simply a set of facts, but the ability to

effectively act in a variety of situations, including complex and novel ones. The concept of competence has become key in global education because, firstly, it combines the intellectual and skill-based components of education; secondly, it embodies an ideology for interpreting educational content based on the outcome; thirdly, it unites theory and practice, defines learning content based on the desired outcome, and integrates the various knowledge and skills necessary for a wide range of tasks;

to develop medical students' professional competence, which encompasses both professional knowledge and skills, as well as personal qualities (creativity, ethics, values), it is necessary to develop and substantiate a number of ideas. These ideas relate, firstly, to understanding the role of a modern university in developing competence, creating an image of the ideal specialist, defining teaching principles, conditions for student independence, teacher-student interaction, and adapting educational content to regional specifics. Secondly, they include technologies aimed at integrating subjects, individualizing instruction, preparing teachers to take regional specifics into account, university interaction with society, and creating a feedback system for student self-education [4, 23].

A modern medical university is not just an educational institution, but a scientific and educational cluster. In Uzbekistan, this is realized through close ties between departments and clinical sites. The system must be adaptive, ensuring a transition from passive information absorption to active experience construction, embodying the model of a professionally competent specialist. To effectively develop the professional competence of medical students, it is necessary to define the conceptual foundations for competence development in a medical university, providing a theoretical justification for the following modules:

1. The cognitive module represents deep fundamental knowledge (anatomy, physiology, pharmacology) combined with an understanding of the principles of evidence-based medicine.
2. The operational-technological module involves mastery of manipulations, diagnostic algorithms, and modern medical equipment.
3. The personal-deontological module includes ethical principles, a commitment to medical confidentiality, and the ability to work in a multidisciplinary team. Furthermore, psychological and pedagogical principles are also present in medical education. These include the principle of subjectivity—the student becomes an active participant in their learning, rather than an object of pedagogical influence and the principle of contextuality (according to A.A. Verbitsky), which states that training should be as close as possible to the conditions of future professional activity (through case studies, role-playing games, and simulations).

In the process of developing professional competence, the transition from theory to practice plays a crucial role, which requires the implementation of specific educational technologies. Based on an analysis of literature and practical classes, the most effective technologies for promoting the development of professional competence in medical students were selected: interdisciplinary integration, simulation training, virtual reality, and Problem-Based Learning (PBL). Let's examine these technologies in detail.

Interdisciplinary integration represents traditional “patchwork” education, where subjects are studied in isolation, is being replaced by vertical and horizontal integration. For example, the study of biochemistry is closely linked to pathological physiology and the clinical diagnosis of specific diseases.

Simulation training and virtual reality. Developing a physician's professional competence is impossible without the right to make mistakes in a safe environment. Simulation centers allow for the development of skills to the point of automatism using dummies such as low-tech simulators (injection phantoms), high-tech robotic patients simulating critical conditions, and VR technologies for studying topographic anatomy and practicing surgical approaches.

Problem-Based Learning (PBL) technology. PBL methodology, actively implemented in leading medical schools worldwide, forces students to begin not with theoretical study, but with clinical case analysis. This stimulates independent knowledge discovery and develops analytical skills.

As T.N. Dolmatova rightly notes, the role of independent work and research in training a generalist requires a change in the very paradigm of learning. The key element here is student independent work (SIW). In medical schools, SWS is transformed from textbook reading to:

1. Participation in student research circles.
2. Writing academic case histories.
3. Preparing literature reviews using the Cochrane methodology.
4. Volunteering in clinics, which forms the foundations of professional ethics and social responsibility.

The specifics of professional training and competence of future doctors in Uzbekistan are determined by the regional aspect, and the key element is the introduction of a national-regional component in medical training in Uzbekistan. This includes the study of regional pathologies and the genetic profile of the region's population; consideration of ethnocultural characteristics in doctor-patient communication (principles of respect for elders, family values); and the training of specialists for work in primary healthcare (rural medical centers) with an emphasis on preventive medicine.

Conclusion. The key focus in training university specialists is engaging students in consistent, independent cognitive activity. This will foster their creative approach to learning, foster conscious discipline, exercise self-control, master methods of scientific understanding of the world, improve their time management skills, and develop a passion for scientific research.

Developing medical students' professional competence is a continuous process of integrating fundamental knowledge, practical skills, and personal qualities. A methodological shift to a competency-based approach allows us to prepare physicians capable of not simply reproducing algorithms, but also creatively solving complex clinical problems. Further improvement of this system is envisaged through deeper digitalization of the educational process, strengthening the university-research-clinic connection, and creating a system of continuous professional education (lifelong learning), beginning at the student level.

Bibliography

1. Buranova, N. Sh. (2025). Research activities of medical university students as a means of improving professional competencies. *Economy and Society*, (1-2 (128)), 617-622.
2. Buranova, N. Sh. (2021). New pedagogical technology "Thin and Thick Questions" in extracurricular reading lessons. *Universum: psychology and education*, (8 (86)), 4-6.
3. Buranova, N. Sh. (2022). Interactive methods in studying the works of Russian writers in extracurricular reading lessons at school. *Academic Research in Educational Sciences*, 3(1), 613-617.
4. Buranova, N. Sh. (2024). Methodology for studying the levels of students' research activity in extracurricular reading lessons. *Economics and Society*, (10-2[125]), 623-628.
5. Lebedev O.E. Competence-based approach in education // *School technologies*. - 2004. - No. 5. - P. 3-12.
6. Zimnyaya I.A. Key competencies – a new paradigm of educational results // *Higher education today*. - 2003. - No. 5. - P. 34-42.
7. Kuznetsova T.I., Maksimova N.Yu. Continuity of professional competencies in the system of level education // *Culture and education*. - 2014. - No. 6.
8. Dolmatova T.N., Kriger G.N. On the problem of developing students' professional competence. // *Science and education: Proceedings of the Conf.* - Belovo, 2008.



9. Verbitsky A.A. A context-competence approach to modernizing education // Higher education in Russia. - 2010. - No. 5.

10. Epstein R.M., Hundert E.M. Defining and assessing professional competence // JAMA. - 2002. - Vol. 287. - No. 2. - P. 226–235.