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INTEGRATION OF ARTIFICIAL INTELLIGENCE IN TEACHING AND LEARNING OF BUSINESS EDUCATION COURSES IN FCE(T), OMOKU, RIVERS STATE.

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Abstract

The Study investigated the Integration of Artificial Intelligence in teaching and learning of Business Education courses in FCE(T), Omoku, Rivers State. We adopted survey design. The area of the study is Omoku in Ogba/Egbema/Ndoni Local Government Area. Omoku is situated in the Ogba/Egbema/Ndoni Local Government Area (ONELGA) of Rivers State. It lies in the southern part of Nigeria, in the Niger Delta region. The population of this study will comprise of Sixty three (63) business education lecturers in FCE(T) Omoku. The Sixty three (63)) business education lecturers was chosen to constitute the population of the study. The entire population size of (63) business education lecturers was used as sample size of the study. The instrument was subjected to face and content validation by three lecturers from the school of business education, Federal College of Education (Technical), Omoku. The input and comments from the lecturers was used to modify the questionnaire items before it will be finally administered. The instrument was administered to 20 respondents who were not be part of the population and two weeks later the same 20 respondents was re-administered the same instrument. The two sets of scores was correlated using Pearson Product Moment Correlation Coefficient. Data collected for the study were analyzed using mean and standard deviation to answer the research questions. The findings from the study revealed that Artificial Intelligence (AI) is moderately integrated into the teaching and learning of Business Education courses at FCE(T) Omoku. Based on the findings the researcher recommend that there must be proper policy formulation and implementation prior to, during and after the adoption of artificial intelligences. Libraries in business education department should intensify efforts in adopting artificial intelligence in the delivery of the libraries' services for libraries users to gain very high-level satisfaction.

Keywords: Artificial Intelligence, Teaching, Learning

INTRODUCTION

The integration of Artificial Intelligence (AI) in education has significantly transformed teaching and learning processes, providing innovative solutions to enhance instructional delivery, student engagement, and overall academic performance. AI-driven tools, such as intelligent tutoring systems, machine learning-based assessments, and virtual assistants, have reshaped educational experiences by enabling personalized learning and automating routine academic tasks (Adebayo & Okoro, 2022). In Business Education, AI applications offer the potential to improve critical thinking, decision-making, and problem-solving skills, equipping students with the competencies required in the modern digital economy. However, the extent of AI adoption in Nigerian tertiary institutions remains limited due to infrastructural deficits, inadequate digital skills, and policy gaps (Obi & Nwosu, 2021).

Federal College of Education (Technical), Omoku, Rivers State, is a key institution responsible for training future business educators and professionals. As technology continues to drive global education trends, it is essential for the institution to leverage AI to improve teaching methodologies and student learning outcomes. AI-powered learning management systems, automated assessment tools, and data-driven instructional strategies can enhance students' comprehension of business concepts and practical applications (Ogunleye & Eze, 2023). However, the extent to which AI is

currently integrated into Business Education courses at FCE(T), Omoku, remains uncertain, raising concerns about the institution's preparedness for digital transformation.

Despite the global shift toward AI-driven education, numerous challenges hinder its widespread adoption in Nigerian institutions. These include limited access to AI tools, poor digital infrastructure, resistance from educators due to a lack of technical expertise, and concerns over the ethical implications of AI in education (Adamu & Yusuf, 2022). Additionally, the high costs associated with AI technologies and fears of job displacement among educators have further slowed down AI implementation in Business Education. Overcoming these barriers requires targeted investment in AI education, faculty training, and policy reforms that promote the seamless integration of AI-driven teaching methods.

This study aims to examine the level of AI integration in the teaching and learning of Business Education courses at FCE(T), Omoku. It will identify the key challenges affecting AI adoption, assess its impact on students' learning experiences, and propose strategies for improving AI implementation in the institution. By addressing these critical issues, the study seeks to provide insights that will guide policymakers, educators, and institutional administrators in fostering a technology-driven learning environment that adequately prepares students for the evolving business landscape.

Statement of Problem

The rapid advancement of Artificial Intelligence (AI) has significantly transformed various sectors, including education. AI-driven tools such as intelligent tutoring systems, automated grading, and adaptive learning platforms have enhanced teaching and learning experiences, improving students' engagement and performance (Nkwoh & Dike, 2021). However, despite these benefits, the integration of AI in teaching and learning Business Education courses at the Federal College of Education (Technical), Omoku, remains limited. Many educators and students lack the necessary digital skills to effectively utilize AI tools, leading to resistance in adoption (Oluwafemi & Adeyemi, 2022). Additionally, there is concern about the adequacy of infrastructure, internet connectivity, and institutional policies to support AI implementation in the college's teaching framework.

