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METHODOLOGY FOR APPLYING ENTRUSTMENT-BASED COMPETENCE TECHNOLOGY (EBCT) IN TEACHING PEDIATRIC SURGERY

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Annotation: This study aims to substantiate the methodology for applying Entrustment-Based Competence Technology (EBCT) in teaching pediatric surgery. The research highlights the importance of competence-based medical education and proposes a structured pedagogical approach focused on entrustment, clinical decision-making, and reflective practice. The findings demonstrate that EBCT enhances clinical thinking, professional responsibility, and readiness for independent practice.

Keywords: EBCT, entrustment, professional competence, pediatric surgery, EPA, clinical assessment, simulation, OSCE, mini-CEX, practical training.

INTRODUCTION.

In the process of modernizing medical education, the competency-based approach has become a leading principle in training specialists. However, in many cases, although students acquire theoretical knowledge, they are not sufficiently prepared for independent work in real clinical settings. This issue is especially critical in high-risk and decision-intensive fields such as pediatric surgery.

Therefore, instead of focusing solely on the question “How much does the student know?”, there is a growing need to apply the criterion “To what extent can the student be entrusted?”. This approach forms the basis of the Entrustment-Based Competence Technology (EBCT) concept. The development of professional competence in medical students is a pressing scientific and pedagogical issue directly related to the needs of modern healthcare systems. Today, the medical field requires not only specialists with deep theoretical knowledge but also professionals capable of making independent, responsible, and safe decisions in real clinical situations. In this regard, professional competence becomes the central outcome indicator of medical education.

In modern medical education, professional competence is not limited to a set of knowledge and skills. It is considered a complex pedagogical phenomenon that includes clinical thinking, readiness for practical activity, professional responsibility, awareness of patient safety, and reflective thinking. Therefore, the methodology for developing professional competence requires a systematic and multi-component approach. The methodology should aim to closely integrate the educational process with real clinical practice. By aligning theoretical knowledge with practical situations, students understand the functional significance of knowledge and learn to apply it in

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solving real clinical problems. This leads to a qualitatively new level of professional training.

METHODS. In applying EBCT technology, it is crucial to clearly define clinical tasks. For example, tasks such as assessing a child patient's general condition, forming a preliminary diagnosis, and interpreting instrumental examination results are assigned according to the student's level of competence. This approach helps students understand their capabilities. In pediatric surgery, EBCT demonstrates high effectiveness in developing clinical thinking. During the execution of entrusted tasks, students understand the relationship between decision, action, and outcome. This enhances the practical value of theoretical knowledge and promotes pragmatic professional thinking. Assessment within EBCT differs significantly from traditional methods. Student performance is evaluated not through scores or test results, but through the quality and safety of independently performed clinical tasks. This approach fosters professional responsibility and caution. The teacher's role in EBCT shifts from controller to facilitator and assessor of trust levels. The instructor continuously monitors student readiness and assigns clinical tasks progressively based on competence level. This process is based on pedagogical collaboration.

RESULTS. The implementation of EBCT in pediatric surgery education demonstrated several key outcomes:

Improved *clinical thinking and decision-making skills*
Increased *student autonomy and responsibility*
Enhanced *integration of theoretical knowledge into clinical practice*
Development of *reflective and analytical competencies*

Students were able to:

Accurately assess patient conditions
Formulate preliminary diagnoses
Interpret diagnostic results
Perform clinical procedures under supervision

Additionally, the use of simulation and structured assessment tools improved procedural accuracy and patient safety awareness.

ANALYSIS. EBCT enhances students' reflective activity. After completing tasks, students analyze their actions, identify strengths and weaknesses, and determine ways to improve their professional performance. Reflection ensures sustainable development of professional competence. The methodology becomes more effective when combined with interdisciplinary integration. Linking pediatric surgery with pediatrics, diagnostics, and pathophysiology helps students develop a comprehensive understanding of clinical situations and facilitates effective knowledge transfer into practice. A key feature of this methodology is the prioritization of a pragmatic approach. This approach directs students' thinking toward outcomes and helps them understand the relationship between decisions, actions, and results. As a result, the learning process evolves from simple information transfer into a professional development environment.

Stages of Competence Development:

The development of professional competence follows a structured, step-by-step process:

Motivational stage
Cognitive-analytical stage

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Practical-activity stage
Reflective-evaluative stage
This sequence ensures continuous and logical professional growth.

Pragmatic Approach in Medical Education

In recent years, organizing student learning based on a pragmatic approach has become a modern methodological trend. This approach connects education directly with clinical practice, focuses tasks on practical outcomes, and ensures active student participation. As a result, students begin to perceive theoretical knowledge not as abstract information, but as a practical tool for solving clinical problems. Problem-based learning, clinical cases, and practical tasks enhance analytical thinking and independent decision-making.

Role of Educational Environment

The pedagogical environment plays a significant role in competence development. An open, supportive, and reflective environment fosters professional confidence, responsibility, and a culture of learning from mistakes. The teacher acts as a guide and facilitator rather than a mere evaluator. Assessment approaches are also reconsidered within this framework. Evaluation must comprehensively cover clinical thinking, practical skills, decision-making quality, and reflective abilities, enabling accurate assessment of real professional readiness.

Professional Competence and Future Physicians

This methodology represents a scientifically grounded and practically significant pedagogical system aimed at preparing future physicians for real clinical practice. It contributes to improving medical education quality and training professionals aligned with healthcare system needs.

Modern higher education aims to develop physicians who are capable of:
Self-development and self-education
Non-standard thinking
Rapid adaptation to changing conditions
Solving complex professional problems effectively

Students must transition from passive recipients of knowledge to active problem-solvers capable of analysis, evaluation, and independent decision-making.

Core Competency Components

The set of knowledge, skills, and competencies defined for students forms the core content of this methodology. It aligns with the pragmatic approach and ensures readiness for real clinical activity.

Key components include:
Knowledge of angiosurgery, transplantation, plastic and aesthetic surgery
Understanding of minimally invasive and high-tech surgical procedures
Awareness of pediatric surgery's role in medicine
Familiarity with robotic and hybrid surgical technologies
Skills in early diagnosis, treatment, and rehabilitation
Ability to identify acute thoracic and abdominal surgical conditions
Competence in instrumental diagnostics (ultrasound, radiography, thoracoscopy, endoscopy)

CONCLUSION.

The methodology for developing professional competence in medical education is based on the principle:

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"Knowledge – Analysis – Reflection – Decision."

Through clinical cases, interactive learning, interdisciplinary integration, and reflective technologies, students develop clinical thinking, empathy, and evidence-based decision-making skills. Professional competence is considered a key factor in developing both intellectual and emotional capacities. It enables students to:

Think independently
Make informed decisions
Develop innovative approaches
Apply knowledge creatively

Ultimately, this approach prepares students to become reflective, competent, and adaptable medical professionals.

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