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METHODOLOGY FOR DEVELOPING PEDAGOGICAL EXCELLENCE AND ITS APPLICATION IN CLINICAL EDUCATION

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Abstract

This article examines the methodology for developing the pedagogical excellence of instructors in the system of clinical medical education. A theoretical analysis of the foundations of pedagogical excellence, contemporary methods of developing pedagogical competence, and the distinctive features of clinical education has been conducted. The possibilities of applying pedagogical excellence in clinical training have been explored, along with the role of interactive methods, digital technologies, and simulation-based learning. Based on an analysis of the current state of the problem, practical recommendations are proposed for improving the methodology of pedagogical excellence development in medical education. Special attention is given to international experience and innovative pedagogical technologies. A direct relationship has been established between the instructor's level of pedagogical excellence and the quality of medical personnel training.

Keywords: Pedagogical excellence, clinical education, medical education, pedagogical competence, simulation-based learning, interactive methods, digital technologies, virtual reality, PBL, quality of medical personnel training.

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Introduction

The training of highly qualified medical professionals represents one of the strategically important tasks of the modern educational system. The quality of preparation of future physicians depends directly on the level of pedagogical excellence of the instructors conducting the educational process, especially at the stage of clinical training. In the context of rapid advances in medical technologies, changing approaches to the delivery of healthcare, and increasing demands on the competencies of medical school graduates, the role of pedagogical excellence in clinical education becomes substantially more significant.

Clinical education occupies a special place in the system of medical personnel training, since it is at this stage that the integration of theoretical knowledge with practical skills takes place, along with the formation of clinical thinking and the professional identity of the future physician. The effectiveness of this process is largely determined by the pedagogical competencies of clinical instructors, who must possess not only deep professional knowledge in their area of medicine, but also command contemporary teaching methods, foster the development of critical thinking among students, and create conditions for the formation of independence in clinical decision-making.

Contemporary medical education is characterized by a transition from traditional passive forms of instruction to active, interactive, and student-centered approaches. This transition is driven by the necessity to equip students with skills required for working in a rapidly changing medical environment, including the capacity for continuous professional development, the ability to work with large volumes of information, teamwork skills, and effective communication with patients.

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Relevance of the Study

The relevance of researching the methodology of pedagogical excellence development in clinical education is conditioned by a number of significant factors of both theoretical and practical importance.

First, a substantial lag is observed in the system of training medical education instructors relative to the pace of development in the medical sciences and technologies. Many clinical instructors who possess outstanding professional knowledge and practical experience lack adequate pedagogical preparation, which limits their ability to effectively transmit knowledge to students and form the necessary competencies in them.

Second, contemporary requirements for healthcare quality and patient safety impose heightened demands on the preparation of medical school graduates. Errors in medical practice are often linked not to a deficiency of technical knowledge, but to errors in clinical reasoning, decision-making, and communication, which are directly dependent on the quality of the pedagogical process in clinical education.

Third, the digitalization of education — accelerated by the COVID-19 pandemic — required medical instructors to acquire new digital competencies, including the use of virtual reality, simulation systems, and online platforms for teaching and assessment. The introduction of innovative technologies requires corresponding pedagogical excellence for their effective application in the educational process.

Fourth, international experience in medical education demonstrates high standards of pedagogical preparation for clinical instructors, which creates the need to adapt best practices to national conditions and to develop corresponding methodologies for instructor preparation.

Fifth, studies demonstrate a direct correlation between the instructor's level of pedagogical excellence and the quality of competency formation in medical students. Instructors who command contemporary pedagogical methodologies

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ensure a higher quality of clinical thinking formation, practical skills, and professional values among learners.

Theoretical Foundations of Pedagogical Excellence

Concept and Structure of Pedagogical Excellence

Pedagogical excellence represents an integrative quality of the instructor's personality, characterized by a high level of professional competence, command of effective teaching and educational methods, capacity for a creative approach to pedagogical activity, and continuous self-improvement. In the context of medical education, pedagogical excellence encompasses specific components related to the distinctive features of training medical professionals.

The structure of pedagogical excellence of a medical school instructor comprises the following components:

The cognitive component encompasses deep professional preparation in the medical field, knowledge of contemporary scientific and practical achievements, and an understanding of the patterns of medical science development and healthcare trends. This component also includes knowledge of learning psychology, pedagogy, and the age-related characteristics of students.