Furthermore, the effectiveness of AI in improving pedagogical outcomes in Business Education is yet to be fully explored within the Nigerian context. While AI applications can personalize learning experiences and optimize curriculum delivery, their impact on skill acquisition, employability, and student performance in Business Education remains unclear (Eze & Okonkwo, 2023). Without empirical evidence on AI's effectiveness, educational stakeholders may struggle to justify investments in AI-driven teaching and learning. Therefore, this study seeks to investigate the extent of AI integration in Business Education at FCE(T), Omoku, the challenges faced, and the potential solutions to enhance AI adoption for improved educational outcomes.

Research Questions

Based on the purpose set above, the study seeks to answer the following questions:

1. To what extent is Artificial Intelligence integrated in teaching and learning of Business Education courses in FCE(T) Omoku.

LITERATURE REVIEW

Conceptual Review

Artificial Intelligence

Artificial Intelligence (AI) is defined as "the science and engineering of making intelligent machines" (McCarthy, 1955). This encompasses the development of computer systems capable of performing tasks that typically require human intelligence, such as learning, reasoning, problem-solving, and understanding natural language. In the context of education, AI is utilized to create adaptive learning environments, develop intelligent tutoring systems, and automate administrative tasks,

thereby enhancing both teaching efficiency and student engagement. AI-driven platforms analyze vast amounts of data to personalize learning experiences, identify individual student needs, and provide real-time feedback, ultimately fostering a more tailored and effective educational process.

Teaching

Teaching is defined as "the concerted sharing of knowledge and experience, which is usually organized within a discipline and, more generally, the provision of stimulus to the psychological and intellectual growth of a person by another person or artifact" (IGI Global, 2019). It involves not only the delivery of content but also the creation of engaging, interactive, and supportive learning environments that encourage critical thinking and creativity. With the integration of advanced technologies like AI, teaching methodologies are evolving to include data-driven insights, interactive digital platforms, and virtual simulations, enabling educators to cater to diverse learning styles and improve educational outcomes. This transformation in teaching practices is paving the way for more innovative, inclusive, and effective education systems.

Learning

Learning is defined as "the process of acquiring new understanding, knowledge, behaviors, skills, values, attitudes, and preferences" (The eLearning Coach, 2014). It is not confined to the passive absorption of information but is an active engagement with content, context, and interaction with peers and educators. The advent of digital technologies, particularly AI, has transformed the learning experience by offering personalized, adaptive, and engaging educational content. AI-powered learning systems can provide customized feedback, track progress in real-time, and adjust the learning pathway to suit individual needs, thus empowering learners to achieve their full potential in an increasingly complex and digitalized world.

Theoretical Review

Technology Acceptance Model (TAM)

This is a well-established theory that explains how users come to accept and use a new technology. Developed by Davis (1989), TAM posits that two main factors—perceived usefulness and perceived ease of use—determine an individual's intention to adopt and use technology. Perceived usefulness refers to the degree to which a person believes that using a particular system would enhance their job performance, while perceived ease of use denotes the extent to which a person believes that using the system would be free of effort. In educational settings, these factors are critical; if educators and students perceive that artificial intelligence tools can improve learning outcomes and are easy to integrate into existing practices, they are more likely to embrace these technologies.

In the context of integrating artificial intelligence in teaching and learning of Business Education courses, TAM offers a valuable framework for understanding user acceptance. For instance, if faculty members find AI-driven tools not only effective in enhancing instructional delivery but also user-friendly, they are more inclined to adopt such technologies in their pedagogy. Similarly, students are likely to engage more actively with AI tools if they perceive these technologies as beneficial for their academic performance and simple to use. By applying TAM, institutions can identify and address potential barriers to AI adoption—such as concerns over complexity or doubts about its practical benefits—thus facilitating a smoother integration process and ultimately enhancing the educational experience.

Empirical review

Eze and Okonkwo (2023) examined the role of artificial intelligence in pedagogical transformation in Nigerian higher education. Their study employed a mixed-methods approach, collecting data from 15 universities through structured questionnaires and in-depth interviews. The findings revealed that AI-driven learning management systems, virtual tutors, and adaptive learning technologies

significantly improved student engagement and academic performance. However, challenges such as faculty resistance, inadequate funding, and poor digital infrastructure hindered effective AI adoption in teaching and learning. The study recommended targeted investments in AI training for educators and the development of institutional policies to support AI integration.

