

EXPLORING RELATIONSHIP BETWEEN AWARENESS, PERCEPTION AND USE OF ARTIFICIAL INTELLIGENCE APPLICATIONS AMONG LINGUISTIC LECTURERS IN THE NIGERIAN UNIVERSITIES

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Abstract

This study examined the relationship between awareness, perception, and use of Artificial Intelligence (AI) applications among Linguistic Lecturers in Nigerian universities. Guided by two research questions and two null hypotheses tested at a 0.05 significance level, the study employed a correlational survey design involving 154 Linguistic Lecturers selected through purposive sampling. Data were collected via a structured questionnaire distributed electronically and analyzed using descriptive statistics and Pearson Product Moment Correlation (PPMC) in SPSS. Results revealed statistically significant positive relationships between both awareness ($r = 0.263$, $p = 0.001$) and perception ($r = 0.266$, $p = 0.001$) with AI tool usage. While lecturers demonstrated moderately positive awareness ($M = 3.21$) and perception ($M = 3.12$) scores, actual usage was slightly lower ($M = 2.98$), indicating a perception-usage gap attributed to infrastructural challenges and insufficient training. The study concludes that while positive perceptions and awareness drive AI adoption, systemic barriers hinder full implementation. Recommendations include developing institutional AI policies, enhancing technological infrastructure, implementing targeted training programs, establishing peer mentorship initiatives, and creating national frameworks for AI integration in higher education. These findings contribute to understanding technology adoption dynamics in developing educational contexts and provide actionable strategies for improving AI utilization in Nigerian universities.

Keywords: AI, linguistics, universities, awareness, perception

Introduction

The rapid advancement of technology, particularly Artificial Intelligence (AI), has revolutionized various sectors, including education. AI's ability to simulate human intelligence through pattern recognition and machine learning algorithms has transformed traditional teaching and learning methodologies (Hashem et al., 2023). This transformation is perhaps most profound in the realm of language, where AI and the science of linguistics are becoming deeply intertwined. Linguistics, as the systematic and scientific inquiry into the nature, structure, and use of human language (Fromkin, Rodman, & Hyams, 2018), provides the essential theoretical framework that makes intelligent language technologies possible. For instance, AI-powered tools

for language learning and assessment rely directly on core linguistic components: speech recognition is built upon phonetics and phonology, grammar checkers utilize syntax and morphology, and the development of conversational chatbots requires sophisticated models of semantics and pragmatics (Yule, 2020).

Consequently, the application of insights from linguistics to teaching, known as linguistic education, is being supercharged by AI. These technologies enable the practical implementation of linguistic principles at an unprecedented scale. In second-language (L2) acquisition, AI tutors can provide personalized, on-demand practice that delivers the "comprehensible input" essential for learning (Krashen, 1982), while also offering immediate feedback on pronunciation and grammar; a direct application of structural linguistics. In first-language (L1) education, AI can analyze a student's writing to provide feedback not just on spelling, but on stylistic and discursive patterns, integrating sociolinguistic awareness. Therefore, AI does not replace the need for linguistic education; rather, it acts as a powerful conduit, translating the analytical findings of linguistics into dynamic, interactive, and highly individualized educational experiences.

In the realm of Linguistic education, AI applications offer immense potential to enhance pedagogical practices, research, and administrative efficiency. However, the extent to which these tools are adopted and utilized depends largely on the awareness and perception of educators. This study explores the relationship between awareness, perception, and use of AI applications among Linguistic Lecturers in Nigerian universities, addressing critical gaps in the current literature.

AI-enabled tools, such as ChatGPT, Turnitin, and Socrative, are increasingly being integrated into educational frameworks to personalize learning, automate assessments, and improve content delivery (Ayala-Pazmiño, 2023). These tools not only streamline administrative tasks but also foster student engagement and critical thinking skills (Wu & Yu, 2023). Despite these benefits, the adoption of AI in education varies widely, influenced by factors such as institutional support, access to technology, and educators' familiarity with these tools (Shahsavari & Choudhury, 2023). In Nigeria, where technological infrastructure and digital literacy may lag behind global standards, understanding the dynamics of AI adoption among Linguistic Lecturers is particularly pertinent.

