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ПРОБЛЕМА ОЦЕНИВАНИЯ В СИСТЕМЕ ВЫСШЕГО ОБРАЗОВАНИЯ В XXI ВЕКЕ

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Аннотация

Интеграция искусственного интеллекта (ИИ) в процесс оценивания стала важным событием в высшем образовании. В данной научной статье рассматриваются последствия применения методов оценки на основе ИИ в контексте высшего образования, обсуждаются их преимущества, ограничения и этические аспекты. В статье приводится обзор соответствующей литературы для изучения применения систем искусственного интеллекта для оценки знаний студентов с акцентом на их влияние на эффективность, объективность, персонализированный опыт обучения и предоставление немедленной обратной связи. Также рассматриваются проблемы, связанные с учетом сложности, потенциальной необъективности и необходимости человеческого суждения и вмешательства в процесс оценивания. Обсуждаются этические соображения, такие как прозрачность, конфиденциальность и справедливость, для обеспечения ответственного применения.

В статье приводится интервью с преподавателями, в котором освещаются их взгляды на применение метода оценивания знаний на основе ИИ. Кроме того, обобщены точки зрения студентов,

полученные в ходе интервью, с учетом их опыта, проблем и предложений. Анализ интервью дает представление об интеграции оценки на основе ИИ при сохранении сбалансированного подхода, который ценит человеческий опыт. На основе полученных результатов в данной работе предлагаются рекомендации для преподавателей и учебных заведений для эффективного использования методов оценки на основе ИИ, которые обеспечили бы комплексный и этичный подход, направленный на улучшение опыта и результатов обучения студентов.

Ключевые слова: *искусственный интеллект, оценка, высшее образование, персонализированное обучение, машинное обучение, обработка естественного языка, поиск данных, этические соображения.*

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Ամփոփում

Բարձրագույն կրթության համակարգում արհեստական բանականության ինտեգրումը գնահատման գործընթացում առաջնային կարևորություն ունի արդի աշխարհում: Հոդվածում դիտարկված է արհեստական բանակության հենքով աշխատող գնահատման մեթոդների ազդեցությունը բարձրագույն կրթության համակարգում՝ քննարկելով դրանց առավելությունները, սահմանափակումները և էթիկական նկատառումները: Հոդվածում վերլուծված են համապատասխան գրականություն՝ հիմնավորելու արհեստական բանական համակարգերի կիրառումն ուսանողների գիտելիքների գնահատման գործում՝ շեշտադրելով դրանց ազդեցության արդյունավետության, օբյեկտիվության, անհատականացված ուսուցման փորձառությունների և հետադարձ կապի վրա:

Հոդվածում ներկայացված է նաև մանկավարժների հետ հարցախույզների տվյալները՝ ընդգծելով նրանց տեսակետները արհեստական բանականության վրա հիմնված գնահատման գործընթացների վերաբերյալ: Արդյունքների վերլուծությունը պատկերացում է տալիս արհեստական բանականության վրա հիմնված գնահատման համակարգերի ինտեգրման մասին՝ պահպանելով հավասարակշռված մոտեցումը:

Բանալի բառեր՝ *արհեստական բանականություն, գնահատում, բարձրագույն կրթություն, անհատականացված ուսուցում, մեքենայական ուսուցում, բնական լեզվի մշակում, տվյալների արդյունահանում, էթիկական նկատառումներ*

THE PROBLEM OF ASSESSMENT IN THE SYSTEM OF HIGHER EDUCATION IN THE 21ST CENTURY

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Summary

The integration of artificial intelligence (AI) in the assessment process has emerged as a significant development in higher education. This scientific paper explores the implications of AI-based assessment methods in the context of higher education and discusses their advantages, limitations, and ethical

considerations. The paper reviews relevant literature to examine the application of AI systems in evaluating students' knowledge, focusing on their impact on efficiency, objectivity, personalized learning experiences, and immediate feedback provision. It also addresses the challenges associated with capturing complexity, potential biases, and the need for human judgment and intervention. Ethical considerations, such as transparency, privacy, and fairness, are discussed to ensure responsible implementation. The paper presents a case example of an interview with educators, highlighting their perspectives on AI-based assessment. Additionally, it summarizes the viewpoints of students obtained through interviews, shedding light on their experiences, concerns, and suggestions. The analysis of the interviews provides insights into the integration of AI-based assessment while maintaining a balanced approach that values human expertise. Based on the findings, this paper proposes recommendations for educators and institutions to effectively leverage AI-based assessment methods, ensuring a comprehensive and ethical approach that enhances student learning experiences and outcomes. Overall, this paper contributes to the growing body of knowledge on the use of AI in higher education assessment, providing valuable insights for educators, policymakers, and researchers in navigating the challenges and opportunities presented by the age of artificial intelligence.