The activity component is manifested in command of a variety of teaching methods and technologies, the ability to plan and organize the educational process, effectively manage students' learning activities, and conduct diagnosis and evaluation of achieved outcomes. In clinical education, this component includes the ability to organize work with patients, model clinical situations, and conduct clinical case reviews.

The personal component reflects the pedagogical abilities of the individual, including communicative skills, empathy, the capacity to establish trusting relationships with students, pedagogical tact, responsibility, and engagement in the educational process. The instructor's personal qualities have a substantial influence on student motivation and the formation of professional identity.

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The reflective component encompasses the capacity for self-analysis of one's own pedagogical activity, critical assessment of the effectiveness of applied methods, awareness of professional development needs, and readiness for change and innovation.

Specifics of Pedagogical Excellence in Medical Education

Pedagogical excellence in medical education has a number of distinctive features conditioned by the nature of the future professional activity of graduates.

First, medical education is characterized by a high degree of responsibility for learning outcomes, since errors made during training may lead to serious consequences for patients in the physician's future practice. This demands a special approach from the instructor to organizing the educational process and creating conditions for safe learning and skills practice without risk to patients.

Second, medical education requires the integration of theoretical knowledge and practical skills, which necessitates the use of specific pedagogical methods that ensure this integration. Clinical education in particular requires instructors to be able to organize the process of transition from theoretical knowledge to practical application in real clinical situations.

Third, the medical profession presupposes continuous lifelong learning throughout professional activity, which demands that instructors form in students an orientation toward continuous professional development and the ability to independently update their knowledge.

Fourth, medical practice is characterized by a high degree of uncertainty and the necessity of making decisions under conditions of incomplete information, which requires instructors to develop in students clinical thinking, the capacity for analysis, synthesis, and evidence-based decision-making.

Criteria and Levels of Pedagogical Excellence

The identification of criteria and levels of pedagogical excellence is necessary for diagnosing the current state, planning development, and evaluating the effectiveness of pedagogical excellence development methodologies.

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The primary criteria for pedagogical excellence of a medical education instructor are presented below:

Criterion	Indicators
Professional competence	Depth of medical knowledge, currency of knowledge, connection with practice
Pedagogical competencies	Command of teaching methods, lesson planning ability, assessment effectiveness
Communicative skills	Quality of student interaction, explanatory ability, empathy
Methodological work	Development of teaching materials, participation in methodological activities
Innovative activity	Use of new technologies, creative approach
Learning outcomes	Quality of student competency formation

Levels of pedagogical excellence may be classified as follows:

The reproductive level is characterized by the instructor's ability to reproduce known teaching methods, follow established methodological guidelines, and work according to standard curricula. At this level, the instructor possesses basic pedagogical skills but is limited to the use of traditional methods.

The adaptive level presupposes the instructor's ability to adapt known methods to specific conditions, modify approaches depending on the characteristics of a student group, and vary methods according to learning objectives.

The productive level is characterized by the instructor's capacity for the creative use of methods, the creation of original methodological developments, and an innovative approach to organizing the educational process.

The highly masterful level represents the highest degree of pedagogical excellence, at which the instructor possesses a unique pedagogical individuality,

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creates original methodologies, acts as a methodological mentor for other instructors, and contributes to the development of pedagogical science.

Contemporary Methods of Developing Pedagogical Competence

Professional Development Programs for Instructors

The professional development system for medical education instructors represents a key mechanism for developing pedagogical excellence. Contemporary professional development programs should be oriented toward the formation of practical skills rather than merely the transfer of theoretical knowledge.

Programs on innovative teaching methods, developed for instructors seeking to improve their pedagogical skills and fundamentally revise approaches to teaching, combine the latest achievements in pedagogical science with practical tools that can be immediately introduced into professional practice. Such programs aim at developing the competencies necessary for successful interaction with contemporary students, including the use of innovative teaching methods, digital technologies, and the psychological foundations of pedagogy.

Key elements of contemporary professional development programs include:

- Building rapport with students
- Contemporary approaches to the assessment of students' knowledge, skills, and competencies
- Skills for effective student interaction
- A creative approach to teaching

Program duration varies from short-term courses (8 sessions) to long-term retraining programs, allowing instructors to select the optimal format based on their needs and possibilities.

Methodology of Instructor Professional Development

The development of instructors' pedagogical excellence must be a continuous process integrated into professional activity. The principal methodologies for developing pedagogical competence include the following:

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The reflection-based methodology presupposes systematic self-analysis of pedagogical activity, analysis of recordings of one's own classes, obtaining feedback from students and colleagues, and keeping a professional journal. Reflection allows instructors to become aware of the strengths and weaknesses of their pedagogical practice and to identify areas for development.