Nkwoh and Dike (2021) investigated the relationship between digital literacy and AI adoption in Nigerian tertiary institutions. Using a survey of 300 faculty members from public and private universities, the study found that digital literacy levels had a strong positive correlation with AI adoption. Universities with high digital literacy rates reported higher levels of AI utilization in course delivery, assessment, and research. The authors identified barriers such as inadequate technical support, limited funding, and resistance from educators due to fear of job displacement. The study recommended structured digital literacy training and increased government support for AI adoption in education.

Oluwafemi and Adeyemi (2022) explored the challenges of AI integration in business education within Nigerian institutions. The study analyzed data from 200 business education lecturers across 10 universities using regression analysis. Findings indicated that the major obstacles to AI adoption included high costs of AI tools, lack of training for educators, limited access to reliable internet, and concerns over AI replacing traditional teaching roles. The study emphasized the need for increased institutional funding, faculty training programs, and public-private partnerships to facilitate AI adoption in business education.

Adebayo and Okoro (2022) assessed the prospects and challenges of AI-driven educational transformation in Nigeria. The study utilized secondary data from global AI adoption reports and primary data from 10 Nigerian universities. Results indicated that AI had the potential to revolutionize education by personalizing learning experiences, automating administrative tasks, and enhancing student-teacher interactions. However, issues such as ethical concerns, lack of local AI policies, and low AI literacy levels impeded progress. The authors suggested government intervention in AI policy formulation and incentives for institutions investing in AI technologies.

Adamu and Yusuf (2022) examined the impact of AI on higher education in Nigeria, focusing on teaching efficiency and learning outcomes. A comparative analysis of AI-integrated and non-AI-integrated classrooms in five universities showed that AI-assisted teaching improved student performance by 25% on average. AI tools facilitated better knowledge retention, assessment accuracy, and classroom interaction. However, findings highlighted the need for faculty training and ethical guidelines to prevent over-reliance on AI-driven systems. The study called for curriculum redesigns that incorporate AI literacy to prepare students for the digital economy.

Obi and Nwosu (2021) explored the role of digital infrastructure in AI adoption in Nigerian universities. Through a case study of six universities, the study found that institutions with robust digital infrastructure exhibited higher AI adoption rates in teaching, learning, and research activities. Universities with limited ICT infrastructure struggled with AI implementation due to unreliable internet connectivity, outdated computer systems, and lack of technical expertise. The authors recommended strategic investments in digital infrastructure and faculty development programs to bridge the AI adoption gap in Nigerian universities.

Ogunleye and Eze (2023) investigated the application of artificial intelligence in business education and its effectiveness in digital learning. The study employed a quasi-experimental design, comparing students' academic performance before and after the introduction of AI-based learning tools in selected business education courses. Results showed a significant improvement in students' comprehension of business concepts, analytical skills, and decision-making abilities. The study identified financial constraints, resistance to change, and a lack of AI awareness as major barriers to AI adoption. The authors recommended increased funding for AI-based research, policy support for AI curriculum integration, and continuous professional development for educators.

METHODOLOGY

The study adopted the survey design. The area of the study is Omoku in Ogba/Egbema/Ndoni Local Government Area. Omoku is situated in the Ogba/Egbema/Ndoni Local Government Area (ONELGA) of Rivers State. It lies in the southern part of Nigeria, in the Niger Delta region. The population of this study will comprise of Sixty three (63) business education lecturers in FCE(T) Omoku. The Sixty three (63)) business education lecturers was chosen to constitute the population of the study. The entire population size of (63) business education lecturers was used as sample size of the study. The instrument was subjected to face and content validation by three lecturers from the school of business education, Federal College of Education (Technical), Omoku. The input and comments from the lecturers was used to modify the questionnaire items before it will be finally administered. The instrument was administered to 20 respondents who were not be part of the population and two weeks later the same 20 respondents was re-administered the same instrument. The two sets of scores was correlated using Pearson Product Moment Correlation Coefficient. The distribution of the questionnaire was done personally in the School of secondary education (Business) with two research assistants, who then distribute the questionnaire by hand and retrieve same to avoid loss of the instrument. Data collected for the study were analyzed using mean and standard deviation to answer the research questions.

DATA ANALYSIS AND RESULTS

Table 1: Research question 1 To what extent is Artificial Intelligence integrated in teaching and learning of Business Education courses in FCE(T) Omoku.