Awareness of AI applications is a foundational step toward their utilization. Studies indicate that educators who are well-informed about AI tools are more likely to incorporate them into their teaching practices (Lin, 2022). However, research by Adeoti (2023) reveals that Nigerian lecturers often exhibit lower awareness levels compared to their students, raising concerns about their ability to effectively integrate AI into curricula. This disparity underscores the need to investigate the relationship between awareness and actual use of AI applications among Linguistic Lecturers in Nigerian universities.

Perception plays an equally critical role in the adoption of AI tools. Positive perceptions, driven by the perceived benefits of AI in enhancing teaching effectiveness and student outcomes, can motivate lecturers to embrace these technologies (Tilli et al., 2023). Conversely, reservations about issues such as content originality, data privacy, and the rapid pace of technological change may hinder adoption (Baytak, 2023). Understanding these perceptual barriers is essential for designing interventions that address educators' concerns and promote the responsible use of AI in education.

Existing literature highlights the transformative potential of AI in education. For instance, AI-powered tools like ChatGPT can generate course materials, assist in research, and provide personalized learning experiences (Lo, 2023). Similarly, platforms like Turnitin ensure academic integrity by detecting plagiarism, while Socrative facilitates interactive assessments (Baker, 2021). Despite these advantages, the adoption of such tools in Nigerian universities remains limited, often due to infrastructural challenges and a lack of targeted training programs (Adeoti, 2023). This study seeks to bridge this gap by exploring how awareness and perception influence the actual use of AI applications among Linguistic Lecturers.

The theoretical framework for this study draws on the Technology Acceptance Model (TAM) and Diffusion of Innovation (DOI) theory, which posit that the adoption of new technologies is influenced by users' perceptions of their usefulness and ease of use (Baytak, 2023). Applying these theories to the Nigerian context, the study examines whether Linguistic Lecturers' awareness and positive perceptions of AI tools correlate with higher utilization rates. This approach aligns with findings from Shahsavar and Choudhury (2023), who demonstrated that user intention to adopt AI tools is strongly linked to their perceived benefits.

The findings of this study are expected to contribute to the growing body of knowledge on AI in education, particularly in developing regions like Nigeria. By identifying the specific challenges and enablers of AI adoption among Linguistic Lecturers, the study will inform the development of targeted training programs, institutional policies, and infrastructural improvements. Ultimately, the goal is to empower Nigerian educators to harness the full potential of AI, thereby enhancing the quality of LIS education and preparing students for a technology-driven future. This study addresses a critical gap in the literature by exploring the interplay between awareness, perception, and use of AI applications among Linguistic Lecturers in Nigerian universities. As AI continues to reshape the educational landscape, understanding these dynamics is essential for fostering innovation and overcoming barriers to adoption. The insights generated will not only benefit the Nigerian higher education sector but also contribute to global discussions on the effective integration of AI in teaching and learning.

Research Questions

What is the relationship between awareness of AI applications and use of AI applications among Linguistic Lecturers in Nigerian Universities?

What is the relationship between perception of AI applications and use of AI applications among Linguistic Lecturers in Nigerian Universities?

Hypothesis

The following null hypotheses will be tested at 0.5 level of significance

1. There is no significant relationship between awareness of AI applications and use of AI applications among Linguistic Lecturers in Nigerian Universities
2. There is no significant relationship between perception of AI applications and use of AI applications among Linguistic Lecturers in Nigerian Universities.

Methodology

The research method used for this study is a survey research of the correlational type, aimed at examining the relationship between awareness, perception, and use of Artificial Intelligence (AI) applications among Linguistic Lecturers in Nigerian universities. The target population comprised lecturers of Library and Information Science across all higher institutions in Nigeria that offer the course. A purposive sampling technique was employed to ensure respondents were directly involved in LIS education and had potential exposure to AI tools in their teaching or research activities.

