Exploring Open Distance Learning (ODL) Students' Perceptions on AI Adoption for Online Assessments

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Abstract:

Artificial Intelligence (AI) is increasingly embedded in online assessment systems through tools such as automated grading, plagiarism detection, and remote proctoring. This study examined Open and Distance Learning (ODL) students' awareness and perceptions of AI adoption for assessment within the University of Lagos Distance Learning Institute. A descriptive cross-sectional survey design was used, supported by follow-up interviews. Data from 2,850 respondents show moderate awareness overall, higher awareness for plagiarism detection tools, and cautiously positive perceptions regarding fairness and accuracy. However, students expressed concerns about grading errors, lack of transparency, privacy, and AI limitations in evaluating complex responses.

Keywords: Artificial Intelligence; Online Assessment; Open and Distance Learning; Student Perception; Technology Adoption

I. INTRODUCTION

Artificial Intelligence (AI) has moved from being a specialist technology to an everyday feature of digital systems, including educational platforms. In assessment specifically, AI supports automated marking, plagiarism detection, adaptive testing, and rapid feedback. These capabilities are attractive in Open and Distance Learning (ODL) environments because large enrolments, dispersed learners, and limited lecturer contact can make timely, consistent assessment difficult. For institutions, AI promises efficiency and scalability; for learners, it can offer faster results, clearer learning gaps, and support for self-paced study.

Despite these benefits, AI-based assessment raises practical and ethical questions. Students may not understand how scores are generated, especially when automated systems evaluate essays or other subjective work. Concerns also exist about algorithmic bias, system errors, surveillance in remote proctoring, and data privacy. In contexts where digital inequality and infrastructure challenges persist, these issues can reduce trust and acceptance.

This paper investigates ODL students' awareness and perceptions of AI adoption for online assessments in the University of Lagos Distance Learning Institute (DLI). Understanding students' readiness, perceived value, and concerns is essential because acceptance strongly influences successful implementation. The study therefore addresses three core questions: (1) students' awareness and familiarity with AI tools used in assessment; (2) students' perceptions of AI-based assessment; and (3) perceived benefits and concerns associated with AI in assessment. The findings provide evidence to inform institutional policy, training, and ethical safeguards in AI-enabled assessment systems.

II. LITERATURE REVIEW

Research on AI in education has expanded rapidly, covering both technical applications and human-centered adoption issues. Early policy and foresight reports highlighted the potential for AI to personalize learning, automate administrative tasks, and support assessment at scale (Tuomi, 2018; Luckin et al., 2016). More recent reviews in higher education show that AI tools are increasingly used for grading, learning analytics, tutoring, and integrity monitoring, but educators and learners often have limited voice in adoption decisions (Zawacki-Richter et al., 2019).

Assessment has become one of the most visible areas of AI deployment because it is measurable and operationally costly. Automated grading using machine learning and natural language processing can assess objective and short-answer items and, in some cases, provide structured feedback for writing. Plagiarism detection platforms such as Turnitin and Grammarly integrate AI to identify similarity and potential misconduct, which can strengthen academic integrity in online settings. However, scholars warn that automated grading can misinterpret context, creativity, or culturally-grounded expressions, creating fairness risks (Broughan & Prinsloo, 2021; Rikala & Kankaanranta, 2022).

Student perception and trust are central to AI adoption. Studies in digital and distance universities show that perceived fairness, transparency, and reliability shape whether learners accept AI-generated outcomes (Ali & Ahmad, 2021). When systems operate as a "black box," students may experience anxiety and reduced confidence in results. Conversely, where AI offers fast feedback and consistent marking, students may perceive improved objectivity and efficiency (Lau & Lee, 2022).

In Nigeria, ODL continues to grow, but it faces persistent challenges related to infrastructure, learner support, and digital readiness (Ajadi et al., 2008; Bawa, 2020; Onasanya & Adegbija, 2020). Within this context, the adoption of AI in assessment is both an opportunity and a risk. Limited digital literacy may reduce students' ability to interpret AI decisions, and unreliable connectivity can intensify stress during AI-proctored examinations. At the same time, AI could reduce

lecturer workload and improve turnaround time for results, which are recurring complaints in ODL environments.

The Technology Acceptance Model (TAM) remains one of the most widely used frameworks for explaining user adoption of information systems. TAM argues that perceived usefulness and perceived ease of use predict attitudes and intention to use a technology (Davis, 1989). In AI-enabled assessment, perceived usefulness may reflect faster grading, consistency, and integrity protection, while ease of use reflects usability of platforms and availability of guidance. However, AI assessment adds additional factors such as trust, transparency, and perceived risk, which scholars increasingly incorporate alongside TAM when studying AI acceptance in education (Broughan & Prinsloo, 2021; Ali & Ahmad, 2021).

Overall, existing studies support the promise of AI for efficiency and scalability, but consistently highlight concerns about bias, privacy, and explainability. There remains a need for evidence from local ODL settings in Nigeria showing how students understand and evaluate AI-based assessment tools, and what institutional actions can improve responsible adoption. This study responds to that gap by providing empirical results from ODL learners in Lagos.

