Evaluating Teachers' Perspectives on Education-based assessment strategies with Artificial Intelligence (AI)

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Abstract. Artificial intelligence (AI) is rapidly transforming various aspects of teaching and learning. This study examines the perceptions of teachers' perception assessment strategies on teachers using Artificial Intelligence (AI). Sixty-eight postgraduate teachers from an Education Faculty of a Malaysian Research University participated in this study. Semi-structured interviews and survey questions collected data. The findings revealed a notable disparity and lack of thorough knowledge of AI's consequences in educational environments, including ethical issues and assignment correct- ness.

Keywords: Artificial Intelligence, Education, Assessments, teachers' perception and Readiness of teachers.

1. Introduction

The recent development of AI applications, especially in the education industry, brings in more challenges, where gaps in access to educational resources are becoming more evident. Some universities have introduced and implemented several AI-driven learning systems to accommodate learning experiences and improve course delivery, ad- dressing these issues. In addition, educators believe that assessment methods should be adapted to the emergence of AI technologies like ChatGPT, Jenni.Ai, Conch AI, and others. One of the benefits of this would be the transformation between traditional teaching methodologies and assessment strategies, which brings in more integration of technology usage. AI-powered tools can be used to simplify all the relevant tasks ac- cording to academics (Alam, 2021). Some crucial factors must be considered with AI in assessments, especially in terms of content that appears original and requires a proper redesign of the assessments. Researchers need to investigate the novelty methods further to ensure that higher-order thinking, problem-solving, and critical thinking skills are less vulnerable to AI manipulation.

Artificial intelligence (AI) tools have been introduced in the education system and are important in enhancing educational professionals and students. Many arguments have arisen concerning these developments, especially the assessment, student engagement, and role of AI tools in the education system among teachers. In the education system, communication between students, teachers, and administrators is the core activity, providing real-time feedback and suggestions that ease up teachers' workload (Karaca & Kılcan, 2023). Hence, there is a need to understand teachers' perceptions of the impact of AI on learning, assessment, and communication as asserted by Carter and Smith (2023). Vaithilingam et al.(2022) reported that students perceive AI tools as good at problem-solving and writing issues. They prefer AI tools and will adopt AI tools to enhance their assessments. AI can generate information for students' assessment. Hence, new forms of assessment may be required to prevent plagiarism and ensure that students gain some knowledge. There is a need to teach the productive use of these AI tools as an aid rather than not relying enormously on them. (Denny et al.,2023).

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Chounta et al., (2021) study revealed that the teachers have limited knowledge about AI tools compared to the students. Despite acknowledging that AI tools enhance learning outcomes, teachers are extremely concerned about security, sterile emotions, ethical considerations, and undermining inquisitive mindset. Teachers view AI tools as supplementary tools, acknowledging potential benefits, and are willing to explore AI tools (Chiu et al., (2022) and Zhao et al., (2022); teachers' perceptions are positive towards using AI tools in education irrespective of various age groups, academic background and years of working experience. Undoubtedly, educational institutions will adopt AI tools widely in the future—AI support on assessment. Consequently, before the successful implementation of AI assessment in schools, the teachers should utilize it first to fully integrate it into the assessment (Kim and Kim, 2022). This study explores the schoolteachers' perceptions of using AI tools in assessment.

2. Research Questions

1. How do the teachers envision the future role of AI in shaping the educational landscape, particularly in assessments and assignments?
2. Can you discuss any ethical considerations or concerns regarding using AI in education? How do you address these in your practice?

3. Research Methodology

This explanative sequential case study targeted teachers currently pursuing their postgraduate degree program in the Faculty of Education of a Malaysian Public University. Random sampling was used as the sampling methodology, using Google Forms' online questionnaire. A total of 68 replies were gathered overall when data collecting ends on June 15, 2024, the technique splits into two analysis phases. One phase consists of the statistical or numerical assessment techniques suggested by the study of quantitative data from the obtained replies. Using descriptive statistics and thematic analysis on the open-ended questions, this study could eventually evaluate the findings against the objectives of the research and the gathered data

4. Findings

In the quantitative findings, this phase quantifies educators' opinions on the adoption and integration of AI inside academic settings by focusing on three main dimensions:
(a) the Impact of AI on Assignment Accuracy, (b) Challenges and Strategies in AI Implementation, and (c) Readiness for AI Adoptions.

Table 1.