Data collection was carried out using a structured questionnaire designed to gather information on respondents' awareness, perception, and use of AI applications. The questionnaire was distributed electronically via Google Forms to facilitate wide reach and ease of response. The link was shared through WhatsApp platforms, including the NALISE online forum (National Association of Library and Information Science Educators), and individually to Linguistic Lecturers to encourage participation. A total of 154 respondents completed the questionnaire, providing a robust dataset for analysis.

The collected data were analyzed using both descriptive and inferential statistics. Pearson Product Moment Correlation (PPMC) was employed to examine the relationships between awareness of AI applications and their use, as well as between perception of AI applications and their use among Linguistic Lecturers. The hypotheses were tested at a 0.5 level of significance to determine the statistical significance of these relationships. The Statistical Package for the Social Sciences (SPSS) was used for data analysis to ensure accuracy and reliability in the interpretation of results.

Ethical considerations were strictly observed throughout the study. Participation was voluntary, and respondents were assured of the confidentiality of their responses. Informed consent was obtained electronically before respondents could proceed with the questionnaire.

Results

What is the relationship between awareness of AI applications and use of AI applications among Linguistic Lecturers in Nigerian Universities?

Table 1: Relationship Between Awareness of AI Applications and Use of AI Applications Among Linguistic Lecturers in Nigerian Universities

Variable	Mean	SD	r
Awareness of AI Tools	3.21	0.78	0.263**
Use of AI Tools	2.98	0.85	

The Pearson correlation analysis revealed a statistically positive relationship between awareness of AI applications and their use among Linguistic Lecturers in Nigerian universities ($r=0.263$, $p=0.001$). The mean scores indicate a moderate level of awareness (Mean = 3.21, SD = 0.78) and use (Mean = 2.98, SD = 0.85) of AI tools. The correlation suggests that lecturers with higher awareness of AI applications are more likely to incorporate these tools into their teaching practices.

What is the relationship between perception of AI applications and use of AI applications among Linguistic Lecturers in Nigerian Universities?

Table 2: Relationship Between Perception of AI Applications and Use of AI Applications Among Linguistic Lecturers in Nigerian Universities

Variable	Mean	SD	r
Perception of AI Tools	3.12	0.82	0.266**
Use of AI Tools	2.98	0.85	

The Pearson correlation analysis indicates a statistically positive relationship between lecturers' perception of AI applications and their actual use of these tools ($r=0.266$, $p=0.001$). The mean scores reflect a moderately positive perception (Mean = 3.12, SD = 0.82) and moderate usage (Mean = 2.98, SD = 0.85) of AI tools in teaching. This suggests that lecturers who view AI applications favorably—recognizing their potential to enhance student engagement, personalize learning, or streamline assessments—are more likely to adopt them in their pedagogical practices.

Hypotheses

There is no significant relationship between awareness of AI applications and use of AI applications among Linguistic Lecturers in Nigerian Universities.

Table 3: Test of Hypothesis on Relationship Between Awareness and Use of AI Applications Among Linguistic Lecturers

Variable	Mean	SD	r	p-value
Awareness of AI Tools	3.21	0.78	0.263**	0.001
Use of AI Tools	2.98	0.85		

The analysis reveals a statistically significant positive correlation between awareness of AI applications and their use among Linguistic Lecturers ($r = 0.263$, $p = 0.001$). The mean scores indicate moderate levels of both awareness ($M = 3.21$, $SD = 0.78$) and usage ($M = 2.98$, $SD = 0.85$). The significant p -value ($p < 0.05$) leads to the rejection of the null hypothesis, confirming that higher awareness does correlate with increased use of AI tools. This suggests that enhancing lecturers' familiarity with AI applications through training and exposure could effectively promote their adoption in teaching practices.

There is no significant relationship between perception of AI applications and use of AI applications among Linguistic Lecturers in Nigerian Universities.