III. METHODOLOGY

This study adopted a descriptive cross-sectional survey design to capture ODL students' perceptions of AI adoption for assessment at a single point in time. The population comprised students enrolled in the University of Lagos Distance Learning Institute (DLI) who had completed at least one semester and participated in online assessments. A purposive sampling approach was used to select respondents likely to have relevant exposure to digital assessment tools.

A total sample size of 2,850 ODL students was targeted for the structured questionnaire survey, and 10 students were purposively selected for follow-up semi-structured interviews to provide deeper context. The questionnaire contained four sections: (A) demographics (gender, age, programme, level); (B) awareness/familiarity with AI tools; (C) perceptions of AI in assessment using a 5-point Likert scale; and (D) perceived benefits and concerns. Instruments were validated through expert review for content clarity and alignment with objectives, and a pilot test with 10 students from the National Open University who were not part of the final sample.

Quantitative data were analyzed using descriptive statistics (frequencies, percentages, and mean scores). Qualitative interview responses were analyzed using thematic analysis: transcription, coding, theme development, and interpretation, with representative participant quotes used to illustrate key patterns.

IV. RESULTS & DISCUSSION

A total of 2,850 valid questionnaires were analyzed, alongside 10 follow-up interviews. Results are presented according to the research questions, with tables used to summarize key distributions and Likert responses.

Table 1: Demographic Characteristics of Respondents (N = 2,850) – Gender

Gender	Frequency	Percentage (%)
Male	1,460	51.2
Female	1,390	48.8
Total	2,850	100.0

Table 1(b): Age Distribution of Respondents (N = 2,850)

Age Range	Frequency	Percentage (%)
18–25	750	26.3
26–35	1,200	42.1
36–45	600	21.1
46 and above	300	10.5
Total	2,850	100.0

Table 1(c): Faculty/Programme of Study (N = 2,850)

Faculty/ Programme	Programme	Frequency	Percentage (%)
Education	B.Ed. Guidance & Counselling	320	11.2
Education	B.Ed. Educational Administration	280	9.8
Social Sciences	B.Sc. Economics	450	15.8
Social Sciences	B.Sc. Mass Communication	400	14.0
Management Sciences	B.Sc. Accounting	360	12.6
Management Sciences	B.Sc. Business Administration	390	13.7
Arts	B.A. English	200	7.0
Arts	B.A. Philosophy	150	5.3
Science	B.Sc. Computer Science	180	6.3
Science	B.Sc. Environmental Science	120	4.2
Total		2,850	100.0

Table 1(d): Level of Study (N = 2,850)

Level	Frequency	Percentage (%)
100 Level	800	28.1
200 Level	1,000	35.1
300 Level	600	21.1
400 Level	350	12.3
Postgraduate	100	3.5
Total	2,850	100.0

Table 2: Awareness Level/Familiarity with AI in Assessment (N = 2,850)

Awareness Level	Frequency	Percentage (%)
Very familiar	450	15.8
Somewhat familiar	900	31.6
Heard of it but not sure	700	24.6
Not familiar at all	800	28.0
Total	2,850	100.0

Table 3: Students' Awareness of AI Tools in Assessment (N = 2,850)

AI Technology	Very Aware	Aware	Not Sure	Slightly Aware	Not Aware	Mean Score	Interpretation
Automated grading systems (e.g., quizzes, essays)	500	1,000	700	400	250	3.40	Moderate awareness
Plagiarism detection tools (e.g., Turnitin, Grammarly AI)	800	1,200	400	250	200	3.79	High awareness
AI-based proctoring software (e.g., remote monitoring tools)	600	950	550	450	300	3.38	Moderate awareness

Table 4: Students' Perceptions of AI in Assessment (Key Likert Items) (N = 2,850)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean Score	Interpretation
AI makes assessment fair and objective	650	1,100	600	300	200	3.62	Generally positive
AI provides accurate grading	580	1,050	700	350	170	3.54	Moderately positive
AI tools are easy to use	500	900	800	400	250	3.34	Mixed perception
I feel anxious when being assessed by AI	400	750	600	600	500	2.93	Mild concern present
I trust AI-generated assessment results	550	1,000	650	400	250	3.42	Moderately positive

Table 5: Perceived Benefits and Concerns of AI in Assessment (N = 2,850)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean Score	Interpretation
AI makes assessment faster and more efficient	750	1,200	500	250	150	3.81	Strong agreement
AI reduces human bias in grading	700	1,050	600	300	200	3.65	Generally positive
AI improves fairness and consistency in assessment	650	1,000	650	350	200	3.60	Positive perception
I am concerned about errors in AI grading	800	950	500	350	250	3.61	High concern
I am worried that AI lacks human judgement in evaluating complex answers	850	1,000	500	300	200	3.70	High concern
I fear AI may be used without students understanding how it works	900	1,050	400	300	200	3.77	Strong concern

Demographics show a balanced gender distribution (51.2% male; 48.8% female) and an adult-learner profile, with the largest age group between 26–35 years (42.1%). Social Sciences and Management Sciences collectively account for a substantial share of respondents, reflecting broad participation across programmes. The most represented study level was 200 Level (35.1%), suggesting that many respondents had meaningful exposure to online assessments.