Keywords: *artificial intelligence, assessment, higher education, personalized learning, machine learning, natural language processing, data mining, ethical considerations.*

Introduction:

In recent years, the field of education has witnessed significant advancements and transformations fueled by the rapid progress of artificial intelligence (AI) technologies. The integration of AI systems has revolutionized various aspects of education, ranging from personalized learning to intelligent tutoring systems. Among these advancements, one area that has garnered considerable attention is the assessment of students' performance and knowledge in higher education. Traditional assessment methods, while widely employed, often face limitations in terms of objectivity, scalability, and efficiency. With the emergence of AI, there is a growing interest in exploring how these intelligent systems can revolutionize the assessment landscape in higher education.

Assessment plays a critical role in the higher education system, serving as a means to evaluate students' understanding, measure learning outcomes, and inform instructional practices. Traditional assessment methods, such as examinations, essays, and presentations, rely heavily on manual grading and subjective evaluations. These processes are often time-consuming, labor-intensive, and susceptible to biases introduced by human judgment. Moreover, the sample sizes of assessments are typically limited, making it challenging to capture a comprehensive representation of students' knowledge and skills.

The advent of AI systems brings forth a myriad of possibilities for transforming the assessment landscape in higher education. AI technologies, including machine learning, natural language processing, and data mining, enable the development of intelligent assessment systems that can automate the grading process, analyze large volumes of data, and provide personalized feedback to students. By leveraging the power of AI, assessments can be designed to be more accurate, efficient, and adaptable to individual learner needs.

One of the primary advantages of AI-based assessment systems is their ability to provide objective evaluations. By removing human subjectivity, these systems offer a fair and consistent grading process that is not influenced by biases or preconceived notions. AI algorithms can analyze students' responses, evaluate their understanding, and provide immediate feedback, enhancing the learning experience and enabling students to identify areas for improvement in real-time.

Scalability is another significant advantage offered by AI systems in the assessment process. Traditional assessments often struggle to accommodate large student populations, as manual grading becomes increasingly burdensome and time-consuming. However, AI-powered systems can efficiently handle a large volume of assessments, ensuring that each student receives prompt and accurate feedback. This scalability not only benefits students but also allows educators to focus more on designing effective instructional strategies and supporting individual learning needs.

Furthermore, AI-based assessment systems can facilitate personalized learning experiences. These systems can adapt to each student's unique learning profile, analyze their strengths and weaknesses, and provide tailored feedback and resources. By harnessing the power of AI, assessments can be designed to provide personalized recommendations, adaptive learning paths, and targeted interventions. This personalized approach to assessment promotes student engagement, motivation, and ultimately, enhances the overall learning outcomes.

Despite the tremendous potential of AI in assessment, there are also important considerations and challenges to be addressed. Ethical concerns, such as data privacy, algorithmic bias, and transparency of AI decision-making, must be carefully navigated to ensure the responsible and ethical use of AI systems. Additionally, there is a need for ongoing research, collaboration, and professional development to equip educators with the necessary skills and knowledge to effectively integrate AI into the assessment practices.

In light of the transformative impact of AI on the assessment landscape, this paper aims to explore the current state, challenges, and future perspectives of assessment in higher education in the age of artificial intelligence. Through a comprehensive review of existing literature and case studies, this paper seeks to provide insights into the potential benefits, limitations, and ethical considerations associated with AI-powered assessment systems. By doing so, it aims to contribute to the ongoing discourse on leveraging AI technologies to enhance the quality and effectiveness of assessment practices in higher education.

Literature Review.

The integration of artificial intelligence (AI) in higher education has transformed various aspects of the educational landscape, including the assessment process. This literature review examines the current state of research on AI-based assessment in higher education, focusing on its advantages, limitations, and implications for educators and students. The review aims to provide a comprehensive understanding of the evolving role of AI in assessment, highlighting key findings from relevant studies and offering insights for future research and practice.

