

MODERN PEDAGOGICAL TECHNOLOGIES IN TEACHING PEDIATRIC DENTISTRY

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Abstract: *This article analyzes the effectiveness of modern pedagogical technologies in teaching pediatric dentistry. The study explores the impact of interactive methods, simulation technologies, and information and communication technologies (ICT) on the learning process. The findings indicate that the use of these approaches enhances students' clinical reasoning, strengthens practical skills, and increases learning motivation. The article also provides methodological recommendations for integrating contemporary pedagogical approaches into pediatric dentistry education.*

Keywords: *pediatric dentistry, pedagogical technologies, interactive methods, simulation.*

Introduction

Pediatric dentistry is a crucial branch of medical education, focusing on the causes, prevention, and treatment of oral diseases in children. The primary goal of teaching this subject in modern medical education is to develop students' clinical reasoning, practical skills, communicative competence, and the ability to make independent decisions.

In recent years, simulation technologies, interactive teaching methods, information and communication technologies (ICT), and student-centered approaches such as Problem-Based Learning (PBL) and Team-Based Learning (TBL) have emerged as key factors in enhancing the effectiveness of medical education. The aim of this study is to analyze the effectiveness of modern pedagogical technologies in teaching pediatric dentistry, assess their impact on the educational process, and provide practical methodological recommendations for their implementation.

Methods. This study was conducted using the following approaches:

1. Literature Review. Scientific articles, clinical studies, and international standards (WHO, ADEA, EAPD) published between 2015 and 2024 were analyzed, focusing on pediatric dentistry education, simulation-based learning, interactive methods, ICT integration, PBL/TBL, and the OSCE assessment system.
2. Pedagogical Observation. Teaching sessions in pediatric dentistry were observed to evaluate instructors' activities, students' participation, knowledge acquisition, and the development of practical skills.
3. Survey Method. A questionnaire was administered to 72 students studying pediatric dentistry. Questions assessed the effectiveness of interactive methods, simulation training, VR/AR technologies, and electronic learning platforms.
4. Statistical Analysis. Survey results were processed using percentage indicators, and a comparative analysis was conducted to evaluate teaching effectiveness.

Results. 1. Effectiveness of Interactive Methods. Eighty-seven percent of students reported that methods such as case studies, brainstorming, and debates significantly improved their clinical reasoning. Seventy-six percent emphasized that working in small groups helped them better retain knowledge.

2. Simulation and VR/AR Technologies. Among students who trained using phantom models and simulation trainers:

Practical skill performance improved by 32%;

Ability to follow clinical procedures according to the correct algorithm increased by 27%;

Confidence in psychological approaches to patients rose by 22%.

Students using VR/AR technologies demonstrated a 40% higher understanding of 3D anatomy compared to those in traditional lessons.

3. ICT-Based Teaching. Use of platforms such as Moodle, Google Classroom, electronic tests, and video lectures yielded the following outcomes:

Independent topic mastery increased by 72%;

Preparedness for classes improved by 61%;

Engagement in practical sessions rose by 58%.

4. Effectiveness of the OSCE Assessment System. In groups evaluated using OSCE:

Students' practical skills were assessed against clear criteria;

The number of clinical errors decreased by 25%;

Students' self-confidence improved.

Discussion. The results indicate that the application of modern pedagogical technologies in teaching pediatric dentistry significantly enhances all components of the learning process, including knowledge acquisition, practical skills, motivation, clinical reasoning, and communication competencies.

Interactive methods increase student engagement with the subject, while simulation training develops practical skills in a safe environment. VR/AR technologies simplify the study of complex anatomical structures. Electronic learning platforms ensure continuity in education, and the OSCE system provides objective assessment of practical competencies. However, the widespread implementation of these technologies requires enhancing instructors' qualifications, strengthening material and technical resources, and refining methodological guidelines.

Conclusion. The study confirms that modern pedagogical technologies are highly effective in teaching pediatric dentistry. Interactive lessons, simulation training, VR/AR technologies, electronic learning platforms, and OSCE assessment collectively foster students' clinical reasoning, practical skills, and professional competencies. Regular integration of these technologies, combined with personalized and student-centered approaches, contributes to training highly qualified specialists in pediatric dentistry.

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