AWARENESS AND PERCEPTION OF AI LEARNING TOOLS FOR EDUCATION DELIVERY AMONG TERTIARY INSTITUTION TEACHERS IN KWARA STATE, NIGERIA

BY

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Abstract

This study assessed teachers' awareness and perception of artificial intelligence utilization in tertiary institutions for education delivery in Kwara State, Nigeria. The research was designed as descriptive survey research. A multistage and purposeful sampling technique was used to select 500 higher institution teachers and six tertiary institutions in Kwara State in Nigeria. A questionnaire was developed tagged as awareness and perception of AI utilization among higher institution teachers with a 0.74 reliability index obtained. The data collected was analyzed using simple percentages. The results revealed that higher institution teachers are aware of AI technologies and their applications. In addition, the study has reported that higher institution teachers have a highly positive perception of the utilization of Artificial Intelligence for educational delivery in tertiary institutions. It was recommended among others that the management of the institutions should enhance AI awareness and digital literacy, in collaboration with the ICT department, and organize mandatory training programmes, combining online modules with interactive workshops and hands-on practice sessions.

Keywords: *Teachers' awareness, perception, artificial intelligence, higher institutions educational delivery*

Introduction

The use of technology in education is an interesting concept. It is amazing to think that what was once considered to be unthinkable some decades ago has now become well-accepted in academic institutions across the globe, and students are now permitted to use technology within the classroom (Chassignol, Khoroshavin & Bilyatdinova, 2018). Also, in various countries worldwide, new educational

curricula have been designed to incorporate this innovation. For example, in France, courses about internet technologies are taught to young pupils in primary schools, while high school students must pass an examination which proves their computer skills. Also, the use of different interactive educational technologies in higher institutions of learning is becoming pervasive. Students now make use of electronic gadgets such as tablets, while teachers also utilize different learning platforms such as Google Classroom, Moodle, and so on. In addition, many Massive Open Online Courses (MOOCs) are used for virtual and online study. The result, without a doubt, has been massive, ranging from fostering an improved means of pedagogical instruction to creating a more fun and enjoyable teaching and learning process. The advancement in technology nowadays is Artificial intelligence (AI), where every aspect of human endeavor is touched. With the advancement in technology, continuous research and development is ongoing in a bid to introduce advanced and innovative technologies that could be useful in improving the overall quality of the instructional process. Premised on the notion that innovation is not about adapting existing systems or processes and making them better but about creating new and better ones (Chen & Lin, 2019), it is evident that emerging technologies such as Blockchain, Augmented Reality (AR), Virtual Reality (VR), and Artificial Intelligence (AI) have come to stay.

Artificial intelligence (AI) is a vast branch of computer science concerned with developing intelligent computers capable of doing tasks that typically need human intelligence. AI is the world's new trend as it has proved more efficient in many fields, mainly during the COVID-19 pandemic (Vaishya et al., 2020). AI helped fight the virus and globally rescued jobs and educational systems (UNESCO, 2020). Artificial intelligence is a set of technologies that enable computers to perform a variety of advanced functions, including the ability to see, understand, and translate spoken and written language, analyze data, make recommendations, and more (Google Cloud, 2024). AI systems perceive environments, recognize objects, contribute to decision-making, solve complex problems, learn from past experiences, and imitate patterns. These abilities are combined to accomplish tasks like driving a car or recognizing faces to unlock device screens (Kanade, 2022). In several areas, AI has proven to perform tasks more efficiently and accurately than humans. It is especially useful for repetitive, detail-oriented tasks such as analyzing large numbers of documents to ensure relevant fields are properly filled in. AI's ability to process massive data sets gives enterprises insights into their operations they might not otherwise have noticed. The rapidly expanding array of generative AI tools is also becoming important in fields ranging from education to marketing to product design.

AI can be used in higher education institutions to enhance the student's learning experience, reduce drop-out rates, and create a personalized learning environment for students (Pedro, 2020). Microsoft Education Transformation Framework (ETF) for Higher Education offers hands-on guidance to develop a well-rounded digital transformation strategy for higher education institutions (Papaspyridis, 2020). The EFT incorporates four main pillars in which AI can successfully be integrated to ensure efficient and effective outcomes in the institution; student success, teaching and learning, secure and connected campus, and academic research. The three pillars of student success, secure and connected campus, and academic research will be briefly discussed in this section while teaching and learning will be discussed in the following section since more emphasis will be put on them as it is the core of the research. Student success relates to student recruitment and retention and connecting with students through lifelong relationships (Papaspyridis, 2020). Nigeria's university regulatory body, the National University Commission, NUC, has stated the reasons for the adoption of AI into the university curriculum. NUC explained that AI will further enable university graduates to be equipped with the skills required by a rapidly advancing technological landscape (NUC, 2020). The emergence of AI in education has caused changes in some areas of university curriculum, particularly in computer science.