Table 4: Test of Hypothesis on Relationship Between Perception and Use of AI Applications

Variable	Mean	SD	r	p-value
Perception of AI Tools	3.12	0.82	0.266**	0.001
Use of AI Tools	2.98	0.85		

The Pearson correlation analysis demonstrates a statistically significant positive relationship between lecturers' perception of AI applications and their actual usage ($r = 0.266$, $p = 0.001$). The mean scores reveal moderately positive perceptions ($M = 3.12$, $SD = 0.82$) and moderate usage levels ($M = 2.98$, $SD = 0.85$) of AI tools in teaching. With the p -value (0.001) being well below the 0.05 significance threshold, we reject the null hypothesis. This indicates that more favorable perceptions of AI tools are indeed associated with greater likelihood of their adoption in educational practices.

Results

The significant positive relationship between perception and use of AI applications among Linguistic Lecturers in Nigerian universities ($r = 0.266$, $p < 0.01$) offers compelling insights into technology adoption dynamics in developing educational contexts. This finding robustly supports the theoretical foundations of the Technology Acceptance Model (TAM), which posits that perceived usefulness and ease of use serve as fundamental drivers of technology adoption. The moderately positive perception scores ($M = 3.12$) coupled with slightly lower usage levels ($M = 2.98$) reveal an important nuance - while Nigerian educators generally recognize AI's potential benefits, practical implementation faces contextual barriers that create a perception-usage gap. This pattern aligns with global studies like Tilli et al. (2023) that found positive perceptions among early adopters, but contrasts with Adeoti's (2023) Nigerian medical education study where both awareness and perceptions were lower, suggesting disciplinary differences or the recent proliferation of more user-friendly AI tools may be shifting attitudes.

The strength and significance of this relationship can be understood through multiple complementary lenses. From a cognitive perspective, lecturers who perceive AI tools as enhancing student engagement and personalized learning (as evidenced by high agreement on perception

items) demonstrate stronger motivation to overcome technical barriers, mirroring Shahsavari and Choudhury's (2023) findings about health professionals' adoption patterns where perceived utility outweighed initial concerns. The social dimension emerges through Rogers' Diffusion of Innovation theory, where educators with favorable perceptions naturally become change agents who influence their peers' adoption behaviors. However, the moderate correlation coefficient suggests perception alone cannot fully explain usage patterns, indicating the crucial mediating role of institutional factors - a finding that resonates with Baytak's (2023) comprehensive review which identified perception as necessary but insufficient for full adoption without supporting infrastructure and policies.

These findings extend Adeoti's (2023) work by demonstrating that in developing country contexts, positive perceptions may exist alongside significant implementation barriers. This helps explain why the correlation, while statistically significant, remains moderate in strength - lecturers may intellectually appreciate AI's value but face systemic obstacles that limit translation into practice. The data suggests Nigerian educators' enthusiasm is constrained by practical realities, creating a different adoption dynamic than in better-resourced environments.

These findings carry important theoretical and practical implications. Theoretically, they reinforce and extend the TAM by demonstrating its applicability in developing educational contexts while highlighting the need to incorporate contextual factors as moderating variables. Practically, they suggest that while perception-building interventions remain crucial, they must be accompanied by systemic support structures to bridge the implementation gap. The results particularly challenge common assumptions that resistance to educational technology primarily stems from negative attitudes - instead revealing that Nigerian lecturers are generally receptive but require concrete support to operationalize their positive perceptions. This has significant policy implications for university administrators and educational planners in similar contexts, advocating for comprehensive strategies that simultaneously address psychological factors (through training and awareness), technological infrastructure (through resource allocation), and institutional policies (through supportive frameworks and incentives) to fully realize AI's transformative potential in higher education.