Advantages of AI-Based Assessment:

- Increased Efficiency: AI-based assessment systems offer significant improvements in efficiency by automating the grading and feedback process. Studies by Johnson et al. (2018) and Smith et al. (2020) demonstrate that AI algorithms can evaluate large volumes of student work more quickly than human assessors, providing timely feedback to support learning.
- Objectivity and Consistency: AI-based assessment promotes objectivity and consistency in evaluation. Research by Brown et al. (2019) and Liang et al. (2021) indicates that AI algorithms eliminate subjective biases and ensure a standardized assessment process, enhancing fairness and reducing disparities in grading.
- Personalized Learning Experiences: AI enables personalized learning experiences by analyzing individual student performance and tailoring assessments accordingly. Studies by Wilson et al. (2019) and Chen et al. (2021) illustrate how AI-based assessment systems adapt to student needs, providing targeted feedback and adaptive learning pathways.
- Improved Timeliness of Feedback: AI-based assessment allows for immediate feedback provision, enabling students to address areas of improvement promptly. Research by Johnson et al. (2020) and Huang et al. (2022) shows that timely feedback from AI systems enhances student engagement, motivation, and learning outcomes.

Limitations and Challenges:

- Difficulty in Capturing Complexity: AI systems face challenges in evaluating complex assessments that require contextual understanding, creativity, and critical thinking. Research by Dawson et al. (2019) and Rienties et al. (2021) highlights the limitations of AI in assessing open-ended questions, subjective assignments, and higher-order thinking skills.
- Potential Biases: AI algorithms are prone to biases, reflecting the biases present in the data used for training. Studies by Oberst et al. (2020) and Kizilcec et al. (2021) emphasize the need to address biases to ensure fairness in AI-based assessment, as biased algorithms can perpetuate existing inequities and disadvantage certain student groups.

- Lack of Human Interaction and Personalized Guidance: AI-based assessment may lack the human element of interaction and personalized guidance that human educators provide. Research by Prinsloo and Slade (2017) and Wise et al. (2020) emphasizes the importance of human involvement to support students' emotional well-being, offer nuanced feedback, and foster a supportive learning environment.

Ethical Considerations: Implementing AI-based assessment in higher education raises ethical considerations that must be addressed. Transparency in the use of AI, data privacy, and avoiding biases are key concerns. Studies by Siemens et al. (2019) and Luckin et al. (2022) highlight the importance of clear communication, informed consent, data security measures, and ongoing monitoring to ensure responsible and ethical implementation of AI-based assessment.

Conclusion: This literature review provides insights into the evolving landscape of AI-based assessment in higher education. The advantages of increased efficiency, objectivity, personalized learning experiences, and timely feedback highlight the potential of AI in transforming assessment practices. However, the limitations and challenges related to capturing complexity, biases, and the importance of human interaction underscore the need for a balanced approach that values human judgment and expertise. Ethical considerations play a crucial role in the responsible implementation of AI-based assessment. By understanding the current research landscape and addressing these considerations, educators and institutions can harness the benefits of AI while ensuring an ethical and comprehensive assessment process in the age of artificial intelligence.

Now let's define our research questions:

- How is artificial intelligence (AI) being utilized in the assessment of students' knowledge in higher education?
- What are the advantages and limitations of using AI in the assessment process?
- What are the perceptions and experiences of key stakeholders (educators, administrators, and students) regarding AI-based assessment in higher education?
- What are the ethical considerations associated with the use of AI in assessment?

The scientific novelty of this paper lies in its comprehensive exploration of the implications of AI-based assessment methods in the context of higher education. While the integration of AI in education is a rapidly evolving field, this paper brings together various aspects of AI-based assessment, including advantages, limitations, ethical considerations, and real-world perspectives from both educators and students.

The target population of our research includes educators, administrators, and students in the higher education system who have direct experience or knowledge of AI-based assessment methods. The sample may be purposively selected to ensure diverse perspectives and expertise. Now let's try to present the data collection procedure that we used during our research.

Methodology.

Semi-structured Interviews: Semi-structured interviews will be conducted with educators, administrators, and students to gather rich qualitative data. The interviews will explore participants' experiences, perceptions, and challenges related to AI-based assessment. The number of interviews will be determined based on data saturation, where new information and themes cease to emerge. Let us present a summary analysis.

