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PEDAGOGICAL FOUNDATIONS FOR PREPARING STUDENTS FOR CLINICAL PROCESSES BASED ON EPA TECHNOLOGY

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Abstract: This article provides a scientific, theoretical, and methodological analysis of the pedagogical foundations for preparing students for clinical processes based on EPA (Entrustable Professional Activities) technology. The study highlights the importance of organizing clinical education on the basis of competency-based, practice-oriented, and reflective approaches. Additionally, the article expands the conceptual framework of EPA implementation by integrating workplace-based assessment tools, simulation technologies, and staged entrustment models.

Keywords: EPA technology, clinical processes, pedagogical foundations, clinical training, clinical thinking, simulation-based learning, competency-based approach, reflective analysis, workplace-based assessment, medical education, entrustment scale, formative assessment.

Introduction: Globalization processes have deeply penetrated the system of medical education worldwide, creating the necessity to develop unified approaches, common competencies, and learning outcomes aligned with international standards in the training of students in the field of General Medicine. In modern medicine, professional activity is no longer limited by local boundaries, as scientific information, clinical protocols, and educational technologies are rapidly exchanged across countries.

Therefore, preparing students not only for local clinical experience but also for universal clinical practice has become an important pedagogical task. In this context, EPA technology emerges as a strategic framework that ensures standardization of clinical competence while maintaining flexibility for different healthcare systems.

Literature Review

Several studies conducted by Abdullayeva D.M., Kadirova M.R., Ergasheva Sh.P., Ahmadaliyev Sh.Sh., and others focus on developing the professional training of future physicians through clinical practice-oriented models, simulation-based training, reflective teaching methods, and case-based technologies.

Recent international research emphasizes the role of Entrustable Professional Activities as a bridge between theoretical preparation and real clinical autonomy. EPA is increasingly viewed as a competency integration mechanism that allows educators to translate abstract learning outcomes into observable clinical behaviors.

In the context of globalization, the main expected outcome of medical education is the ability of future physicians to function effectively in diverse clinical environments, evaluate

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clinical situations using standardized approaches, and make evidence-based decisions. Traditional knowledge-centered approaches are therefore insufficient.

Conceptual Framework of EPA Technology

EPA technology is based on the principle of entrustment, where clinical tasks are defined as observable and assessable units of professional activity. Each EPA represents a meaningful clinical responsibility that a student must perform under supervision until full independence is achieved.

The conceptual structure of EPA includes three core dimensions:

- Task dimension (clinical activity itself),
- Competence dimension (knowledge, skills, attitudes),
- Entrustment dimension (level of supervision required).

This triadic structure allows educators to monitor not only what students know, but how safely and independently they perform clinical tasks in real conditions.

Methodology

The study employed comparative analysis, historical-comparative methods, ethnographic approaches, and cognitive analysis. In addition, a pedagogical modeling approach was used to simulate EPA implementation stages in clinical education environments.

Analysis and Results

In this context, EPA technology plays a significant role as an effective pedagogical mechanism for preparing students for clinical processes. The educational process based on EPA focuses on clinical activities and supports the development of students' ability to perform real professional tasks.

Staged Entrustment Model

One of the central pedagogical innovations of EPA is the staged entrustment model, which includes five progressive levels:

1. Observation only
2. Direct supervision
3. Indirect supervision
4. Supervised independence
5. Full autonomy

This model ensures safe transition from theoretical learning to independent clinical decision-making.

Transformation of Pedagogical Roles

Another important pedagogical aspect is the transformation of the teacher–student relationship. The teacher acts as a mentor and clinical assessor. The student becomes an active subject of learning.

This shift supports the development of metacognitive skills, including self-assessment, clinical justification, and reflective reasoning.

Assessment in EPA-Based Education

Assessment within EPA technology is of particular importance. It is not merely a tool for knowledge evaluation but a pedagogical mechanism aimed at determining and improving clinical readiness.

Modern EPA-based assessment tools include:

- Mini-CEX (Mini Clinical Evaluation Exercise)

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- DOPS (Direct Observation of Procedural Skills)
- 360-degree feedback systems
- Entrustment scales

These tools ensure continuous formative assessment and reduce the gap between theoretical learning and clinical performance.

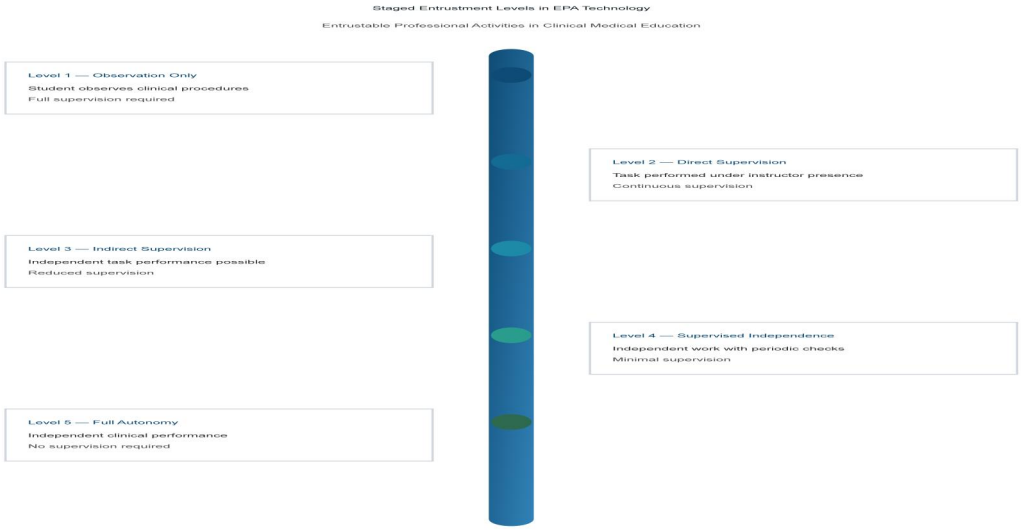
Simulation and Digital Integration

Simulation-based learning plays a crucial role in EPA implementation, especially in high-risk disciplines such as Anesthesiology and Reanimatology. High-fidelity simulation allows students to practice emergency scenarios without patient risk.

Furthermore, digital platforms and virtual clinical environments are increasingly used to document EPA progress, track competency acquisition, and provide structured feedback.

Clinical Significance in Anesthesiology and Reanimatology

The pedagogical significance of EPA technology is especially evident in the field of Anesthesiology and Reanimatology.



In this discipline, students encounter highly complex clinical situations requiring rapid decision-making and high levels of responsibility.

EPA-based training enhances crisis management skills, improves algorithmic thinking, and strengthens adaptive clinical reasoning under pressure.

Challenges of Implementation

Despite its advantages, EPA implementation faces several pedagogical challenges:

- Lack of standardized assessment criteria
- Insufficient faculty training in EPA methodology
- High workload in clinical supervision
- Limited digital infrastructure in some institutions

Addressing these challenges requires systematic curriculum redesign and continuous professional development for educators.

Conclusion

Training students for clinical processes based on EPA is a complex and multidimensional pedagogical process. It transforms medical education from a knowledge-centered model to a competency-based and activity-oriented system.

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EPA technology ensures integration of learning, assessment, and clinical practice into a unified educational continuum. It enhances student autonomy, strengthens clinical reasoning, and aligns medical education with global standards of healthcare training.

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