The mentoring-based methodology presupposes interaction of less experienced instructors with experienced mentor colleagues, observation of experienced instructors' classes, obtaining individual consultations, and joint lesson planning. Mentoring is especially effective for novice clinical instructors who possess a high professional level in medicine but insufficient pedagogical experience.

The community of practice methodology presupposes the creation of professional communities of instructors where they can share experience, discuss problems, jointly develop solutions, and participate in professional discussions. Communities of practice foster the development of professional identity and create a supportive environment for growth.

The research-based methodology presupposes the involvement of instructors in pedagogical research, analysis of the effectiveness of applied methods, participation in academic conferences, and publication of pedagogical experience. The research approach develops critical thinking and promotes a deep understanding of pedagogical processes.

Practical Methods of Pedagogical Skills Development

Micro-teaching is a method in which the instructor practices specific pedagogical skills in mini-lessons of 10–20 minutes' duration, followed by analysis and feedback. This method allows focusing on specific aspects of pedagogical excellence and gradually refining them.

Video recording of classes followed by analysis allows the instructor to observe their pedagogical activity from the outside, noting features of facial expression, gestures, pace of speech, distribution of attention among students, and quality of explanations. Video analysis is a powerful instrument of self-reflection.

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Mutual class observation by colleagues, followed by an exchange of impressions and feedback, promotes professional dialogue, the sharing of experience, and the identification of alternative approaches to solving pedagogical tasks.

Development and improvement of methodological materials includes the creation of presentations, textbooks, case studies, tests, and practical assignments. Methodological work is an important part of the instructor's professional activity and reflects the level of accumulated experience.

Participation in methodological seminars and master classes allows acquaintance with best practices, mastery of new methods, and the receipt of feedback from experts.

Distinctive Features of Clinical Education

Specifics of Clinical Training

Clinical education represents a specific stage in the training of medical professionals, characterized by direct work with patients in real or simulated clinical conditions. The distinctive feature of clinical education lies in the necessity of integrating theoretical knowledge with practical skills in a real medical institution setting.

Clinical education must not be limited to technological innovations alone. Routine clinical education, work with real patients — where clinical thinking is formed through direct practice and dialogue with the patient develops communicative skills — remains an irreplaceable element of physician training.

Goals and Objectives of Clinical Education

The primary goals of clinical education include the following:

• Formation of clinical thinking — the physician's ability to analyze clinical situations, formulate diagnostic hypotheses, plan examination and treatment, and make evidence-based decisions under uncertainty.

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• Development of practical skills — mastery of methods of physical examination, performance of medical interventions, and conduct of diagnostic and therapeutic procedures.
• Formation of professional values — development of ethical principles, responsibility for the patient, empathy, and respect for the patient's personhood.
• Development of communicative skills — the ability to communicate effectively with patients, their relatives, colleagues, and the interdisciplinary team.
• Formation of teamwork skills — the capacity for collaboration with other specialists, role distribution, and joint decision-making.
• Development of continuous learning skills — the ability to independently update knowledge, work with literature, and critically evaluate information.

Stages of Clinical Education

The basic clinical stage (usually years 3–4) is characterized by students' familiarization with clinical disciplines, the study of the fundamentals of clinical examination, and the formation of initial practical skills under close instructor supervision.

The advanced clinical stage (years 5–6) presupposes more independent student work with patients, participation in the delivery of medical care under instructor supervision, and the development of clinical thinking through work with real clinical cases.

The final-year stage and residency are characterized by a high degree of independence, readiness for independent professional activity, and the possibility of in-depth specialization.

Problems in the Organization of Clinical Education

Contemporary clinical education faces a range of problems:

• Limited access to patients due to ethical considerations, increased workload on medical personnel, and reduced patient appointment times.
• Heavy workload on clinical instructors, who combine educational activity with high demands in healthcare delivery.

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• Insufficient pedagogical preparation of clinical instructors, many of whom are outstanding specialists in medicine but lack systematic pedagogical training.
• Patient safety requirements that demand careful supervision of students' actions, which may limit opportunities for independent skills practice.
• A theory-practice gap, where students do not perceive a connection between the theoretical material being studied and real clinical practice.