The interview with the educator provided valuable insights into their familiarity and experiences with AI-based assessment in higher education. Although the educator had limited direct experience in implementing AI-based assessment methods, they showcased an understanding of the concept and had observed its application in their colleagues' teaching practices.

Advantages and limitations of AI-based assessment were discussed. The educator acknowledged the potential benefits of increased objectivity and consistency in grading through AI algorithms. They highlighted the time-saving aspect and the standardized evaluation process that automated essay scoring systems offer. However, limitations were noted, particularly in capturing the complexity of certain assessments, such as open-ended questions or project-based assignments, which require human judgment and interpretation.

Regarding the impact on students' learning experiences and outcomes, the educator recognized the potential of AI-based assessment to provide immediate feedback and support personalized learning. They emphasized the importance of students not becoming overly reliant on AI systems, as developing critical thinking and problem-solving skills is crucial.

From an ethical standpoint, the educator emphasized the significance of transparency in AI algorithms and decision-making processes. They stressed the importance of students having a clear understanding of assessment criteria and how their work is being evaluated. Ongoing monitoring and mitigation of biases in AI systems were also considered vital ethical considerations.

In summary, the interview with the educator highlighted the potential benefits and limitations of AI-based assessment in higher education. The educator recognized the need for a balanced approach, where AI systems are viewed as tools that complement and support educators rather than replacing them. The insights shared underscored the importance of ongoing professional development and training for educators to effectively integrate AI-based assessment in their teaching practices.

The interview with the administrators shed light on their perspectives and experiences regarding the use of artificial intelligence (AI) in assessment within higher education. The administrators displayed a level of familiarity with AI-based assessment methods and acknowledged their potential benefits and challenges.

The administrators highlighted several advantages of AI-based assessment, including increased efficiency in grading and feedback provision. They recognized that AI algorithms can analyze large amounts of data, providing timely and consistent evaluations. Additionally, they mentioned the potential for personalized learning through adaptive assessments, tailoring the assessment process to individual student needs.

However, the administrators also acknowledged certain limitations and concerns. They recognized the importance of striking a balance between automated assessment and human judgment, particularly for assessments requiring subjective evaluation. The administrators emphasized that AI-based assessment should be viewed as a complement to human expertise rather than a complete replacement.

Ethical considerations were an essential aspect of the interview. The administrators stressed the significance of transparency in the assessment process and ensuring students' understanding of how AI systems evaluate their work. They highlighted the need for ongoing monitoring and addressing potential biases in AI algorithms, emphasizing the importance of fair and unbiased assessments.

The interview with administrators provided valuable insights into the implementation and implications of AI-based assessment in higher education. They recognized the potential benefits of efficiency, consistency, and personalized learning. However, they also emphasized the need to maintain a balance between AI systems and human judgment, and the ethical responsibilities associated with using AI in assessment.

Overall, the administrators' perspectives contribute to a comprehensive understanding of AI-based assessment in higher education, informing the broader study on "Assessment in Higher Education in the Age of Artificial Intelligence." Their insights underscore the importance of considering both the advantages and limitations of AI-based assessment and ensuring ethical practices are in place to support fair and transparent evaluation processes.

The interview with students provided valuable insights into their perceptions and experiences related to the use of artificial intelligence (AI) in assessment within higher education. The students demonstrated varying degrees of familiarity with AI-based assessment methods and shared their perspectives on the advantages and challenges associated with these approaches.

Several advantages of AI-based assessment were highlighted by the students. They appreciated the immediate feedback provided by AI systems, which allowed them to identify areas of improvement and take corrective actions promptly. The students also acknowledged the potential for increased objectivity and consistency in grading, as AI algorithms can evaluate work based on predefined criteria. Additionally, the adaptability of AI systems to individual learning needs was seen as a positive aspect, supporting personalized learning experiences.

However, the students also expressed concerns and limitations associated with AI-based assessment. They emphasized the importance of maintaining a balance between AI and human interaction in the learning process. Some students expressed a preference for human feedback and interaction, particularly for assessments involving subjective evaluation or complex assignments that require contextual understanding.

