ETHIOPIAN INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY RESEARCH

eISSN: 2349-5715 pISSN: 2349-5707

Volume: 12, Issue 08, August-2025 SJIF 2019: 4.702 2020: 4.737 2021: 5.071 2022: 4.919 2023: 6.980 2024: 7,662

PRINCIPLES OF DEVELOPING PRACTICAL-CLINICAL COMPETENCE OF MEDICAL STUDENTS

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Abstract: This article explores the fundamental principles of developing practical-clinical competence among medical students. It emphasizes the integration of theoretical knowledge with practical training, the role of simulation-based education, competency-based assessment, and interdisciplinary approaches in enhancing clinical reasoning and diagnostic skills.

Keywords: practical-clinical competence, medical education, clinical reasoning, simulation-based learning, competency-based approach, interdisciplinary education, reflective learning, diagnostic skills, professional development.

INTRODUCTION

Practical-clinical competence stands as one of the most critical outcomes of medical education, as it directly determines the quality of healthcare that future physicians will provide. This essential competence is defined by the ability to apply medical knowledge in real clinical settings, perform accurate diagnostic reasoning, and make evidence-based decisions, all while upholding rigorous professional and ethical standards. In the context of modern medical education, fostering this competence requires a systematic approach that seamlessly integrates didactic teaching, hands-on training, and technology-enhanced learning methods. The strategic use of simulation centers, case-based learning, competency-based assessments, and interdisciplinary teaching strategies helps create a comprehensive and immersive environment for the formation of robust clinical thinking. Furthermore, reflective learning and dedicated mentorship are crucial for reinforcing these skills, ensuring that students not only acquire knowledge but also cultivate the professional mindset and behaviors indispensable for clinical practice. This article explores the fundamental principles and pedagogical frameworks necessary for the effective development of practical-clinical competence.

METHODS

The development of practical-clinical competence, particularly within the discipline of infectious diseases, is structured around several core principles and a central pedagogical philosophy that emphasizes active, context-rich learning.

Foundational Principles- The educational process is based on four guiding principles:

Activity-based principle: This principle positions the student as an active participant in their own learning, rather than a passive recipient of information.

Context-based teaching principle: Learning is organized through real or near-real situations that are directly related to the challenges of clinical reasoning.

Integration principle: This principle advocates for teaching practical-clinical reasoning within a comprehensive practical-clinical context, rather than from isolated medical, scientific, or simulation perspectives.

Competence development principle: The focus is on developing specific competencies in infectious disease clinical reasoning that also ensure effective interaction and collaboration with other students.

The functional approach - A functional approach is the core methodology for developing students' practical-clinical competence. This approach is rooted in the necessity of viewing practical-clinical reasoning not merely as a system of knowledge, but as a tool for goal-oriented activity.

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The subject is treated as a comprehensive activity tool, not just a collection of scientific or medical elements.
Education focuses on the practical applicability of the subject and the communicative goals that can be achieved through it.
Within this framework, the teacher's role evolves from being a simple transmitter of knowledge to an active participant in the learning situation, regulating clinical reasoning and purposefully delivering necessary information.
The student actively interacts through their practical-clinical activity, expressing opinions on situations, defending their positions, and establishing their professional standing.
Implementation strategies - The practical application of these principles is achieved through specific pedagogical strategies:
Activity-Based Learning: Students must be engaged as active participants who take ownership of their professional roles and develop independent thinking through direct involvement in practical-clinical activities.
Interactive Methods: The use of role-playing, problem-based tasks, debates, and simulation-based exercises is employed to increase students' readiness for clinical reasoning.
Learning in a Professional Context: The entire process of developing competence is conducted within a professionally oriented clinical reasoning framework, which helps students learn to use professional terminology and apply practical-clinical standards effectively.
Purposeful Selection of Materials: A key condition for success is the correct determination of the professional and goal-oriented nature of educational situations and the selection of appropriate materials to stimulate students' professional activity.

RESULTS

The analysis of the concept of practical-clinical competence and its role in medical education yielded several important findings:
Competence as a Multi-Component System: Practical-clinical competence is underpinned by practical-clinical activity, which is a multi-component system reflecting a student's ability to engage in reasoning based on professional standards. It is developed in close connection with other clinical and psychological components, especially thinking, which forms its conceptual basis through clarity, logical coherence, and consistency.
Need for New Methodologies: An analysis of existing research and educational technologies indicated a clear need to introduce new and effective tools into the professional training system for future doctors to improve the methodology of teaching practical-clinical components.
Integral Role in Professional Preparation: The analysis confirmed that a student's ability to conduct effective clinical reasoning and possess practical-clinical competence is an integral part of their professional preparation. The level of development in this area is a critical criterion that helps determine the effectiveness of a student's future professional activity.
Requirement for Empirical Research: It was demonstrated that further empirical research is necessary, based on diagnostic analysis, to accurately determine the level of students' practical-clinical competence development. A main scientific task identified is the development of specific assessment criteria, indicators, and a theoretical model for this purpose.

DISCUSSION

The development of practical-clinical competence is rightly considered a leading objective of medical education and a key component of modeling within pedagogical systems. This competence is not merely an isolated individual ability but is an integral part of professional activity, and a high level of competence enables a student's active and successful integration into the broader medical field. The

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functional approach provides a robust philosophical and practical foundation for achieving this, reframing the educational process to focus on real communicative needs and goal-oriented action.

This approach transforms the nature of clinical reasoning from a simple exchange of thoughts into a form and expression of professional relationships. By viewing the practical-clinical approach as a core concept and philosophy rather than just a method, education can more effectively prepare students for the complexities of their future roles. The teaching model based on this approach activates students professionally and develops their ability to express their thoughts clearly and effectively in high-stakes environments.

Ultimately, the successful development of practical-clinical competence in medical students hinges on the effective combination of pedagogical innovations, such as the functional approach, with meaningful clinical experience and rigorous competency-based assessment. Fostering reflective learning and strong professional values is equally critical to ensure that students mature into competent, ethical, and highly skilled physicians who are prepared to meet the evolving demands of modern healthcare..

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