Possibilities of Applying Pedagogical Excellence in Clinical Training

Integration of Pedagogical Methods into Clinical Practice

The pedagogical excellence of an instructor in clinical education is expressed in the possibility of effectively integrating diverse pedagogical methods into clinical practice. A highly qualified instructor is capable of adapting pedagogical approaches to specific clinical situations, selecting optimal methods for achieving learning objectives.

In clinical training, pedagogical excellence is manifested in the ability to:

Organize work with a real patient in such a way that every student has the opportunity to actively participate in the clinical process, ask questions, express hypotheses, and perform interventions under the instructor's supervision.

Conduct clinical case discussions stimulating clinical thinking in students by posing leading questions, directing students' thinking along productive lines, and not providing ready answers, while helping students to independently arrive at the correct diagnostic conclusion and treatment plan.

Model clinical situations when work with a real patient is impossible or insufficient, creating artificial but realistic clinical scenarios for practicing specific skills.

Organize post-session reflection helping students to process the experience gained, identify errors, reinforce correct approaches, and formulate questions for further study.

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Role of Pedagogical Excellence in Forming Clinical Thinking

Clinical thinking represents a complex cognitive process encompassing the ability to analyze clinical information, formulate diagnostic hypotheses, plan examination and treatment, and make decisions under uncertainty. The formation of clinical thinking is one of the key tasks of clinical education and depends directly on the instructor's pedagogical excellence.

Pedagogical excellence promotes the formation of clinical thinking through:

Questioning strategies — the use of carefully selected questions that guide students' thinking, encourage analysis, synthesis, and evaluation of information, and develop critical thinking. Questions should be open-ended, requiring reflection rather than mere fact reproduction.

Modeling expert thinking — the instructor demonstrates their thought process when analyzing a clinical situation, 'verbalizes' their reasoning, and shows how an expert makes decisions. This allows students to observe the clinical thinking process from within.

Creating cognitive conflict — the deliberate creation of situations in which students' intuitive representations prove incorrect, stimulating reconceptualization, deeper analysis, and the formation of more precise mental models.

Gradual increase in complexity — organizing the educational process so that students progressively move from simple to complex clinical situations, from structured to unstructured cases, and from obvious symptomatology to atypical presentations.

Pedagogical Excellence in Student Competency Assessment

Contemporary approaches to assessment in clinical education include:

OSCE (Objective Structured Clinical Examination) — a structured clinical examination in which students pass through a series of stations with different clinical tasks, assessed according to standardized criteria. Organizing an OSCE

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requires careful planning, development of clear assessment criteria, and training of examiners.

Mini-CEX (Clinical Evaluation Exercise) — assessment of a student's clinical contact with a patient in a real or simulated situation using a structured evaluation form.

DOPS (Direct Observation of Procedural Skills) — direct observation of a student performing a practical procedure followed by feedback.

360-degree evaluation — obtaining feedback from various sources (instructors, peers, students, patients), allowing a more complete picture of student competencies.

Impact of Pedagogical Excellence on the Quality of Medical Personnel Training

Research demonstrates a direct relationship between the instructor's level of pedagogical excellence and the quality of medical personnel training. The relevant data are presented below:

Quality Indicator	Influence of Pedagogical Excellence
Level of clinical thinking	High mastery promotes the development of analytical abilities, critical thinking, and decision-making under uncertainty
Practical skills	Effective teaching methods ensure faster and more durable formation of practical skills
Communicative skills	The instructor models communication patterns that students adopt
Professional values	The instructor's personality influences the formation of the student's ethical principles
Motivation to learn	Pedagogical excellence enhances student motivation and engagement in the learning process
Readiness for independent practice	Quality clinical training builds confidence and competence for independent practice
Capacity for lifelong learning	The instructor instills an orientation toward lifelong learning

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Interactive Teaching Methods in Medical Education

Concept and Characteristics of Interactive Methods

Contemporary medical education requires a transition from traditional forms of instruction to interactive and student-centered methods. Interactive teaching methods are characterized by the active participation of students in the educational process, interaction between students and instructor as well as among students themselves, the creation of conditions for independent knowledge acquisition, and the development of critical thinking and problem-solving skills. Interactive instruction promotes increased student motivation, development of critical thinking, and improvement of practical skills. The fundamental distinction of interactive methods from traditional ones lies in the shift of the instructor's role from a knowledge transmitter to a facilitator of the learning process and an organizer of student activity.

Principal Types of Interactive Methods in Medical Education

Problem-Based Learning (PBL) is a method in which instruction is built around the resolution of clinical problems. Students work in small groups on real or simulated clinical cases, independently identify problems, determine what knowledge they lack to solve the problem, seek information, and apply the knowledge gained to the clinical task.

