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

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Abstract

This in the article medical education in the process students knowledge assessment efficiency increase issues seeing Traditional assessment methods subjectivity and limitedness analysis artificially made intellect technologies based assessment methodology improvement necessity based on given . Research within adaptive testing and information intellectual analysis to do to the mechanisms relied on assessment model working Tested . works results improved methodology students knowledge level in evaluation accuracy , objectivity and efficiency increase showed . Obtained results medical supreme education in institutions training process in improvement practical importance has .

Key words

artificial intelligence , medical education , knowledge assessment , adaptive testing , education quality , digital pedagogy .

Abstract

V state rassmatrivayutsya voprosy povysheniya effektivnosti otsenki znaniy studentov v sisteme meditsinskogo obrazovaniya. Proanalizirovany dosatki traditsionnykh metodov otsenki, takie kak'ektivnost i ogranichennye analiticheskie vozmojnosti. Obosnovana neobhodimost sovershenstvovaniya metodiki otsenki znaniy na osnove tekhnologiiy iskusstvennogo intellekte. In the framework of research, the development of an adaptive model is based on the intellectual analysis of data and the training of the results of automatic processing. The results of the experimental work showed that the advanced methodology can increase the objectivity and accuracy of the students of knowledge. Poluchennye results have practical significance for the development of educational processes and medical education.

Key words

artistic intellect, medical education, otsenka znaniy, adaptive testing, quality education.

Annotatsiya

Mazkur maqolada tibbiy ta’lim jarayonida talabalar bilimini baholash samaradorligini oshirish masalalari ko‘rib chiqilgan. An’anaviy baholash usullarining subyektivligi va cheklanganligi tahlil qilinib, sun’iy intellekt texnologiyalariga asoslangan baholash

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metodikasini takomillashtirish zarurati asoslab berilgan. Tadqiqot doirasida adaptiv testlash va ma'lumotlarni intellektual tahlil qilish mexanizmlariga tayangan baholash modeli ishlab chiqildi. Tajriba-sinov ishlari natijalari takomillashtirilgan metodika talabalarning bilim darajasini baholashda aniqlik, ob'ektivlik va samaradorlikni oshirishini ko'rsatdi. Olingan natijalar tibbiy oliy ta'lim muassasalarida o'quv jarayonini takomillashtirishda amaliy ahamiyatga ega.

Kalit so'zlar

sun'iy intellekt, tibbiy ta'lim, bilimni baholash, adaptiv testlash, ta'lim sifati, raqamli pedagogika.

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 способствует повышению объективности и точности оценки знаний студентов. 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.

Introduction

Modern medical education in the system students knowledge fair and clear assessment important pedagogical from problems one Medicine field high responsibility and deep knowledge demand what did because of assessment process reliability education quality with directly depends on . In practice being used traditional assessment methods often subjectivity , limited analysis opportunities and individual approach shortage with separated stands .

Latest in years education in the field artificial intellect technologies current to be training process digitization and individualization opportunity Especially students knowledge in evaluation artificial from the intellect use assessment process automation , results deep analysis to do and flexible evaluation Therefore , medical in education students knowledge assessment methodology artificial intellect based on improvement current scientific and practical task is considered .

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This of the research purpose — artificial intellect technologies based on medical education in the process students knowledge assessment methodology improvement and his/her efficiency experiment through from justification consists of .

Literature analysis

Scientific in sources knowledge evaluation pedagogical , psychological and technological aspects wide illuminated . Foreign in research artificial intellect based on adaptive testing , machine study using training the results analysis to do to the issues separately attention focused on . Some using AI in research assessment of the results accuracy and reliability increase record done .

Local in research and mainly digital education technologies current testing systems improvement issues studied is medical in education artificial to the intellect based complex assessment methodologies working exit enough at the level research This is not yet available . situation this of the research scientific novelty defines .

Research methodology

Research in the process systematic analysis , pedagogical experiment , comparison and statistic analysis from methods used . Improved assessment methodology artificial intellect elements based on working was released . Including adaptive testing mechanism student's previous to the answers looking at next questions complexity automatic to adapt provides .

Evaluation in the process taken information intellectual analysis is made , the student knowledge level , weak and strong sides is determined . Experiment-test works medical supreme education institution students group in the presence of organization was done .

Research methodology (extended)

This research pedagogical processes digitization and intellectualization to do directed is , then systematic approach based on methodological basics was formed . In the study general scientific (analysis , synthesis , comparison), pedagogical (experimental testing , observation) and mathematical-statistical analysis from methods used .

