LECTURERS PERCEPTION ON EMERGING CHALLENGES OF USING ARTIFICIAL INTELLIGENCE TOOLS FOR SUCCESSFUL INSTRUCTION OF BUSINESS EDUCATION IN DELTA STATE UNIVERSITY, ABRAKA

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Abstract

Artificial Intelligence (AI) continues to create new paths in the profession of teaching globally, strengthening the routes required to regulate tasks, enhance efficiency, and improve the instructional process. The main objective of this study was to unravel the perception of lecturers on the pressing obstacles of applying AI for effective delivery of business education courses in Delta State University, Abraka, Nigeria. In order to attain the objectives of the study, Two research questions were raised to guide the study and two null hypotheses were formulated at 0.05 level of significance. The population of the study comprised of forty-three (43) business education lecturers in the Department of Business Education, Delta State University, Abraka. There was no sample for the study as the population size was small and manageable. A structured questionnaire titled: Lecturers' Perception on Emerging Challenges of Using Artificial Intelligence Tools for Successful Instruction of Business Education Courses (LPECUAITSIBECQ) was used for data collection. The research instrument was validated by three experts in the Department of Business Education, Delta State, University, Abraka. The test re-test reliability method was adopted by the study to ascertain the consistency of the research instrument which yielded a co-efficient value of 0.81 and 0.77 for the two clusters. The researcher along with two other trained research assistants administered the questionnaires to the respondents. Data collected were analyzed using descriptive statistics such as mean and standard deviation to analyze the research questions raised in the study and to ascertain the homogeneity of the respondents' opinions or otherwise. The independent t-test was adopted by the study to test the hypotheses at 0.05 level of significance. Based on the findings of the study, it was recommended amongst others: that lecturers should regularly and periodically enroll in in-service training on the application of AI-driven technologies for effective delivery of business education courses.

Keywords*: Artificial Intelligence, Challenges, Instruction, Perception*

Introduction

Assessment involves various processes. The six processes involved in assessment include: identifying objectives to assess, developing test instrument, collecting data, analyzing data, reporting results and use of results. Assessment could be norm or criterion referenced depending on objective of the assessor and the type of instrument with which the assessment is carried out. It is norm referenced when the assessor wants to find out the relative standing of the testees - (students/individuals taking a test) - taking the test compared to their mean score. It is criterion referenced when a student's mastery of the ability assessed is confirmed if he attains the benchmark or target set for the assessment. Educational assessment usually measures either the cognitive, affective or the psychomotor domain of a student. Competencies which are specific functional abilities are assessed at the psychomotor domain and they are usually measured using criterion referenced tests. Assessment has many functions for education. These functions can be derived from the functions of measurement as given by Eke (2023), who identified the various functions for measurement to include: instructional functions, administrative functions, guidance functions, and research functions. To know whether progress is made in education, there is the need to assess in order to measure progress in education; attainment of the national objectives on education as an instrument for fostering national development can only be verified using assessment. However, for

the purpose of this study, the interest group is Business Education lecturers in Delta State University, Abraka.

Business Education lecturers in universities are teachers who had undergone some training on

Business education in either a recognized university or any other degree awarding higher institution in Nigeria. Business Education lecturers are expected to teach university students and equip them with knowledge and functional skills that will help them pass university certification examination and be able to apply the skills acquired in solving their daily economic problems. Business education contents/subjects taught in universities contain both mathematical and theoretical aspects taught concomitantly through SS1-SS3. Teachers had, over years, been teaching Business education with the aid of some teaching materials like charts, recommended texts, meter rule, set-square, and live materials which could be improvised by the teacher to help effectively teach. However recently, new and improved teaching aid had continued to emerge amongst which is Artificial Intelligence. Teaching aids and instructional materials play a major role in facilitating learning and their importance in teaching and learning had been evident (Nguyem, 2021).

Education is one of the most important tools used to foster creation of worthwhile skills and attitudes needed for national development. According to the Nigerian National Policy on Education (2004), (4th edition) the national education goals which derive from the Nigerian educational philosophy include amongst other things; The acquisition of appropriate skills and the development of mental, physical and social abilities and competencies as equipment for the individual to live in and contribute to the development of the society. In pursuant to this goal, many ideas, gadgets, and technologies have been advanced. These advancements especially in technology is geared towards developing skilled and competent labour force that will help in developing the country. This objective according to (Nguyem, 2021), is shared by science education whose goals amongst many include preparing students to: observe and explore the environment, explain simple natural phenomenon, develop scientific attitudes including curiosity, critical reflection and objectivity, apply the skills and knowledge gained through science to solve educational and everyday problems in the society and develop self-confidence and self- reliance through problem solving activities in science.