PBL is especially effective in medical education because it:

- Promotes the development of clinical thinking
- Forms self-directed learning skills
- Ensures the integration of theoretical knowledge with practice
- Develops teamwork skills
- Increases motivation to learn through engagement with real clinical tasks

Case-Based Learning (CBL) presupposes students working with a detailed description of a clinical case, analyzing symptoms and diagnostic data, and selecting treatment strategies. Unlike PBL, in CBL the instructor typically provides more structured information and guides student analysis more directly.

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Role-playing allows students to practice communicative skills, interaction with patients, and work in an interdisciplinary team through the simulation of various professional situations. Role-playing is especially effective for practicing complex communicative situations (delivering bad news, working with a dissatisfied patient, discussing palliative care).

Clinical rounds with active student participation, where the instructor organizes discussion around a real patient, encourages students to express diagnostic hypotheses, substantiate them, and critically evaluate alternative approaches.

Group projects presuppose independent student work on research or practical tasks, presentation of results, and discussion with colleagues. Projects develop skills in planning, research, presentation, and teamwork.

Simulation-based learning (discussed in detail in a separate section) uses manikins, standardized patients, and virtual simulators to practice practical skills in a safe environment.

Role of Digital Technologies and Simulation-Based Learning

Digital Transformation of Medical Education

The rapid adoption of technology in medical education has extended far beyond video conferencing. Artificial intelligence (AI), virtual reality (VR), and augmented reality (AR) have all played a role in reshaping the way future healthcare professionals learn and practice clinical skills.

Digital technologies have become fully-fledged instruments in the preparation of medical professionals. Over the past five years, an increased reliance on technologies has been observed, which has not only facilitated distance learning, but has also brought the use of artificial intelligence (AI) and advanced digital tools to the forefront.

The key directions of digital technology integration in medical education are as follows:

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Virtual Reality (VR) creates a fully immersive virtual environment in which students can practice practical skills, simulate surgical operations, and study anatomy in three-dimensional space.

Augmented Reality (AR) overlays digital information onto the real world, allowing students to visualize anatomical structures on a real patient's body and receive guidance during the performance of procedures.

Artificial Intelligence (AI) is used for adaptive learning, personalization of educational trajectories, automatic knowledge assessment, and the creation of intelligent tutoring systems.

Telemedicine platforms allow the organization of remote consultations, distance patient monitoring, and instruction through telemedicine sessions.

Web-based simulators provide an interactive means of developing clinical reasoning skills in a psychologically safe environment.

Simulation-Based Learning in Medical Education

The integration of simulation into modern medical education is revolutionizing the development of clinical skills by providing students with controlled and safe realistic training environments.

The advantages of simulation-based learning include:

Patient safety — students may make errors, practice skills, and learn from mistakes without risk of harm to patients.

Controllability of conditions — the instructor can precisely calibrate the difficulty of the situation, control variables, and create specific scenarios for practicing particular skills.

Repeatability — students may repeatedly practice skills until the required level of competency is achieved.

Opportunity to practice rare situations — simulation allows the modeling of rare clinical situations that a student may not encounter during clinical practice but which are important to be able to recognize and respond to correctly.

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Standardization of assessment — simulation scenarios may be standardized, ensuring objectivity and comparability of student competency assessment.

Immediate feedback — immediately following the simulation, a debriefing is conducted in which the instructor provides feedback, identifies errors, and discusses correct approaches.

Virtual Reality in Medical Education

At Samara State Medical University of the Russian Ministry of Health, a modular expert virtual system called 'MEVIS' has been developed for the digitalization of the educational process. In this system, students can practice the necessary medical skills an unlimited number of times.

'MEVIS' integrates theory, practice, statistics, and analytics. The software component of the development is presented as an interactive virtual clinic in which medical offices and equipment have been recreated in digital space for instruction, knowledge verification, and preparation for medical specialist accreditation.

The hardware component represents a mobile solution equipped with a touch screen, virtual reality headsets, integrated personal computers, and cardboard viewers. 'MEVIS' allows the organization of group and remote instruction for up to 300 users.

At present, 55 scenarios have been incorporated into the system in training and assessment modes. Students are able to practice emergency medical care skills, communicative skills, algorithms for various procedures, and first aid, among other capabilities.