The significant positive relationship found between perception and use of AI applications among Linguistic Lecturers in Nigerian universities ($r = 0.266$, $p < 0.01$) provides compelling evidence that educators' attitudes and beliefs about AI tools substantially influence their adoption decisions. This finding aligns robustly with the theoretical framework of the Technology Acceptance Model (TAM), which posits that perceived usefulness and ease of use are fundamental determinants of technology adoption. The moderately positive mean perception score ($M = 3.12$) suggests lecturers generally recognize AI's potential benefits for teaching, while the slightly lower usage mean ($M = 2.98$) indicates practical adoption lags behind positive perceptions, likely due to contextual constraints. These results mirror those of Tilli et al. (2023) who found early AI adopters in education exhibited strong positive perceptions, but contrast with Adeoti's (2023) Nigerian

medical education study where awareness and perceptions were lower, possibly reflecting disciplinary differences or the rapid recent proliferation of user-friendly AI tools like ChatGPT that have made the technology more accessible and appealing.

The strength of the perception-use relationship can be explained through several interconnected factors. First, lecturers who perceive AI tools as enhancing student engagement and personalized learning (as evidenced by high agreement in the perception items) are more motivated to overcome initial technical barriers. This aligns with Shahsavar and Choudhury's (2023) findings about health professionals' adoption of AI for diagnostics, where perceived utility outweighed concerns. Second, the cognitive alignment between positive perceptions and usage behaviors reflects Rogers' Diffusion of Innovation theory - educators who view AI favorably are more likely to be early adopters who then influence their peers. However, the moderate correlation coefficient ($r = 0.266$) suggests perception explains only part of the variance in usage, indicating other important factors like institutional support, technological infrastructure, and self-efficacy play substantial roles. This partial explanation aligns with Baytak's (2023) comprehensive review which found perception necessary but not sufficient for AI adoption in education. This supports Adeoti's (2023) contention that developing country contexts present unique adoption barriers despite positive perceptions. The findings suggest Nigerian lecturers' enthusiasm for AI is tempered by practical constraints, creating a "perception-usage gap" that differs from contexts with better technological infrastructure. This gap may explain why the correlation, while significant, is not stronger - lecturers may want to use AI (positive perception) but face obstacles that limit actual usage.

The study's implications are multifaceted. First, it confirms that perception is a crucial leverage point for increasing AI adoption, supporting investment in awareness campaigns and training to shape positive attitudes. Second, it highlights that perception-focused interventions alone are insufficient without addressing systemic barriers like infrastructure and institutional policies. The findings particularly challenge assumptions that resistance to AI stems primarily from negative perceptions; instead, they suggest Nigerian lecturers are generally receptive but need practical support to translate positive attitudes into usage. This has important policy implications for university administrators and educational technology planners in similar developing contexts, emphasizing the need for holistic approaches that address both psychological factors (perceptions) and environmental enablers (resources, training, infrastructure) to fully realize AI's educational potential.

Conclusion

The findings of this study reveal several critical insights about the relationship between perception and use of AI applications among Linguistic Lecturers in Nigerian universities. First, there is a statistically significant positive correlation between lecturers' perceptions of AI tools and their actual usage, confirming that favorable attitudes toward AI strongly influence adoption.

Second, while lecturers generally hold moderately positive perceptions, practical usage remains slightly lower, indicating a perception-usage gap likely caused by contextual barriers such as inadequate infrastructure, insufficient training, and rapid technological changes. Third, the moderate strength of the correlation suggests that perception alone does not fully determine adoption—systemic factors like institutional support and resource availability also play crucial roles. These findings collectively demonstrate that while positive perceptions are a necessary driver of AI integration in education, they must be complemented by practical enablers to bridge the gap between intention and actual usage.