Awareness results indicate moderate familiarity with AI tools. Only 15.8% of respondents were "very familiar," while 28.0% were not familiar at all, highlighting a clear literacy gap. Tool-specific awareness shows higher recognition of plagiarism detection tools (mean = 3.79) compared with automated grading (mean = 3.40) and AI-based proctoring (mean = 3.38). Interview data supports this, with students reporting that they used Turnitin or instant-feedback quizzes without recognizing these as AI-enabled.

Students' perceptions were cautiously positive. Respondents generally agreed that AI improves fairness and objectivity (mean = 3.62) and offers moderately accurate grading (mean = 3.54). Trust in AI-generated results was moderate (mean = 3.42). However, ease of use received mixed responses (mean = 3.34), and students reported some anxiety when being assessed by AI (mean = 2.93). Qualitative comments suggest that anxiety is linked to limited transparency and fear of system errors.

The benefits–concerns profile is consistent with the perception results. Students strongly agreed that AI increases speed and efficiency (mean = 3.81) and moderately agreed it can reduce human bias (mean = 3.65) and improve consistency (mean = 3.60). At the same time, concern levels were high regarding errors in AI grading (mean = 3.61), lack of human judgment for complex answers (mean = 3.70), and the risk of AI use without adequate student understanding (mean = 3.77). Interview participants emphasized privacy and surveillance discomfort associated with proctoring tools and described AI

assessment as a "black box" when explanations are not provided.

Test of Hypotheses (Chi-Square Analysis)

Three hypotheses were tested using Chi-square analysis of association

Hypothesis 1: There is significant relationship between students' awareness of AI-based assessment tools and their trust in AI-generated assessment results.

Variables	χ^2 value	df	p-value	Decision
Awareness of AI tools vs Trust in AI results	18.42	4	0.001	Reject H01

Table 6: The chi-square analysis indicates a statistically significant relationship between students' awareness of AI-based assessment tools and their trust in AI-generated results ($\chi^2 = 18.42$, $p < 0.05$). The null hypothesis was therefore rejected.

Hypothesis 2: There is significant relationship between perceived benefits of AI-based assessment and students' acceptance of AI-based assessments.

Variables	χ^2 value	df	p-value	Decision
Perceived benefits vs Acceptance	22.67	4	0.000	Reject H02

Table 7: Results show a significant association between perceived benefits of AI-based assessment and students' acceptance of AI for online assessment ($\chi^2 = 22.67$, $p < 0.05$). Thus, the null hypothesis was rejected.

Hypothesis 3: There is significant relationship between perceived concerns about AI-based assessment and students' anxiety towards AI-based assessments.

Variables	χ^2 value	df	p-value	Decision
Perceived concerns vs Anxiety	16.09	4	0.003	Reject H03

Table 8 : The chi-square result reveals a statistically significant relationship between perceived concerns regarding AI-based assessment and students' anxiety levels ($\chi^2 = 16.09$, $p < 0.05$). Consequently, the null hypothesis was rejected.

Interpretation of Table 6: The result indicates a statistically significant relationship between students' awareness of AI-based assessment tools and their trust in AI-generated assessment results. This implies that greater familiarity with AI tools enhances students' confidence in AI-supported assessment outcomes.

Interpretation of Table 7: The chi-square result shows a significant association between perceived benefits of AI-based assessment and students' acceptance of AI for online assessment. This suggests that students are more willing to adopt AI-based assessments when they perceive clear advantages such as speed, consistency, and objectivity.

Interpretation of Table 8: The finding reveals a significant relationship between perceived concerns about AI-based assessment and students' anxiety levels. This indicates that concerns relating to privacy, transparency, and limited human judgment contribute to heightened anxiety towards AI-based assessment systems.

These findings align with prior studies showing that perceived usefulness (speed, consistency, integrity) drives acceptance, while perceived risk (errors, bias, privacy, lack of explainability) limits trust and uptake. From a TAM perspective, usefulness appears relatively high, but ease of use and trust require improvement through student onboarding, transparent grading logic, and clear appeal mechanisms. In the Nigerian ODL context, where infrastructure and learner support challenges are documented, successful AI adoption will likely depend on a hybrid approach that retains human oversight while using AI to improve efficiency.

V CONCLUSION

This study examined ODL students' awareness, perceptions, and concerns regarding AI adoption for online assessments in the University of Lagos DLI. Findings show moderate awareness overall, with stronger recognition of plagiarism detection tools than more advanced systems such as AI proctoring. Students were generally positive about AI's potential to improve fairness, objectivity, and efficiency, but concerns remain strong around grading errors, lack of transparency, privacy, and limited suitability for complex or subjective responses.

To improve acceptance and ethical implementation, institutions should:

(1) Integrate AI literacy into student orientation and course support

(2) Adopt a hybrid assessment model where AI complements rather than replaces human judgement

(3)Sstrengthen transparency through explainable feedback and clear appeals processes

(4) Implement privacy safeguards for any monitoring technologies.

These steps can increase trust and ensure that AI enhances assessment quality without undermining student rights or learning integrity.

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