Effective integration and adoption of AI into the educational system requires adequate knowledge. The people must possess understanding as well as have other skills necessary to facilitate its acceptability. Awareness is a state of being fully conscious of pertinent stimuli and experiencing a task or situation (Oxford Dictionary, 2024). Awareness is defined as knowledge and understanding that something is happening or exists (Merriam-Webster, 2024). Perception plays a significant role in the acceptability of learning resources. Educators' beliefs about the quality, usefulness, and ease of use of a particular resource can greatly influence their willingness to adopt it. APA (2025) defined perception as the process or result of becoming aware of objects, relationships, and events by means of the senses, which includes such activities as recognizing, observing, and discriminating. The perception of learning resource utilization refers to how individuals view or understand the availability, accessibility, relevance, and effectiveness of learning resources in a particular learning environment. Positive perceptions encourage the adoption and effective utilization of learning tools, while negative perceptions may result in reluctance or outright rejection. Teachers' perceptions of AI are influenced by several factors, including their level of technological proficiency, access to resources, prior experience with AI tools, and institutional support. Those with positive perceptions are more likely to embrace AI as a valuable educational tool.

Statement of the Problem

Despite all the AI potential for higher institutions' instructional pedagogy, Nigeria has yet to adopt or contemplate its effectiveness in our educational system. No study has revealed that a higher institution in Nigeria has started using AI for educational purposes. Perhaps, this might be due to a low level of awareness and perception of AI's relevance in disseminating instruction and research in education. While the use of AI has been increasing exponentially in other fields, this has not been the case in teaching and learning, especially at higher institutions in Nigeria. No research work has revealed any higher institution in Nigeria using AI instruction for teaching and learning. Most of the AI applications being discussed at different training centres and workshops appeared to be from non-scholarly research, notably in blog posts, newsletters, and magazine articles, usually opinion based. Therefore, this study investigated the levels of awareness and perception of higher institution teachers towards AI utilization for educational delivery.

Research Questions

This study aimed to provide relevant answers to the following research questions.
1. To what extent is the level of awareness of AI among higher institution teachers for education delivery?
2. To what extent is the perception of higher institution teachers towards the utilization of AI for educational delivery?

Methodology

This study utilized descriptive survey design for the collection of data. The target population comprised of all higher institution teachers in Kwara State. The study adopted a multi-stage and simple random sampling technique. Multi-stage sampling is taking samples in stages using smaller and smaller sampling units at each stage. Five hundred respondents were selected from five higher institutions in Kwara State correspondingly. The instrument used for data collection was a researchers-constructed questionnaire titled "Awareness and perception of AI utilization among higher institution teachers". The questionnaire was used for data collection. The statements consisted of two sections (A and B). Section A contained personal information on the participants' biodata while Section B had 10 items eliciting participants' responses on the study variables. The instrument was subjected to face and content validity. Three experts participated in the validation of the instrument. One expert from educational technology, one from computer science, and one from educational evaluation. All their observations and suggestions were effectively observed before the final copy of the questionnaire was produced. The Cronbach alpha was used to determine the reliability of the instrument and a measure of 0.74 was obtained as the reliability index. Data was gathered from the respondents by the researcher using a questionnaire. The

researcher visited the respondents at their universities to administer the instrument and collect it the same day. The data collected from the study was analyzed using descriptive statistics to answer the research questions with the aid of SPSS.

Results

Research Question 1: To what extent is the level of awareness of AI among higher institution teachers for education delivery?

Table 2:

Level of awareness of AI among the higher Institution Teachers for Educational Delivery

S/N	Items	SA		A		D		SD		Level of Awareness
		No.	%	No.	%	No.	%	No.	%	
1	I have used AI-powered tools or software in my teaching or research	225	45	160	32	95	19	20	4	High
2	I am aware of the learning tools embedded in AI and its applications for educational delivery.	300	60	135	27	60	12	5	1	High
3	AI is an application that has the potential to benefit educational delivery	205	41	120	24	135	27	40	8	High
4	I do have enough knowledge and understanding of AI concepts and technologies.	220	44	150	30	85	17	45	9	High
5	I have attended many training courses to support my knowledge and exposure to AI-related courses.	115	23	25	5	230	46	130	26	Low

Table 2 shows that 77% of the respondents agreed that they used AI-powered tools or software in their teaching or research while 23% disagreed with that; 87% of the

respondents agreed that they are aware of learning tools embedded in AI and its applications in educational delivery while 35% of the respondents disagreed that; 75% of the think that potential benefits of AI in education. While 25% disagreed; 74% of the respondents rated their understanding of AI concepts and technologies. While 26% disagreed; and 72% of the respondents disagreed with having pieces of training that support the lecturers and exposure to AI-related courses while 28% of respondents agreed. The finding implies that higher institution teachers are aware of AI technologies and their applications.