Artificial Intelligence is an aspect of computer science with the assistance of digital electronics that lays emphasis on sound machines that mimic and function like humans. Artificial Intelligence are encapsulated with the capacity to reason, make meaning, generalize or learn from previous experiences. Artificial Intelligence (AI) is the development of computer systems that could mimic and execute tasks that traditionally entails human intelligence like learning, problem-solving and decisionmaking (Clark & Zhu, 2022). A mimic cognitive to process facts, adjust to ideas, and to enhance overtime. AI is a machine intelligence whose perfection hugely relies on its capacity and ability to detect, identify process and recall increasing number of relevant variables from an environment.

Business education is a specialized vocation orchestrated to impart students with proficiency, knowledge and traits resulting to employability and progress in office occupations, pedagogical skills in delivery of business courses at diverse levels of academic systems as well as self-dependency or being an employer of labour. As a component of Vocational Education and Training, Business Education orchestrated to fill that lacuna between knowledge and practice by imparting students to General Education as well as professional courses in Accounting, Entrepreneurship, Marketing and

Office Technology and Management. The contents of business education are broad with sectors like

Business Management, Business Administration, Office Information Management System, Office

Technology and Management, (Information and Communication Technology or Information

Management System, Purchase/Supply Education to mention but a few, which needed the adoption of AI (Anderson, 2014) It is an education that theoretically and practically imparts and equips the students with the needed skills at the labour market Business Education programmme as a course (vocation) in tertiary institutions like universities, colleges of education and as elective course in polytechnics (Eke, 2023).

The integration of artificial intelligence (AI) tools in educational settings has garnered significant attention in recent years, particularly in disciplines like business education where precision, analysis, and adaptability are crucial. As AI technologies continue to evolve, they promise to revolutionize traditional teaching methods by offering advanced analytics, personalized learning experiences, and automated grading systems. However, alongside these opportunities, there exist several emerging challenges that educators must navigate to effectively harness the potential of AI in teaching business education. This essay explores the perceptions of lecturers regarding these challenges and provides insights from current literature.

According to recent studies, the application of AI in educational contexts presents both opportunities and challenges (Dörnyei & Murphey, 2020). AI tools offer capabilities such as predictive analytics for student performance, adaptive learning platforms, and real-time feedback mechanisms, which can enhance student engagement and learning outcomes (Nguyen, 2021). In accounting education specifically, AI can facilitate the teaching of complex topics through simulations and interactive modules, thereby improving student comprehension and retention (Klumpp & Lee, 2018).

AI –driven tools is transforming numerous sectors including education. In tertiary education, AIdriven technologies are rapidly utilized in fostering instructional processes, with the objectives of enhancing efficiency and effectiveness. This study is hinged on comprehending lecturer's perception of AI's role in the delivery of business education courses at Delta State University, Abraka resolving the emerging obstacles and their perceived effect on pedagogical effectiveness. AI-driven technologies encompass virtual assistants, adaptive learning platforms, and automated grading systems. These technologies could prospectively transform pedagogical techniques and improve students learning outcomes. However, the application always seems to face obstacles linked to the application of AI-driven tools, training, and incorporation inside current curricula. By analyzing these obstacles, the study seeks to give insightful and total comprehension of the practical implications of AI-driven tools in the teaching of business education courses.

Additionally, the appropriation of AI-driven technologies to the specific needs of business education poses obstacles linked to the automation and incorporation with existing curricula (Bartley & Golek, 2019). Designing AI-driven tools to resolve the course-specific learning objectives entails partnership between lecturers, stakeholders, technology developers to facilitate relevance and efficacy. Despite these benefits, lecturers seem to be bedeviled with numerous obstacles when applying AI-driven tools into the teaching of business education courses. One main objectives is the quest for regular and periodic in-service training programmes to keep abreast with emerging digital advancements (Altbach, 2021). Numerous lecturers seem not too proficient or adequately trained or overwhelmed by the technical complexities of AI-driven tools and entails robust training to comprehensively use the tools in teaching.

Another perceived obstacle is the ethical implications of AI-driven tools in education, especially in the area of data privacy, algorithmic bias, and the capacity for over-dependence on automated decision making (Richter, 2020). Lecturers must strive to overcome these ethical considerations while maintaining fairness and transparency in the pedagogical discourse. In addition to that, facilitating a tradition of innovation and experimentation is imperative for unraveling the full capacity of AI in improving instructional experiences in Business Education courses (Crawford, 2021). When AI tools are deployed to teach business education courses by lecturers, it will stimulate interest and on the long run erode any perception or reservation by business education lecturers.