At Volgograd State Medical University, the implementation of virtual simulation systems began in 2025. During this period, more than 2,000 students from the medical and pediatric faculties, college students, and clinical residents have engaged with the virtual simulator.

The 'Virtual Polyclinic' module is designed for practicing outpatient consultations for future district general practitioners and pediatricians. Learners develop skills

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in competent interaction with patients of various ages, gather complaints and medical history, conduct examinations, and make decisions regarding further laboratory and instrumental examination plans under time-limited conditions.

The availability of more than 200 clinical scenarios allows the modeling of both common and rare situations that future physicians may encounter in actual practice.

Web-Based Simulation Platforms

Among the most promising innovations in medical education are web-based simulation tools, which offer an interactive means for students to develop clinical reasoning skills in a psychologically safe environment. Platforms such as DDx by Sketchy are at the forefront of this shift, providing a case-based approach that helps learners practice differential diagnosis and decision-making from anywhere at any time.

By simulating real-world patient scenarios, these tools allow students to apply their knowledge in a structured, guided format — reinforcing key clinical concepts while building confidence in their diagnostic abilities. Unlike physical simulation labs, web-based simulations are accessible anytime, anywhere, making them a scalable solution for institutions seeking to enhance their curricula.

Analysis of Problems and Pathways for Improvement

Current Problems in Pedagogical Excellence Development in Clinical Education

Deficiency of pedagogical preparation of clinical instructors represents one of the most acute problems. Many clinical instructors are outstanding specialists in their field of medicine, possess deep knowledge and rich practical experience, but lack systematic pedagogical preparation. This limits their ability to effectively transmit knowledge to students and to form the necessary competencies using contemporary teaching methods.

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Insufficient time for pedagogical activity is related to the heavy workload of clinical instructors in healthcare delivery. Instructors frequently combine educational activity with full-scale clinical practice, leaving limited time for lesson preparation, methodological work, and professional development.

Lack of motivation for pedagogical development is conditioned by the fact that pedagogical activity frequently receives insufficient recognition in the assessment and career advancement systems for medical specialists. Career progression in medicine is traditionally linked to scientific publications and clinical achievements, rather than to pedagogical accomplishments.

Insufficient funding of professional development programs limits instructors' access to contemporary programs for developing pedagogical excellence, conference participation, and the mastery of new technologies.

Resistance to change on the part of instructors accustomed to traditional teaching methods who are skeptical of innovations and perceive new requirements as an additional burden.

Inadequate infrastructure for the introduction of innovative methods — the absence of necessary premises for interactive classes, simulation centers, and digital equipment.

Pathways for Improving the Methodology of Pedagogical Excellence Development

Based on the analyzed problems, the following pathways for improving the methodology of pedagogical excellence development in clinical education may be proposed:

Systematization of pedagogical preparation — implementation of mandatory pedagogical preparation for all instructors of clinical disciplines, including a foundational course in pedagogy and learning psychology, clinical teaching methods, and work with contemporary technologies. The introduction of a separate discipline 'Clinical Education Course' into curricula from the 2024/2025 academic year represents an important step in systematizing preparation.

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Integration of pedagogical development into the professional trajectory — inclusion of pedagogical competencies in the criteria for evaluating and advancing medical specialists' careers, creation of a system of incentives for pedagogical activity, and recognition of pedagogical achievements on par with scientific and clinical ones.

Development of a mentoring system — creation of a formal mentoring system in which experienced instructors with high pedagogical excellence assist developing novice clinical instructors, observe their classes, provide feedback, and offer consultation.

Creation of communities of practice — formation of professional communities of clinical discipline instructors for the exchange of experience, discussion of problems, joint development of solutions, and mutual support.

Investment in infrastructure — creation of contemporary simulation centers, equipping with digital technology, and development of the material-technical base for the introduction of innovative methods.

International cooperation — adaptation of best international practices in medical education instructor preparation, exchange of experience, and participation in international development programs.

Practical Recommendations

Recommendations for Educational Institutions

• Implement a mandatory pedagogical preparation program of no less than 144 hours for all clinical discipline instructors, comprising modules on pedagogy and learning psychology, clinical teaching methods, interactive methods, digital technologies, and competency assessment.

• Establish a center of pedagogical excellence at the medical university to coordinate the development of instructors' pedagogical competencies, organize professional development, provide methodological support, and accumulate best practices.