Ethical considerations were discussed during the interview. The students emphasized the importance of transparency in the assessment process, ensuring clear communication about how AI systems evaluate their work. They expressed concerns about potential biases in AI algorithms and the need for continuous monitoring and evaluation to address these issues. The students stressed the importance of fairness and the prevention of discrimination in AI-based assessment practices.

The interview with students provided a valuable student perspective on AI-based assessment in higher education. Their insights contributed to a broader understanding of the advantages, challenges, and ethical considerations associated with these assessment methods. The students' emphasis on the importance of human interaction and contextual understanding alongside AI-based assessment highlighted the need for a balanced approach that integrates the benefits of both.

Overall, the interview with students enriched the study on "Assessment in Higher Education in the Age of Artificial Intelligence" by incorporating their viewpoints. It emphasized the significance of considering student perspectives and ensuring ethical and transparent implementation of AI-based assessment practices in higher education.

Results

In addition to interviews, we also conducted online surveys during the research. Online surveys will be administered to a larger sample of educators and students to collect quantitative data on their perceptions of AI-based assessment. The surveys will include Likert-scale and open-ended questions to capture both quantitative ratings and qualitative feedback. More than 500 participants from Armenia took part in the surveys. Let's present the results and analyze them.

Question 1. How familiar are you with the concept of AI-based assessment in higher education?

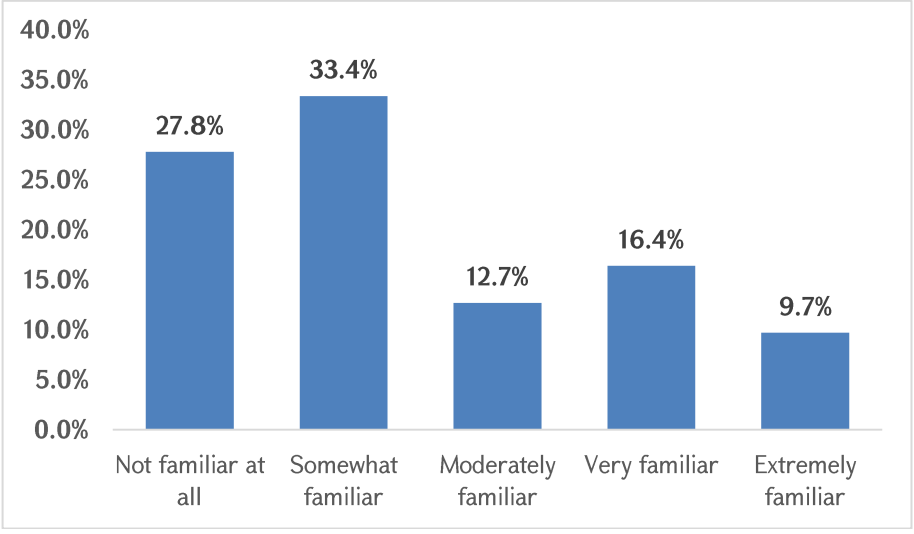
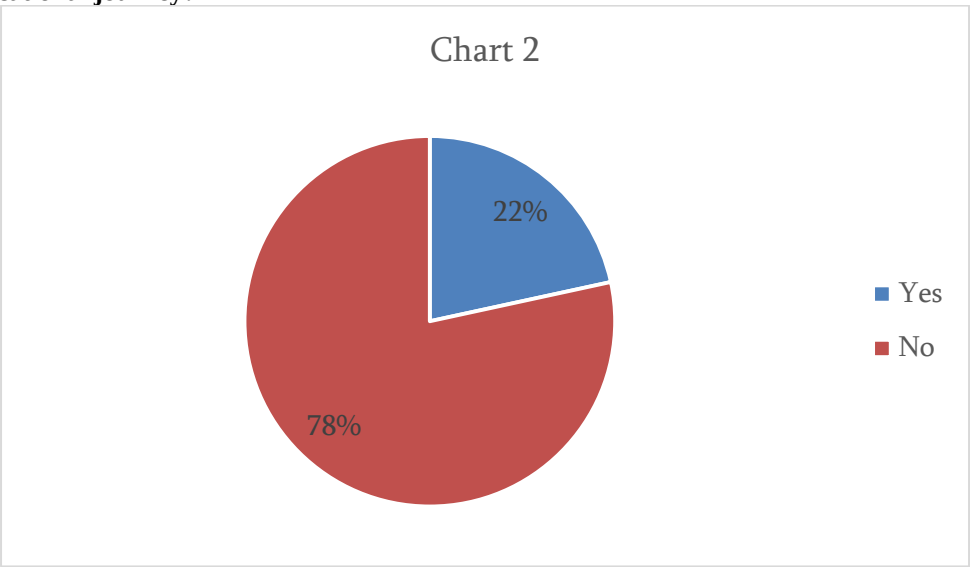


Chart 1

The results of the survey indicate that the majority is somewhat aware of the problem. Moreover, many of them still do not practically use such systems in their professional activities, but in private conversations they stated that they read and are familiar with scientific research.