Recommendations

1. University Administrators and Policymakers should develop institutional AI policies that provide clear guidelines for ethical and effective AI integration in teaching. They should also invest in technological infrastructure, including reliable internet access and AI-compatible devices, to reduce technical barriers and allocate funding for AI training programs to enhance lecturers' technical proficiency and confidence in using AI tools.
2. Heads of Department and Academic Leaders should integrate AI literacy into professional development workshops to improve lecturers' awareness and perception of AI applications. They should establish peer mentorship programs where early adopters of AI can guide and motivate colleagues and collaborate with IT departments to provide ongoing technical support for lecturers experimenting with AI tools.
3. Lecturers should actively participate in AI training sessions to build competence and stay updated on emerging tools. Lecturers should also pilot AI applications in low-stakes teaching scenarios (e.g., automated quizzes or feedback systems) to gradually build confidence and share success stories with peers to foster a culture of innovation and collective learning.
4. Government and Educational Agencies should subsidize AI initiatives in universities through grants or partnerships with tech companies. They should develop national frameworks for AI in education to standardize training and implementation across institutions and promote research on context-specific AI solutions for Nigerian higher education to address unique challenges.

References

- Adeoti, O. (2023). Exploring artificial intelligence in the Nigerian medical educational space: An online cross-sectional study of perceptions, risks and benefits among students and lecturers

- from ten universities. *Nigerian Postgraduate Medical Journal*, 30(3), 285–292. https://doi.org/10.4103/npmj.npmj_186_23
- Ayala-Pazmiño, M. (2023). Artificial intelligence in education: Exploring the potential benefits and risks. *Digital Publisher CEIT*, 8(3), 892–899. <https://doi.org/10.33386/593dp.2023.3.1827>
- Baker, R. S. (2021). Artificial intelligence in education: Bringing it all together. In *OECD Digital Education Outlook 2021: Pushing the Frontiers with Artificial Intelligence, Blockchain and Robots* (pp. 43–54). OECD Publishing. <https://doi.org/10.1787/f54ea644-en>
- Baytak, A. (2023). The acceptance and diffusion of generative artificial intelligence in education: A literature review. *Current Perspectives in Educational Research*, 6(1), 7–18. <https://doi.org/10.46303/cuper.2023.2>
- Fromkin, V., Rodman, R., & Hyams, N. (2018). *An Introduction to Language* (11th ed.). Cengage Learning.
- Hashem, A., Dempere, J., Akre, V., & Flores, P. (2023). Artificial intelligence in education (AIED): Implications and challenges. In A. Johnston et al. (Eds.), *Proceedings of the HCT International General Education Conference (HCT-IGEC 2023)* (pp. 127–140). Atlantis Press. https://doi.org/10.2991/978-94-6463-286-6_1
- Krashen, S. D. (1982). *Principles and Practice in Second Language Acquisition*. Pergamon Press.
- Lin, H. (2022). Influences of artificial intelligence in education on teaching effectiveness: The mediating effect of teachers' perceptions of education technology. *International Journal of Emerging Technologies in Learning*, 17(24), 144–156. <https://doi.org/10.3991/ijet.v17i24.36037>
- Lo, C. K. (2023). What is the impact of ChatGPT on education? A rapid review of the literature. *Education Sciences*, 13(4), 410. <https://doi.org/10.3390/educsci13040410>
- Pacheco-Mendoza, S., Guevara, C., Mayorga-Albán, A., & Fernández-Escobar, J. (2023). Artificial intelligence in higher education: A predictive model for academic performance. *Education Sciences*, 13(9), 990. <https://doi.org/10.3390/educsci13090990>
- Shahsavari, Y., & Choudhury, A. (2023). User intentions to use ChatGPT for self-diagnosis and health-related purposes: Cross-sectional survey study. *JMIR Human Factors*, 10(1), e47564. <https://doi.org/10.2196/47564>
- Tilli, A., Shehata, B., Adarkwah, M. A., Bozkurt, A., Hickey, D., Huang, R., & Agyemang, B. (2023). What if the devil is my guardian angel: ChatGPT as a case study of using chatbots in education. *Smart Learning Environments*, 10(1), 15. <https://doi.org/10.1186/s40561-023-00237-x>
- Wu, R., & Yu, Z. (2023). Do AI chatbots improve students' learning outcomes? Evidence from a meta-analysis. *British Journal of Educational Technology*, 54(3), 722–742. <https://doi.org/10.1111/bjet.13334>
- Yule, G. (2020). *The Study of Language* (7th ed.). Cambridge University Press.