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• Develop a mentoring system with formalized procedures for mentor assignment, work planning, and effectiveness evaluation. Mentors should be instructors with confirmed high pedagogical excellence.
• Implement a system of regular monitoring of pedagogical excellence using objective criteria, including student and peer evaluation, analysis of class recordings, and student educational outcomes.
• Ensure the allocation of adequate time for pedagogical activity in clinical instructors' workloads — no less than 30% of time should be devoted to educational activity, including lesson preparation, methodological work, and professional development.
• Invest in the creation of modern simulation infrastructure — equipping simulation centers with contemporary manikins, VR equipment, and web platforms for simulation-based learning.
• Develop the community of practice among instructors through regular methodological seminars, master classes, conferences, and online platforms for experience sharing.

Recommendations for Instructors

• Regularly participate in professional development — at a minimum once every 3 years, complete professional development programs in pedagogy and teaching methods of no less than 72 hours.
• Keep a professional journal with records of classes conducted, reflections, analyses of successful and problematic moments, and plans for improvement.
• Record and analyze one's own classes — periodically video record classes followed by analysis to identify strengths and areas for development.
• Actively use interactive methods — introduce PBL, case analysis, role-playing, and simulation-based learning into practice, gradually increasing the proportion of interactive methods.
• Master digital technologies — actively integrate VR, AR, web simulators, and online platforms into the educational process, developing digital competencies.

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• Practice mutual class observation with colleagues, exchange feedback, and engage in professional dialogue about pedagogical practice.
• Participate in methodological work — develop teaching materials, case studies, and tests; participate in curriculum development; and share experience with colleagues.
• Focus on providing feedback to students — develop the skill of delivering constructive feedback that promotes development rather than merely recording outcomes.
• Maintain a balance between technology and traditional methods — use digital tools where they are most effective, but do not replace work with real patients and clinical dialogue.

Recommendations for Students

• Actively participate in interactive classes — engage fully in PBL, case reviews, and simulations; ask questions and express hypotheses.
• Practice self-directed learning — utilize opportunities for independent knowledge acquisition, develop skills in working with literature and critically analyzing information.
• Request feedback — actively approach instructors with requests for feedback on skills, competency, and areas for development.
• Utilize simulation-based learning — actively practice skills in the simulation center, not limiting oneself only to clinical base work.
• Develop teamwork skills — actively participate in group work, develop communicative skills, and cultivate collaborative abilities.

Conclusion

The development of pedagogical excellence among instructors in the system of clinical medical education represents a strategically important task upon which the quality of preparation of future medical professionals directly depends. The present study has identified and analyzed the key aspects of the methodology for

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developing pedagogical excellence and the possibilities of its application in clinical education.

Theoretical analysis has shown that pedagogical excellence in medical education represents an integrative quality encompassing cognitive, activity-based, personal, and reflective components. The specifics of pedagogical excellence in clinical education are conditioned by the high responsibility for learning outcomes, the necessity of integrating theory and practice, the formation of clinical thinking, and an orientation toward continuous learning.

Analysis of contemporary methods of pedagogical competence development has revealed the effectiveness of professional development programs, practice-oriented approaches, reflection-based and mentoring methodologies, communities of practice, and research. The competency-based approach in pedagogical excellence development envisions the use of problem-developing, person-centered, reproductive, and heuristic technologies.

The distinctive features of clinical education have been analyzed from the perspectives of specificity, goals, objectives, stages, organization, and challenges. Clinical education remains an irreplaceable element of physician training, where clinical thinking is formed through direct patient care.

Interactive teaching methods, including PBL, case analysis, role-playing, and clinical rounds, demonstrate high pedagogical effectiveness, promoting increased student motivation, development of critical thinking, and improvement of practical skills. The experience of implementing interactive methods in medical universities confirms their effectiveness.

The role of digital technologies and simulation-based learning in contemporary medical education is difficult to overestimate. Virtual reality, augmented reality, artificial intelligence, and web-based simulators are revolutionizing the development of clinical skills, providing students with controlled and safe realistic learning environments. VR systems such as 'MEVIS' at Samara State

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Medical University and simulators at Volgograd State Medical University demonstrate significant results in student coverage and clinical case mastery.

Analysis of problems has revealed a deficiency of pedagogical preparation, insufficient time for pedagogical activity, lack of motivation for pedagogical development, inadequate funding, resistance to change, and insufficient infrastructure. Pathways for improvement have been proposed, including systematization of pedagogical preparation, integration of pedagogical development into the professional trajectory, development of mentoring systems, creation of communities of practice, development of professional development programs, allocation of time for pedagogical activity, and infrastructure investment.