Mean and Standard Deviation of Educators' opinions on the adoption and integration of AI in-side academic settings

Dimension	*Question*	*Mean*	*Standard Deviation*

Dimension 1: Impact of AI on Assignment Accuracy			
Q1	Using AI enhances the precision of students' academic tasks.	3.2	1.3
Q2	Incorporating AI minimizes mistakes in assignments.	3.0	1.2
Q3	AI software helps students grasp course material.	3.1	1.5
Q4	AI systems ensure consistent grading of assignments.	2.9	1.6
Q5	Integrating AI motivates critical thinking and problem-solving.	3.3	1.1
Dimension 2: Challenges and Strategies in AI Implementation			
Q6	I face difficulties incorporating AI tools in assessments	3.1	1.2
Q7	I know methods to tackle inaccuracies with AI in assignments.	3.2	1.3
Q9	AI ensures impartial grading.	3.0	1.4
Dimension 3: Readiness for AI Adoption			
Q11	I am ready to use AI tools to assess assignments.	3.2	1.6
Q12	My university supports AI use.	2.9	1.4
Q13	Ongoing AI training is key for readiness.	3.0	1.3
Q14	We have funding for AI technology.	3.1	1.5
Q15	Our institution supports AI integration.	2.8	1.2

a. Impact of AI on Assignment Accuracy: Educators generally perceive AI as beneficial for enhancing accuracy and critical thinking in assignments, but their agreement is neutral to slightly positive.
b. Challenges and Strategies in AI Implementation: There is general agreement that AI poses challenges in implementation, though there is an acknowledgment of its benefits in ensuring fairness and enhancing assessment accuracy.
c. Readiness for AI Adoption in Education Assessments: Educators show a neutral to

mildly positive view on their readiness and the support from their institutions for adopting AI, indicating some reservations and variability in readiness levels.

These results provide a complex picture of the teachers' neutral to somewhat favorable opinions on using artificial intelligence to improve the quality of their assignments, including critical thinking abilities and assignment accuracy.

5. Qualitative Findings

1. *How do the teachers envision the future role of AI in shaping the educational landscape, particularly in assessments and assignments?*

The future role of AI in shaping the educational landscape, especially in assessments and assignments, appears poised for significant evolution, as detailed in Figure 1. As an overview, three important areas of use for artificial intelligence are improved feedback and evaluation, personalizing and efficiency in learning, and educator assistance.

Figure 1: Advancements in AI-Driven Educational Assessment

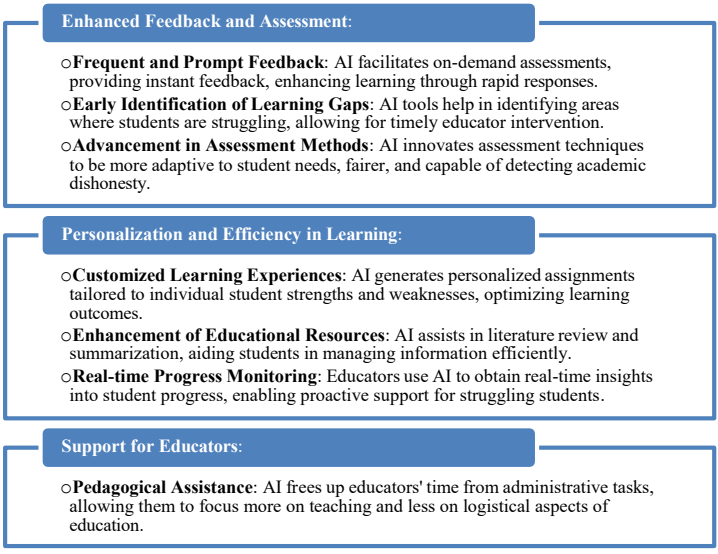
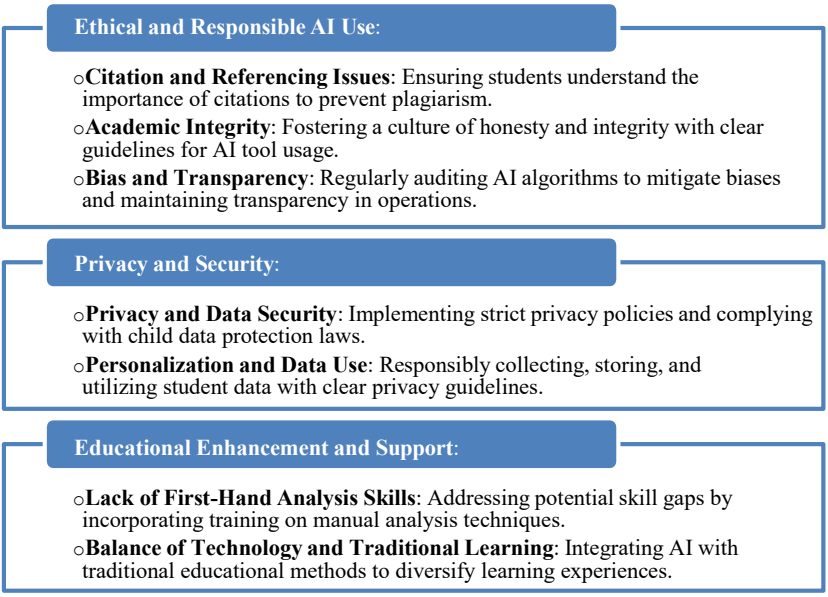