Offer done assessment methodology artificial intellect technologies following main components relied on : adaptive testing algorithms ; learning the results intellectual analysis to do ; individual assessment trajectory to form .

Adaptive testing mechanism student's answers based on next of questions complexity level automatic This approach assessment in the process student's knowledge level further clear determination opportunity gives . Evaluation results artificial intellect using again worked , the student in knowledge spaces and strong sides is determined .

In methodology assessment criteria as of knowledge completeness , solidity and practical hand to take level This is marked . criteria medical education features in consideration received without selected .

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Table 1. From experience-testing previous knowledge level indicators

Groups	Students number	Average score
Control group	30	63.4
Experimental group	30	64.1

Experience at the beginning two group in the middle noticeable difference not observed .

Table 2. From experience-testing next knowledge level indicators

Groups	Students number	Average score
Control group	30	68.7
Experimental group	30	79.5

Results analysis

Table from the data visible as it stands , experiment in the end experimental group of students knowledge level control to the group relatively noticeable at the level increased . Experimental in the group average score **15.4 percent** , control in the group and **8.3 percent** increased observed .

This situation artificial intellect based on improved assessment methodology students knowledge level in determining high accuracy and to efficiency has that confirms .

Research results

Experiment-test results this showed that artificial intellect based on improved assessment methodology traditional to methods relatively one row to the advantages In particular , the evaluation of the results accuracy and objectivity increased , students knowledge level differential assessment opportunity expanded .

Results analysis this showed that experimental group of students average indicators control to the group relatively noticeable at the level high It happened . This and improved methodology efficiency confirms .

Experiment - test works medical supreme education in the institution organization was made , in which 60 people student participation Students equal under the circumstances **control group** and **experimental** to **the group** separated . Experience one semester during take went .

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Control in the group assessment process traditional test and verbal request methods through done Experimental in the group and artificial intellect based on improved assessment methodology current In this process students knowledge in evaluation automated and adaptive approach was applied .

Experience at the beginning two of the group knowledge level almost one kind is , this experience of the results reliability provided . Experience in the end and experimental group of students knowledge indicators noticeable at the level increased observed . Statistical analysis results experimental in the group growth control to the group relatively reliable that showed ($p < 0.05$).

Results analysis this showed that improved methodology : assessment process objectivity increased ; students knowledge differential analysis to do opportunity gave ; study individual approach in the process provided .

Scientific news

This of the research scientific novelty the following own inside takes:

Based on AI adaptive assessment model working Released : Students knowledge clear assessment and training process individualization to do opportunity gives .

Evaluation to the process intellectual analysis tools current was : Answers analysis through in knowledge spaces is determined and recommendations automatic is formed .

Practical efficiency experiment through confirmed : Experimental in the group traditional to methods relatively knowledge level noticeable at the level increased .

Medical AI methodologies in education integration to do concept working released : Methodology other sciences and clinical put into practice to be possible .

This news **medical of education assessment system digitization and to innovate scientific basis creates** .

Discussion

Received results artificial intellect technologies medical in education assessment to the process current to grow pedagogical in terms of to the goal compatibility shows . Methodology students knowledge deep analysis to make an individual approach provide and training process optimization opportunity gives . With this together , technological infrastructure and teachers digital competencies develop important factor is considered .

Research results artificial intellect technologies medical in education assessment to the process current to grow pedagogical in terms of effective that confirms . Proposal done methodology traditional assessment in the methods subjectivity and limited analysis opportunities eliminate will reach .

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Also , the methodology students knowledge deep analysis to do through to the teacher training process individualization opportunity This gives medical in education professional competencies to form positive impact shows . With this together , methodology current in the process of technician infrastructure and of educators digital competencies develop necessity is determined .

Conclusion

This research as a result artificial intellect technologies based on medical education in the process students knowledge assessment methodology improved . Proposal done methodology adaptive testing and intellectual analysis to the mechanisms based to be , to evaluate process accuracy and objectivity to increase service does .

Experiment-test results improved methodology traditional assessment to the methods relatively more efficient that showed . Experimental group of students knowledge indicators control to the group relatively reliable at the level high This is methodology pedagogical efficiency scientific in terms of justifies .

Research results medical supreme education in institutions training process improvement , evaluation system digitization and education quality in increasing practical importance has . In the future this methodology to other fields of study adaptation and artificial of intellect further complicated models based on develop promising is considered .

Research as a result artificial intellect technologies based on medical education in the process students knowledge assessment methodology improved . Proposal done methodology assessment process accuracy and efficiency increase experiment through proved . Obtained results medical supreme education in institutions education quality in increasing practical importance has .

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