

Modern Pedagogical Technologies in Teaching Pediatric Surgery

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Annotation: This article analyzes the role and significance of applying modern pedagogical technologies in teaching pediatric surgery. The use of interactive methods, simulation training, digital learning platforms, and a competency-based approach for developing students' clinical thinking, practical skills, and decision-making abilities is discussed. The findings indicate that integrating innovative teaching methods increases learning efficiency and plays a crucial role in preparing students for clinical practice.

Keywords: pediatric surgery, pedagogical technologies, interactive methods, simulation training, clinical thinking, competency-based approach.

Introduction. Today, new approaches in the medical education system, in particular, the use of modern pedagogical technologies, has become an urgent need. The discipline of pediatric surgery is distinguished by its complex, practical skills-based direction. Therefore, the educational process in this area cannot be limited to theoretical knowledge alone.

Modern pedagogical technologies are a set of methods that ensure the active participation of students in the educational process, develop the ability to think analytically, solve problem situations and make independent decisions. Based on the resolutions of the President of the Republic of Uzbekistan on the modernization of the medical education system, the introduction of digital and interactive technologies into the educational process has been identified as an important task.

Materials and methods. During the study, an experiment was conducted with the participation of 4th-5th-year students at the Department of Pediatric Surgery of the Andijan State Medical Institute during the 2024–2025 academic year.

The following pedagogical technologies were used in the learning process:

Interactive methods: “Brainstorming”, “Blitz-survey”, “Case study” (learning based on situational issues);

Information technologies: “Moodle” platform, “Zoom” online classes, control of tests and assignments through “Google Classroom”;

Simulation training: use of mannequins and virtual simulators in the process of preparing for surgical operations;

Reflective assessment: determination of a comprehensive result based on student self-assessment, group assessment and teacher analysis.

A competency-based approach was used as a methodological basis, as well as a system of gradual formation of knowledge and skills based on Bloom's taxonomy.

Results. According to the results of the study, as a result of the use of modern pedagogical technologies:

The level of active participation in the lesson among students increased from 60% to 87%;

In practical training, independent thinking and clinical decision-making skills improved significantly;

In groups trained on the basis of situational issues, test results were 15–20% higher than those trained using the traditional method;

It was observed that the indicators of “level of practical training” of students increased by 1.5 times.

In addition, 92% of participants in the student questionnaire indicated that interactive lessons were more effective than traditional lessons.

Discussion. The results obtained show that modern pedagogical technologies, especially interactive and simulation methods, play an important role in teaching pediatric surgery.

Simulation training forms the surgeon’s practical skills in a safe environment, reduces student fear, and increases learning motivation.

It has also been found that methods such as case studies, problem-based learning, and reflective analysis are effective in developing clinical thinking.

These approaches not only strengthen student knowledge, but also communicative, analytical, and teamwork skills. Such results are also consistent with international experience. For example, simulation and digital education are used as the main methods in medical universities in the USA, Germany, and South Korea.

Conclusion. The use of modern pedagogical technologies in teaching pediatric surgery forms students' clinical thinking and increases the level of practical training.

Simulation, interactive, and digital approaches increase the effectiveness of the teaching process and enhance students' motivation to learn.

Teachers should constantly master pedagogical innovations and systematically apply them in the educational process.

Practical recommendations:

1. Expand simulation laboratories in pediatric surgery departments;
2. Use at least one of the interactive methods in each lesson;
3. Create electronic educational resources (video lectures, 3D animations, virtual practices);
4. Regularly organize advanced training courses for teachers on “pedagogical technologies”.

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