Figure 2. Ethical Dimensions of AI in Education



RQ2. Can you discuss any ethical considerations or concerns you have regarding the use of AI in education? How do you address these in your practice?

Ethical and Responsible AI Use: As artificial intelligence is included in student learning and evaluation; this section emphasizes the need for appropriate citations and references to avoid plagiarism—a fundamental habit. It also underlines the need to encourage academic honesty and routinely check artificial intelligence systems to guarantee they run free from prejudice and with openness.

6. Discussions

Impact of AI on Assessment Accuracy

Emphasizing improving instructional efficacy and assignment correctness, artificial intelligence (AI) has been progressively included in educational environments. The common sentiments revealed that educators believe that artificial intelligence (AI) may help them improve accuracy and encourage critical thinking among their pupils, enhancing their practice (Kim & Kim, 2022). Using artificial intelligence in the classroom is considered to help educators identify specifically defined instructional responsibilities and provide more precisely produced materials (Lin, 2022). AI may also help con- tent be more suited for students' knowledge levels and provide customized suggestions for learning resources catered to student requirements (Chounta et al., 2021). More precise and focused assignments that meet the needs of every student may result from this tailored approach aided by artificial intelligence (Ahmad et al., 2021). The effective use of artificial intelligence in education

depends much on the impressions of educators on it. Even in big class numbers, research shows that educators often anticipate artificial intelligence to improve the teaching and learning process by offering digitalized learning resources and addressing different learning challenges that students may run into (Kim & Kim, 2022).

Challenges and Strategies in AI Implementation

Although the potential advantages of artificial intelligence for education are acknowledged, its use raises questions and issues. Similar to the findings of this study, educators' opinions and acceptance of artificial intelligence in the classroom are much influenced by their confidence in AI-powered educational technologies (Nazaretsky et al., 2022). Ensuring the successful integration of AI tools in educational environments depends on knowing user confidence in AI-based learning systems (Qin et al., 2020). Educators' willingness to implement artificial intelligence in educational evaluations is much shaped by institutional support. Studies show that instructors with sufficient tools, resources, and training from their institutions are more likely to feel ready and secure in using artificial intelligence technology in their evaluation methods (Ahmad et al., 2021). Ethical considerations on the use of AI in education

From the respondents' perspectives, the main ethical questions were transparency and responsibility in AI systems used for assignments and evaluation. A lack of open- ness in how artificial intelligence systems decide might result in prejudices, unjust results, and mistrust of the technology (Busch et al., 2023). Furthermore, the possibility of artificial intelligence systems producing erroneous or misleading results presents ethical questions, particularly in high-stakes educational tests where precise and dependable findings are vital (Busch et al., 2023). In terms of policy implications, establishing ethical values for artificial intelligence in education can help guarantee responsibility, justice, and autonomy in using AI technology (Nguyen et al., 2022). Adopting artificial intelligence in education also calls for careful navigation of possible hazards, such as data privacy issues and prejudices, to maintain educational ideals and provide fair rewards for all stakeholders (Huang, 2024).

7. Conclusion

The research on integrating Artificial Intelligence (AI) in educational evaluations has shown significant advantages and difficulties in the present academic scene. For these teachers, using artificial intelligence in homework improves the accuracy of academic assignments and encourages critical thinking and problem-solving among students. However, these advantages are accompanied by different degrees of acceptability and preparation among teachers, emphasizing the need for significant institutional support and customized training courses. The results indicate the necessity of a comprehensive strategy addressing the possible benefits and drawbacks of artificial intelligence integration in education, guaranteeing that its use improves learning results with- out sacrificing ethical norms or academic integrity.

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