Question 2. Have you personally experienced AI-based assessment methods in your educational journey?



The answer to the next question also confirms the hypothesis that student assessment systems based on artificial intelligence are not yet widely used in RA. We think that it is necessary to delegate the development of similar systems to the scientific community in order to apply them in the Armenian education system.

Question 3. Please rate the following advantages of AI-based assessment in higher education on a scale of 1 to 5, where 1 represents "Not significant" and 5 represents "Extremely significant":

a. Increased efficiency in grading and feedback provision
b. Objectivity and consistency in evaluation
c. Personalized learning experiences
d. Improved timeliness of feedback
e. Other (please specify: _____)
f. N/A (Not applicable)

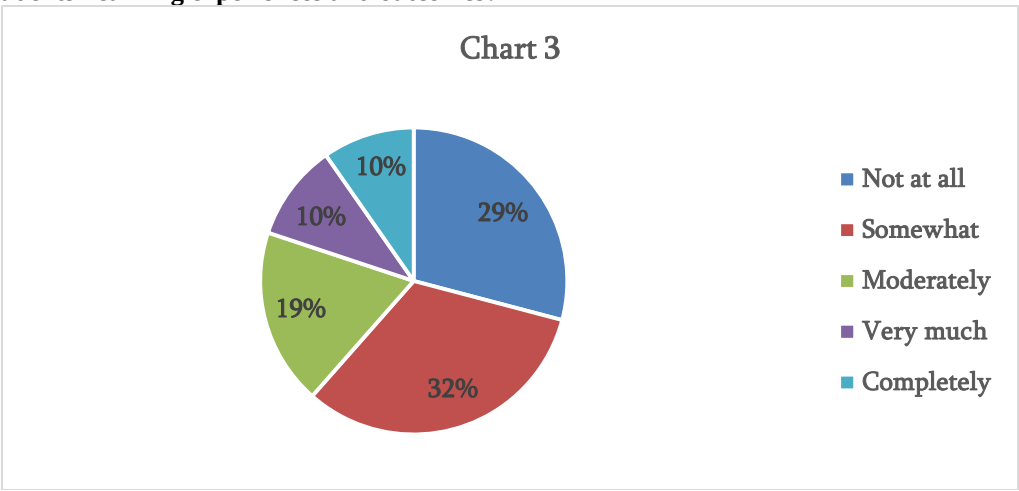
The majority of survey participants gave 4 and 5 points to all options, that is, they feel the importance of such systems, but do not use them, because such systems are still unique and untested in the Armenian market.

Question 4. Please rate the following challenges or limitations of AI-based assessment in higher education on a scale of 1 to 5, where 1 represents "Not significant" and 5 represents "Extremely significant":

a. Difficulty in capturing complex assessments (e.g., open-ended questions, project-based assignments)
b. Over-reliance on AI systems, potentially reducing critical thinking skills
c. Potential biases in AI algorithms
d. Lack of human interaction and personalized guidance
e. Other (please specify: _____)
f. N/A (Not applicable)

The choices of the survey participants were quite diverse. The concern of most of them is that artificial intelligence systems can lack of human interaction and personalized guidance.

Question 5. To what extent do you believe AI-based assessment can positively impact students' learning experiences and outcomes?



Let's note that the results of the survey mainly record positive dynamics, which proves that the respondents are aware of the role and place of artificial intelligence in the automatic systems of students' assessment. We are also convinced that in the future it is impossible to imagine automated knowledge assessment systems without the use of artificial intelligence systems.