Research Question 2: To what extent is the perception of higher institution teachers towards the utilization of AI for educational delivery?

Table 3:

Perception of Higher Institution Teachers towards the Utilization of AI

S/N	Items	SA		A		D		SD		Perception Level
		No.	%	No.	%	No.	%	No.	%	
6	AI-powered adaptive learning systems can provide one-on-one support to students, offering real-time feedback and guidance.	240	48	170	34	60	12	30	6	Positive
7	AI can help automate the grading process, freeing up lecturers' time to focus on teaching and mentoring.	145	29	240	48	75	15	40	8	Positive
8	AI can help automate the grading process, freeing up lecturers' time to focus on teaching and mentoring.	175	35	210	42	85	17	30	6	Positive
9	AI-powered chatbots and virtual assistants can facilitate student-lecturer communication and support.	210	42	245	49	35	7	10	2	Positive
10	AI can help identify at-risk students, enabling early intervention and support.	205	41	195	39	60	12	40	8	Positive

Table 3 shows that 80% of the respondents were in agreement that AI can tailor educational content to meet the diverse needs of students, offering personalized learning experiences that can improve comprehension and retention while 20% of the respondents were in total disagreement; 85% of the respondents were in agreement that AI can handle large datasets, enabling more in-depth and sophisticated research analysis, which can lead to new insights and discoveries while 15% of the respondents disagreed; 77% of the respondents agreed that AI tools can facilitate collaboration among researchers from different institutions and disciplines while 23% of the respondents disagreed; 70% of the respondents agreed that AI can identify students at risk of falling behind by analyzing patterns in their performance and engagement, allowing for timely interventions but 30% of the respondents disagreed with that; 83% of the respondents were in agreement that the use of AI involves collecting and analyzing large amounts of student data, raising concerns about privacy and data security while 17% were not in agreement to that. The findings implied that higher institution teachers have a highly positive perception of the utilization of Artificial Intelligence for educational delivery in tertiary institutions.

Discussion of Findings
The finding in Table 2 revealed that higher institution teachers are aware of AI technologies and their applications. This aligns with the findings of Gaber et al. (2023) who examined AI awareness among faculty members at King Faisal University. Interestingly, despite the geographical difference between Nigeria and Saudi Arabia, both studies revealed a similar level of moderate awareness. This consistency might be attributed to the fact that both universities represent higher education institutions, which often share international trends and exposure to advancements in technology. Furthermore, the study by Eiriemiokhale and Sulyman (2023) investigating librarians' awareness of AI suggests a potential broader trend within the education sector. Their findings, indicating librarian awareness of AI, might point towards a general familiarity with the concept within educational settings. Table 3 shows that higher institution teachers have a highly positive perception of the utilization of Artificial Intelligence for educational delivery in tertiary institutions. This study was in line with the findings of Uygun (2024) who revealed that many teachers express favorable opinions regarding AI, viewing it as a valuable supplementary tool for enhancing education and Teachers perceive AI as a tool for educational support, enhancing individualized learning, contributing to the economy, improving productivity, and aiding in tracking the learning process. The study findings revealed that lecturers in universities are willing to accept AI for their students.

Conclusion

In conclusion, this study revealed a moderate level of awareness of artificial intelligence among lecturers in Kwara State high institutions teachers, despite this moderate awareness, the study also found the lecturers to be highly digitally competent. A positive correlation was found between AI awareness and digital competence, suggesting that lecturers with a better understanding of AI's potential in education are more likely to possess the digital skills needed to leverage its benefits. The findings suggest that promoting AI awareness through workshops or seminars can equip lecturers to explore innovative teaching methods that integrate AI and enhance student learning experiences. Additionally, targeted training programmes can address skill gaps related to applying AI tools within their disciplines. Further research is needed to explore AI's applications in various academic disciplines and develop effective training programmes for lecturers.

Recommendations

Based on the findings of this study, it is therefore recommended that.

1. AI awareness should be given more attention for effective utilization in teaching and learning in all higher institutions in Nigeria.
2. A culture of AI exploration and integration into the education system will enhance the perception of education stakeholders particularly the teachers in higher institutions and will make AI utilization as a tool for learning more relevant in the educational system.

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