Statement of the Problem

In recent years, the clamour the application of AI-driven technologies in academic institutions has seemingly been growing at a fast pace, accelerating innovative effects across numerous courses,

including business education. AI-riven tools play an important role in improving the learning experiences by offering individualized feedback and adaptive learning routes structured to meet students' needs and aspirations. However, coupled with these opportunities, business education lecturers seem to be bedeviled with numerous obstacles when incorporating AI-driven tools into their pedagogical practices. One of the objectives is the level of preparedness of both lecturers and students to apply AI –structured learning environment. The use of AI-driven tools in academic settings elucidates both opportunities and obstacles. In spite of the laudable gains of AI in education, some lecturers feel not ready or intimated by technical lapses of AI-driven tools and entails in-depth training to comprehensively use these technologies in teaching. It is on the basis of this analysis that this study is designed to investigate the lecturers' perception on emerging challenges of using artificial intelligence tools for successful delivery of business education courses in Delta State University, Abraka.

Research Questions

The following two research questions guided the study

1. What are the business education lecturers' perception of the challenges in using AI tools for successful instruction of business education Delta State University, Abraka?
2. What are the business education lecturers' perception of the strategies to mitigate the challenges in using AI tools for successful instruction of business education Delta State University, Abraka?

Hypotheses

The following null hypotheses were formulated at 0.05 level of significance

1. There is no significant difference on the mean ratings of male and female business education lecturers' perceptions on the challenges of using AI tools in successful teaching of business education Delta State University, Abraka..
2. There is no significant difference on the mean ratings of male and female business education lecturers' perceptions on tackling the challenges of using AI tools in successful teaching of business education Delta State University, Abraka.

Method

The study adopted a descriptive survey research. The population and sample size was 43 Business Education lecturers in Delta State University, Abraka. The validated questionnaire was the instrument used for data collection. It has section A for demographic data and section B for 30 items covering the two research questions. The instrument was designed in a 4-point rating scale of Strongly Agree (SA- 4 points), Agree (A- 3points), Disagree (DA-2 points) and Strongly Disagree (SDA-1 point) respectively. The reliability efficient value of 0.81 and 0.77 in the two clusters were obtained with test-retest method. The researcher recorded the data collection rate of 88% response rate, as 38 lecturers responded accordingly. The analysis was done with mean and standard deviation to answer the research questions and establish the closeness of the respondents' opinion. The decision rule was to consider a cut up point of 2.5 and above as high extent. Alternatively, any mean rating less than 2.5 was considered as low extent. Inferential statistic of student t-test was used to test the null hypotheses at 0.05 level of significance. A null hypothesis was rejected were the calculated t-value is greater or equal to the critical t-value; otherwise, it was not rejected.

Results

Table 1

Mean and Standard Deviation on Business Education Lecturers' Perception on the Challenges in Using AI Tools for Successful Instruction of Business Education Courses in Delta State University, Abraka.

S/N	Item Statements	$\bar{X}$	SD	Remarks
1.	Lack of learning style	3.54	0.60	**Agree**
2.	Complexity of accounting concept	3.43	0.75	**Agree**
3.	Lack of ethical concern	3.30	0.84	**Agree**
4.	Dependence on data quality	3.38	0.78	**Agree**
5.	Limited critical thinking	3.49	0.64	**Agree**
6.	Resistance to change	3.39	0.73	**Agree**
7.	Cost of materials	3.53	0.62	**Agree**
8.	Technical issues	3.47	0.70	**Agree**
9.	Over reliance on technology	3.49	0.59	**Agree**
10.	Lack of human interactions	3.37	0.71	**Agree**
	Grand Mean	**3.29**	**0.69**	**Agree**

Note: $\bar{X}$ = = *Mean, SD = Standard Deviation, N = Number of Respondents*

The data presented in Table 1 above showed that, the mean ratings of the responses of the respondents on all the eleven (10) items relating to lecturers' perception on the challenges in using AI tools for successful instruction of business education courses is to a high extent. The standard deviations indicate that the lecturers' opinions are closely related in their responses had mean values ranging from 3.29 to 3.54 which are all greater than the cut-off point value of 2.50 on a 4-point rating scale. The above findings revealed that the business lecturers agreed that all the identified 10 items are lecturers' perception on the challenges in using AI tools for successful instruction of Business Education courses Delta State University, Abraka.is to a high extent. The standard deviations indicate that the lecturers' opinions are closely related in their responses. The values of the standard deviation for all the 11 items in the table ranged between 0.59 to 0.85; this implied that the responses of the respondents are close to one another and to the mean.