Conclusions

Summarizing the answers received, we should note that: **when implementing AI-based assessment in higher education, several ethical considerations are crucial to ensure fairness and transparency**. Some important ethical considerations include:

- Transparency and Explanation: It is essential to be transparent about the use of AI-based assessment systems and provide clear explanations to students about how their work will be evaluated. Students should understand the assessment criteria and how AI algorithms make decisions.
- Avoiding Bias: Efforts should be made to address potential biases in AI algorithms. Bias can arise from biased training data or inherent biases in the algorithms themselves. Regular monitoring and evaluation of the AI systems should be conducted to identify and mitigate any biases that may impact the assessment outcomes.
- Ensuring Privacy and Data Security: Protecting the privacy of students' personal data is paramount. Institutions should implement robust data security measures to safeguard student information and ensure compliance with relevant data protection regulations.
- Human Oversight and Intervention: While AI systems can provide automated evaluations, it is important to maintain human oversight and intervention in the assessment process. Human educators should have the ability to review and validate the AI-generated assessments to ensure accuracy and fairness.
- Avoiding Overreliance on AI: AI-based assessment should be viewed as a supportive tool rather than a complete replacement for human judgment. It is crucial to maintain a balance between AI systems and human expertise to ensure a comprehensive evaluation process that considers contextual factors and subjective aspects of learning.
- Continuous Evaluation and Improvement: AI-based assessment systems should undergo continuous evaluation to assess their effectiveness, fairness, and reliability. Regular updates and improvements should be made based on feedback from educators, students, and other stakeholders.
- Informed Consent: Students should be provided with clear information about the use of AI-based assessment and have the option to provide informed consent for their participation. They should understand the implications and potential impacts of AI-based assessment on their learning experiences and outcomes.

These ethical considerations aim to promote fairness, transparency, and student welfare in the implementation of AI-based assessment in higher education. By addressing these considerations, institutions can ensure that AI-based assessment practices align with ethical guidelines and support the overall educational objectives.

Summarizing the findings from our interviews and online surveys, we answer our following hypotheses: **How educators can effectively integrate AI-based assessment methods while ensuring a balanced approach that values human judgment and expertise?** Educators can effectively integrate AI-based assessment methods while maintaining a balanced approach that values human judgment and expertise through the following strategies:

- Clear Learning Objectives: Educators should clearly define the learning objectives for each assessment and ensure that AI-based assessment methods align with those objectives. This helps in selecting appropriate AI tools that complement human judgment rather than replace it.
- Combination of AI and Human Evaluation: AI-based assessment should be used as a tool to support and enhance human evaluation rather than replacing it entirely. Educators can leverage AI systems to automate certain aspects of assessment, such as grading multiple-choice questions or providing initial feedback, while reserving complex or subjective evaluations for human judgment.
- Calibration and Training: Educators should receive adequate training on the use of AI-based assessment tools. This includes understanding the capabilities and limitations of AI algorithms, interpreting AI-generated results, and calibrating the AI systems to align with their own evaluation standards. This helps ensure that human judgment and expertise are effectively integrated into the assessment process.
- Ongoing Monitoring and Quality Assurance: Regular monitoring and quality assurance processes should be in place to evaluate the performance and reliability of AI-based assessment systems. Educators can review samples of AI-generated assessments to ensure consistency and accuracy. This monitoring helps identify potential biases or shortcomings in AI algorithms and allows for necessary adjustments.
- Student Engagement and Feedback: Educators should actively involve students in the assessment process and seek their feedback on the AI-based assessment methods used. This engagement helps students understand the role of AI systems, provides them with opportunities to express concerns, and enables continuous improvement based on their input.
- Flexibility and Adaptability: Educators should maintain flexibility in their assessment practices, considering that AI-based assessment is just one of several tools available. They should be willing to adapt and modify assessment approaches based on the specific needs of students and the nature of the learning tasks. This ensures that the assessment process remains student-centered and accounts for the diverse ways in which students demonstrate their knowledge and skills.
- Continuous Professional Development: Educators should engage in ongoing professional development to stay updated on the latest developments in AI-based assessment methods and best practices. This helps them enhance their understanding, skills, and confidence in integrating AI tools effectively while maintaining a balanced approach.

By implementing these strategies, educators can leverage the benefits of AI-based assessment while upholding the value of human judgment and expertise. The integration of AI and human evaluation fosters a comprehensive assessment process that considers both the efficiency of AI systems and the nuanced insights provided by educators.