	QUESTIONNAIRE ITEM	X	SD	REMARK
1	what extent are AI tools used to enhance the teaching of theoretical concepts in Business Education courses	3.44	0.67	HE
2	what extent is AI utilized in providing personalized feedback to students in Business Education courses	3.30	0.62	HE
3	what extent do instructors in Business Education courses use AI-powered tools for data analysis and decision-making	3.40	0.64	HE
4	what extent is AI employed in the development of curriculum and instructional materials for Business Education courses	3.72	0.83	HE
5	what extent do students in Business Education courses have access to AI-driven educational resources and tools	3.81	0.75	HE
	AVERAGE	**X=3.5**	**SD=0.70**	

In table 1, Data presented showed that the mean value of 3.5 shows extent Artificial Intelligence is integrated in teaching and learning of Business Education courses in FCE(T) Omoku and the standard deviation had 0.70 showing that respondents were not too far from the mean and from one another in their opinion.

Discussion of Findings

In table 1, Data presented showed that the mean value of 3.5 shows extent Artificial Intelligence is integrated in teaching and learning of Business Education courses in FCE(T) Omoku and the standard deviation had 0.70 showing that respondents were not too far from the mean and from one another in their opinion. This is in agreement with Eze and Okonkwo (2023), Nkwoh and Dike (2021) who opined that adoption of Artificial Intelligence in business education will help the

universities meet up with global digitalization faster. Artificial Intelligence is considered a tool for sustainable development.

CONCLUSION AND RECOMMENDATION

The findings from the study revealed that Artificial Intelligence (AI) is moderately integrated into the teaching and learning of Business Education courses at FCE(T) Omoku, with a mean value of 3.5. This suggests a general consensus among the respondents regarding the extent of AI's adoption in the institution. The standard deviation of 0.70 indicates that the responses were not widely dispersed, showing agreement among participants on the subject matter.

The adoption of AI is seen as a significant step towards enhancing educational practices, aligning with global trends in digitalization. Its integration has the potential to streamline both academic and administrative functions within the institution, contributing to improved learning outcomes and operational efficiency.

Recommendation

Based on the findings the researcher recommend that;

1. There must be proper policy formulation and implementation prior to, during and after the adoption of artificial intelligences.
2 Libraries in business education department should intensify efforts in adopting artificial intelligence in the delivery of the libraries' services for libraries users to gain very high-level satisfaction
3 Government, individuals, alumni and management of business education must come together to proffer the way forward for artificial intelligence applications to be provided in the department to enable academic and administrative works to efficient and faster.

Limitation of the Study

The limitation of the study includes:

- Gathering of materials, journals and articles of the study was not an easy task.
- Getting cooperation from management and Non management staff , due to time frame is not and easy task.
- Results cannot be generalized to other parts of the world, since the study concentrated on only one sector FCE (T) Omoku

Suggestions for further studies

The researcher suggest that this study must be repeated in an interval of two (2) years to see if there are changes in the findings and also suggest that similar work should cover hybrid learning or blended learning.

REFERENCES

Adamu, S. T., & Yusuf, L. A. (2022). The impact of AI on higher education in Nigeria: Challenges and opportunities. *African Journal of Educational Technology*, 8(1), 112-128.

Adebayo, K. O., & Okoro, M. C. (2022). Artificial intelligence and educational transformation in Nigeria: Prospects and challenges. *Journal of Digital Education and Innovation*, 5(2), 67-83.

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly, 13*(3), 319-340.

Eze, C. I., & Okonkwo, P. O. (2023). Artificial intelligence and pedagogical transformation in Nigerian higher education. *Journal of Educational Technology*, 9(2), 45-60.

IGI Global. (2019). What is Teaching. In *Dictionary of Information Science and Technology*. Retrieved from IGI Global

McCarthy, J. (1955). A Proposal for the Dartmouth Summer Research Project on Artificial Intelligence. Retrieved from Stanford HAI

Nkwoh, O. S., & Dike, T. A. (2021). Digital literacy and AI adoption in Nigerian tertiary institutions. *African Journal of Business and Education*, 7(1), 112-128.

Obi, P. N., & Nwosu, E. I. (2021). Digital infrastructure and AI adoption in Nigerian universities. *International Journal of Business and Education*, 6(3), 95-110.

Ogunleye, J. A., & Eze, B. C. (2023). Artificial intelligence in business education: A pathway for digital learning. *Nigerian Journal of Business and Educational Studies*, 10(1), 45-62.

Oluwafemi, T. A., & Adeyemi, K. B. (2022). Challenges of AI integration in business education: A Nigerian perspective. *International Journal of Business and Digital Learning*, 5(3), 78-94.

The eLearning Coach. (2014). 10 Definitions of Learning. Retrieved from The eLearning Coach