Practical recommendations are directed at educational institutions, instructors, and students, and include specific measures for implementing pedagogical preparation programs, establishing centers of pedagogical excellence, developing mentoring systems, introducing interactive methods, mastering digital technologies, and creating simulation infrastructure.

The choice between technological innovations and traditional clinical education is not a dichotomous one. The most effective approach consists in the integration of technologies with routine clinical education, work with real patients — where clinical thinking and communicative skills are formed. The results of the study confirm the importance of innovative pedagogical methods in enhancing the quality of medical education and preparing competitive, highly qualified specialists.

References

1. Artyukhina A.I., Chumakov V.I. Pedagogical Excellence: Theory and Practice. — Volgograd: VolgGMU Publishing House, 2022. — 156 p.
2. Innovative Teaching Methods — CPLE — WIUT [Electronic resource]. — URL: https://.uz/modern-teaching-methods (accessed: 24.05.2026).

Eureka Open Access Journals
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Eureka Journal of Language, Culture & Social Change (EJLCSC)
ISSN 2760-4926 (Online) Volume 2, Issue 5, May 2026

https://eurekaoa.com/index.php/3

3. The future of clinical education: how technology is reshaping medical training [Electronic resource]. — URL: https://.com/posts/the-future-of-clinical-education-how-the-last-five-years-have-reshaped-learning (accessed: 24.05.2026).
4. Usmanova Kh.T. Interactive Teaching Methods for Students in Medical Universities // Ta'lim Innovatsiyasi Va Integratsiyasi. — 2026. — Vol. 67, No. 3. — P. 109–111.
5. Protasov A.D. Features of the Organization of Higher Medical Education in the USA, England and China // Modern Problems of Science and Education. — 2024. — No. 6. — P. 45–52.
6. Advanced digital technologies and approaches in training medical students of professional education // European Science. — 2025. — Vol. 12, No. 3. — P. 78–85.
7. Features of the application of digital technologies in medical education // Cardiovascular Therapy and Prevention. — 2025. — Vol. 24, No. 2. — P. 112–120.
8. A virtual system for student training using VR-technology was created at Samara State Medical University [Electronic resource]. — URL: https://.ru/regional_news/20264 (accessed: 24.05.2026).
9. How virtual reality is transforming the preparation of future physicians [Electronic resource]. — URL: http://.ru/news/kak-virtualnaya-realnost-menyaet-podgotovku-budushkh-vrachej (accessed: 24.05.2026).
10. Contemporary global trends in the development of higher medical education in the USA, UK, France and China // Medical Education and Profession. — 2023. — No. 4. — P. 34–42.
11. Rudskaya V.S. Pedagogical Excellence in a Medical College [Electronic resource]. — URL: https://.ru/files/publications/12286/ (accessed: 24.05.2026).

Eureka Open Access Journals
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Eureka Journal of Language, Culture & Social Change (EJLCSC)
ISSN 2760-4926 (Online) Volume 2, Issue 5, May 2026

https://eurekaoa.com/index.php/3

12. Application of Interactive Teaching Methods in Higher Medical Education (Analytical Review) // Medical Education and Profession. — 2022. — No. 3. — P. 56–64.
13. Development of Clinical Skills of Students Based on Innovative Pedagogical Approaches // World Scientific Research Journal. — 2026. — Vol. 12, No. 4. — P. 23–31.
14. Contemporary Requirements for Medical Education // Medical Education. — 2024. — No. 2. — P. 18–27.
15. Prospects for the Development of Clinical Education in Russia // Conference Proceedings. — 2025. — P. 67–74.
16. Theoretical and Practical Approaches to the Development of Professional Pedagogical Competence // Journals WOS. — 2025. — No. 12. — P. 89–97.
17. Virtual Reality in Physician Training: New Trends and Risks [Electronic resource]. — URL: https://companies.rbc.ru/news/Ef2uhIBPp3/virtualnaya-realnost-v-obuchenii-vrachej (accessed: 24.05.2026).
18. Pinchuk T.V., Orlova N.V. Interactive Teaching Methods in Higher Medical Education // Medical Education and Profession. — 2022. — No. 3. — P. 45–53.
19. Trends and Prospects for the Success of the Medical Education System in the Russian Federation // Modern Problems of Science and Education. — 2023. — No. 7. — P. 34–41.
20. The Role of Virtual and Augmented Reality Technologies in Medical Education // Modern Problems of Science and Education. — 2025. — No. 5. — P. 67–75.