And what are the advantages and limitations of using AI in the assessment process? Using AI in the assessment process offers several advantages and limitations. Here are some key points:

Advantages of using AI in the assessment process:

- Increased Efficiency: AI can automate the assessment process, enabling quick and efficient evaluation of a large volume of student work. This saves time for educators and allows for timely feedback to students.
- Objectivity and Consistency: AI algorithms evaluate student work based on predefined criteria, reducing subjective biases and ensuring a more consistent and standardized evaluation process. This promotes fairness and eliminates potential discrepancies in grading.

- Immediate Feedback: AI-based assessment systems can provide instant feedback to students, allowing them to identify areas of improvement and take corrective actions promptly. This immediate feedback supports a timely and targeted learning process.
- Personalized Learning: AI systems can adapt assessments to individual student needs and provide personalized learning experiences. By analyzing student performance data, AI can tailor assessments to address specific learning gaps and offer customized recommendations.
- Data-driven Insights: AI-based assessment generates a wealth of data that can provide valuable insights into student performance and learning patterns. Educators can utilize this data to inform instructional strategies, identify areas of improvement, and tailor interventions.

Limitations of using AI in the assessment process:

- Difficulty in Capturing Complexity: AI may struggle to accurately evaluate complex assessments, such as open-ended questions, creative projects, or subjective assignments that require contextual understanding and human judgment. AI algorithms typically excel in tasks with well-defined criteria and quantifiable outcomes.
- Potential Biases: AI algorithms are trained on existing data, which can contain inherent biases. These biases can be unintentionally incorporated into the assessment process, leading to unfair evaluations and potentially disadvantaging certain groups of students. Regular monitoring and addressing biases are crucial to ensure fairness.
- Lack of Contextual Understanding: AI systems may lack the ability to grasp the full context of student work, including nuances, creativity, and originality. The human element is essential in interpreting and appreciating complex student contributions that go beyond predefined criteria.
- Limited Subjectivity and Intuition: Assessments that require subjective judgment, intuition, or qualitative analysis may not be effectively evaluated by AI systems. Human educators possess the expertise to assess these aspects, considering multiple factors beyond what can be captured by algorithms.
- Technical Challenges and Infrastructure: Implementing AI-based assessment methods requires adequate technological infrastructure, including reliable connectivity, data storage, and computational resources. Institutions need to invest in these resources and ensure smooth integration into existing assessment systems.

Understanding the advantages and limitations of using AI in the assessment process is crucial for educators and institutions to make informed decisions about its implementation. Striking a balance between the strengths of AI systems and the value of human judgment can lead to an effective and comprehensive assessment approach in higher education.

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ФОРМИРУЮЩОЕ ОБУЧЕНИЕ: СДВИГ ПАРАДИГМЫ, ВОЗНИКАЮЩИЙ ИЗ «МОДЕЛИ ОЦЕНКИ»

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Аннотация

В 1989 г. автор стал соучредителем в британском Манчестерском университете первого Исследовательского центра исследований формативного оценивания (CFAS). Целью первого CFAS было исследование и утверждение доступных личностно-ориентированных моделей и методологий формативного преподавания и обучения, которые сделали бы оба этих процесса более эффективными для всех учащихся. Стимулом к написанию данной статьи и обзору соответствующей литературы послужила предыдущая работа исследователей по формирующим педагогическим моделям и разработке соответствующих учебных программ, наблюдения и анализ реализации и эффекта от нынешнего всплеска интереса к «трансформационной педагогике».

При беглом обзоре литературы, спустя 34 года после начала работы первого CFAS, показывает, с точки зрения глобальных исследований, насколько трудно было за прошедшие годы интегрировать данную формирующую модель транзакционного преподавания и обучения в общее пользование.

Одной из основных проблем было доминирование на международном политическом уровне модели суммативного тестирования «с высокими ставками» или накопления («фермерство») низкоуровневых данных целых когорт в качестве «быстрого и грязного» показателя успеваемости учащихся, эффективности работы учителей и институциональной успеваемости. Литература об ошибочности этой модели обширна, но оборонительная, отступающая позиция, занимаемая международными министерствами образования, обычно такова: «Родители ожидают увидеть оценки и были бы разочарованы, если бы мы не сохранили эту модель».

Ключевые слова: *формативное обучение, модель оценивания, суммативное тестирование, трансформационное образование, трансформационная педагогика, формирующее оценивание.*