



PSYCHOLOGICAL FUNCTIONS AFFECTING THE DEVELOPMENT OF CLINICAL THINKING COMPETENCIES IN MEDICAL STUDENTS

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Abstract

This article analyzes the integrated influence of intellectual, motivational, emotional, and practical-occupational domains in the formation of clinical reasoning competencies within the context of medical education. It highlights the significance of clinical-pedagogical collaboration, students’ professional identity development, critical thinking, emotional stability, and ethical decision-making as key determinants in the enhancement of clinical reasoning. Furthermore, the article justifies the importance of empathy, professional responsibility, reflective approach, and multidisciplinary collaboration in shaping clinical competencies. Psychological and pedagogical conditions that contribute to the development of clinical thinking during the professional formation of medical students are thoroughly discussed.

Keywords: Clinical reasoning, clinical thinking, socio-medical knowledge, emotional domain, influencing factors.

Introduction

The intellectual domain includes forms and methods of thinking, mental qualities, cognitive processes, and cognitive skills, along with a complex of knowledge, skills, and abilities. Competency is regarded as an effective form of personal thinking, as it implies the ability to apply knowledge from various fields in practice, find optimal solutions in non-standard situations, go beyond routine decisions, and solve complex algorithmic problems.

To develop clinical thinking competencies, it is essential to have critical thinking abilities, skills in searching, analyzing, and applying medical information, socio-medical knowledge, an active professional stance, and a comprehensive system of professional skills and competencies.



The motivational domain encompasses a dynamic set of needs, internal drives, values, and goals formed throughout a person's life. For example, in the "Psychology and Pedagogy" course taught in medical universities, one of the main goals is to develop students' intrinsic motivation toward the medical profession, thereby fostering knowledge, skills, and abilities that serve public health. Professional motivation not only drives the pursuit of a medical career but also fosters self-awareness and a strong sense of social and professional responsibility. The formation of motivation toward medical practice plays a crucial role in the development of clinical reasoning competencies. Skills in goal-setting and achieving objectives significantly influence diagnostic, therapeutic, and preventive decision-making processes. Therefore, the establishment of a strong motivational domain is a key psychological-pedagogical condition for the professional growth and independent decision-making ability of future medical professionals.

The emotional domain is a critical component of human psychology, encompassing emotions, feelings, self-esteem, and levels of anxiety. Emotions are closely linked to the fulfillment or lack thereof of individual needs and desires, manifesting as subjective experiences. Positive emotions arise from successfully achieving goals and contribute to improved performance in future activities. Stable emotional attitudes reflecting the importance of life events tied to personal needs and motivations are referred to as feelings.

Psychologist B. Turg'unov emphasizes the strong influence of the emotional domain on individual performance, noting that emotional experience can enhance willful decisions, motivational stability, and cognitive activity. In the context of medical practice, empathy, professional responsibility, a humanistic approach to patients, compassion, and psychological stability are considered key indicators of emotional maturity.

In the research of scholar Sh. Mirzayeva, emotional culture development, stress resilience, and emotional intelligence are identified as crucial goals of medical education. Well-developed emotional competencies are essential for effective communication, decision-making, and professional performance in clinical practice. On the contrary, indifference, professional nihilism, excessive anxiety, or emotional burnout can reduce the quality of clinical activities, undermine patient trust, and negatively impact healthcare outcomes. Therefore, fostering emotional competencies is a strategic priority in modern medical education.



Factors contributing to negative emotional reactions include personal and professional failures or the inability to achieve set goals, which can lead to emotional strain and avoidance behaviors. One key trait of the emotional domain is anxiety, which plays a significant role in both professional and personal settings, especially when activities are goal-oriented and involve uncertainty or risk. High levels of anxiety may manifest as restlessness, self-doubt, aggression, hopelessness, or instability, and can lead to professional demotivation and avoidance of stress-inducing situations.

Students' individual qualities are closely linked to the motivational and emotional domains and play a decisive role in developing clinical thinking competencies. Traits such as initiative, goal orientation, self-confidence, and determination help individuals withstand psychological pressure, societal expectations, external influences, and stressful situations. These volitional and emotional attributes are particularly important for medical students in making effective clinical decisions and enhancing their professional competence.

Thus, a future physician must prioritize not instinctive-biological needs, but professional and socio-ethical values, making decisions in the patient's best interest and directing their actions purposefully. In clinical situations, a physician's self-regulation, emotional stability, and capacity for independent and responsible decision-making are critical outcomes of medical education. The formation of responsibility is directly linked to deeply feeling accountable not only for oneself but also for the life and health of the patient.

Medical students, in the process of developing clinical thinking competencies, must demonstrate strong will and professional discipline even under external pressures, time constraints, uncertain clinical signs, and complex diagnostic situations. Simultaneously, they must actively collaborate with the medical team, colleagues, and the healthcare system, adopting an evidence-based approach in clinical decision-making.

Clinical education provides students not only with professional knowledge and skills but also cultivates independent thinking, critical analysis, reflective approaches, and the ability to evaluate their performance. These competencies, in turn, reinforce empathy, adherence to ethical standards, and the ability to foresee the consequences of clinical decisions in patient communication.



Moreover, clinical reasoning teaches students to not blame external factors for failures but to analyze their own diagnostic and therapeutic errors, thereby developing professional reflection and leading to higher levels of clinical competence.

The practical-occupational domain covers professional competencies, clinical skills, and practical activities manifested in various forms of medical work and clinical communication. Clinical competency characterizes a student's ability to demonstrate diagnostic, therapeutic, and preventive skills, adapt to changes in the healthcare system, and acquire, analyze, and apply the necessary scientific and practical information.

A well-developed practical-occupational domain in medical education allows students to practice ethical-professional, deontological, and clinical behaviors and demonstrate responsible attitudes through exemplary professional conduct. It also enables them to evaluate their own and others' clinical performance from the standpoint of professional ethics and responsibility.

The development of clinical competencies is built upon pedagogical support and humanistic principles. It emphasizes entering into clinical communication, professional education in the spirit of national and universal values, ethical freedom, multidisciplinary collaboration, and fostering tolerance in medicine — all while respecting the physician's right to autonomous decision-making. These components define the existential-professional qualities of medical students.

Ultimately, clinical competency emerges from the understanding that the physician's fate is intrinsically linked with that of patients, the healthcare system, and society as a whole. A student must understand that their professional success depends on how effectively they utilize opportunities within healthcare processes — that is, personal professional achievements cannot be separated from the sustainable development of the health system and society.

By developing clinical thinking competencies, students contribute to the advancement of healthcare and take part in its evolution. Scholars agree that **collaborative clinical education** represents a system of interactive partnership between instructor and student through clinical activity, medical communication, and diagnostic-therapeutic processes.



In psychology and pedagogy, the following aspects of clinical-pedagogical collaboration are emphasized for the development of students' personal and professional qualities:

- engaging in pedagogical-psychological collaboration;
- adapting individual student qualities through collaboration in clinical processes;
- the instructor initiates and models clinical activity, involving students in the process;
- students adopt professional behaviors through observing and interacting with clinical mentors;
- the instructor participates in monitoring students' professional reflection and self-regulation;
- students demonstrate autonomy, self-organization, and reflective-clinical actions.

Thus, the content indicators of clinical competency for medical students are based on personal-professional qualities and serve as essential conditions for professional reform, renewal, and the acquisition of individual clinical competencies.

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