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СОВЕРШЕНСТВОВАНИЕ МЕТОДИКИ ОЦЕНКИ ЗНАНИЙ СТУДЕНТОВ В ПРОЦЕССЕ МЕДИЦИНСКОГО ОБРАЗОВАНИЯ НА ОСНОВЕ ТЕХНОЛОГИЙ ИСКУССТВЕННОГО ИНТЕЛЛЕКТА

Аннотация. *В статье рассматриваются вопросы повышения эффективности оценки знаний студентов в системе медицинского образования. Проанализированы недостатки традиционных методов оценки, такие как субъективность и ограниченные аналитические возможности. Обоснована необходимость совершенствования методики оценки знаний на основе технологий искусственного интеллекта. В рамках исследования разработана адаптивная модель оценки, основанная на интеллектуальном анализе данных и автоматизированной обработке результатов обучения. Результаты опытно-экспериментальной работы показали, что усовершенствованная методика повышает объективность и точность оценки знаний студентов, а полученные результаты имеют*

практическую значимость для совершенствования образовательного процесса в медицинских высших учебных заведениях.

Ключевые слова: *искусственный интеллект, медицинское образование, оценка знаний, адаптивное тестирование, качество образования, цифровая педагогика*

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IMPROVING THE METHODOLOGY FOR ASSESSING STUDENTS' KNOWLEDGE IN THE PROCESS OF MEDICAL EDUCATION BASED ON ARTIFICIAL INTELLIGENCE TECHNOLOGIES

Abstract. *The article examines ways to increase the effectiveness of assessing students' knowledge in medical education. The shortcomings of traditional assessment methods, such as subjectivity and limited analytical capabilities, are analyzed, and the need to improve assessment methodology on the basis of artificial intelligence technologies is substantiated. Within the study, an adaptive assessment model based on intelligent data analysis and automated processing of learning outcomes was developed. Experimental results showed that the improved methodology increases the objectivity and accuracy of*

assessing students' knowledge, and the results have practical significance for improving the educational process in medical higher education institutions.

Keywords: *artificial intelligence, medical education, knowledge assessment, adaptive testing, education quality, digital pedagogy*

Introduction

Modern medical education requires a fair and accurate assessment of students' knowledge, which is one of the most important pedagogical problems. Because medicine demands a high level of responsibility and deep knowledge, the reliability of the assessment process directly affects the quality of education. In practice, traditional assessment methods are often characterized by subjectivity, limited analytical capabilities, and a shortage of an individual approach [1].

Materials and Methods

The research is directed at the digitalization and intellectualization of pedagogical processes, and its methodological basis is a systematic approach. The study used general scientific methods (analysis, synthesis, comparison), pedagogical methods (experimental testing, observation), and mathematical-statistical analysis.

The proposed assessment methodology based on AI technologies includes three main components: adaptive testing algorithms; intelligent analysis of learning outcomes; and the formation of an individual assessment trajectory. The adaptive testing mechanism selects the complexity level of the next question on the basis of the student's previous answers, which allows a more precise determination of the student's knowledge level. The evaluation results are further processed by artificial intelligence, which identifies the student's knowledge gaps and strengths.

The methodology uses three assessment criteria: completeness of knowledge, solidity of knowledge, and the level of practical application. These

criteria were selected taking into account the specific features of medical education.

Results

At the end of the experiment, the knowledge level of the experimental group increased noticeably compared with the control group. The average score of the experimental group rose by 15.4 points (from 64.1 to 79.5), while the average score of the control group rose by 5.3 points (from 63.4 to 68.7). Statistical analysis showed that the growth in the experimental group was reliably higher than in the control group ($p < 0.05$).

Scientific Novelty

AI-based adaptive assessment model developed. It gives clear assessment of students' knowledge and makes individualization of the training process possible.

Intelligent analysis tools for assessment applied. Answer analysis identifies gaps in knowledge and generates recommendations automatically.

Practical efficiency confirmed experimentally. The knowledge level of the experimental group increased noticeably compared with traditional methods.

Conclusion

The experimental results showed that the improved methodology is more effective than traditional assessment methods. The knowledge indicators of the experimental group were reliably higher than those of the control group, which justifies the pedagogical effectiveness of the methodology. The results have practical significance for improving the educational process in medical higher education institutions, and in the future the methodology may be adapted to other fields and extended with more complex AI models.

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