Table 2

Mean and Standard Deviation on Business Education Lecturers' Perception on the Strategies to Mitigate Challenges in Using AI Tools for Successful Instruction of Business Education Courses in Delta State University, Abraka.

S/N	Item Statements	$\bar{X}$	SD	Remarks
1.	Curriculum integration	3.11	0.93	**Agree**
2.	Instructors' training	3.22	0.86	**Agree**
3.	Students' preparation	3.34	0,83	**Agree**
4.	Ethical consideration	3.07	0.91	**Agree**
5.	Individual learning need	3.21	0.85	**Agree**
6.	Assessment method of lecturing practice	3.21	0.87	**Agree**
7.	Human A-I decision making process	3.29	0.85	**Agree**
8.	Continuous feedback to students	2.91	0.94	**Agree**
9.	Resource allocation to lecturers and learners	3.07	0.90	**Agree**
10.	Accessibility of A-I tools	3.38	0.82	**Agree**
	Grand Mean	**3.26**	**0.70**	**Agree**

Note: $\bar{X}$ *= Mean, SD = Standard Deviation, N = Number of Respondents.*

Data presented in Table 2 above revealed that, the mean ratings of the responses of the respondents on all the ten (10) items relating to perceive the strategies to mitigate challenges in using AI tools for successful instruction of Business Education courses had mean values that ranged between 2.91 to 3.38 which are all greater than the cut-off point value of 2.50 on a 4point rating scale. The above findings revealed that the business lecturers agreed that all the identified 10 items are perceive the strategies to mitigate challenges in using AI tools for successful instruction of business education courses in Delta State University, Abraka, Nigeria. The values of the standard deviation for all the 10 items as revealed in the table ranged between 0.82 to 0.94; this showed that the responses of the respondents are close to one another and to the mean.

Table 3

t-test Analysis on no Significant Difference on the Mean Ratings of Male and Female Business Education Lecturers' Perceptions on the Challenges of Using AI Tools in Successful Teaching of Business Education Courses in Delta State University, Abraka.

Grouping	N	Mean	SD	t	df	Sig.	Decision
Female	25	3.32	0.47	-.444	877	.657	NS
Male	13	3.33	0.46				

NB: *NS= Not Significant; t= t-test calculated; df= Degree of Freedom; and N= Number of Respondents*

Table 3 above shows t-score (-0.444) with associate probability of 0.656 being greater than the level of significance of 0.05. Therefore, the null hypothesis was upheld. Hence, there is no significant difference in the mean ratings of how male and female lecturers perceive challenges in using Ai tools for successful instruction of Business education courses in Delta State University, Abraka. The null hypothesis is therefore rejected.

Table 4

t-test Analysis of no Significant Difference in the Mean Ratings of Male and Female Business Education Lecturers' Perceptions on Tackling the Challenges of Using AI Tools in Successful Teaching of Business Education Courses in Delta State University, Abraka.

Grouping	N	Mean	SD	t	df	Sig. (2-tailed)	Decision
Female	25	3.24	0.46	-0.326	877	.745	NS
Male	13	3.25	0.44				

NB: *NS= Not Significant; t= t-test calculated; df= Degree of Freedom; and N= Number of Respondents*

Table 4 above shows t-score (-0.326) with associate probability of 0.745 being greater than the level of significance of 0.05 Therefore the null hypothesis was upheld. Hence, there is no significant difference in the mean ratings of male and female lecturers' perception of strategies on mitigating the challenges in using Ai for successful instruction of Business education courses Delta State University, Abraka.

Discussion

The result of research question one revealed that lecturers' perception on the challenges in using AI tools for successful instruction of Business Education courses Delta State University, Abraka.is to a high extent. The standard deviations indicate that the lecturers' opinions are closely related in their responses. The finding aligns with the results of (Altbach, 2021) which reported that many educators lack adequate preparations to adopt AI in their class instruction. This portrays a significance implication that Accounting Students could not get the requisite knowledge to adopt Ai in modern

offices work. The tested hypothesis reveals that gender has a significant influence on the mean rating of the respondents.

The finding in the research question two show that, the extent to which respondents perceive the strategies to mitigate challenges in using AI tools for successful instruction of Business Education courses is to a high extent. Standard deviations show that lecturers' ratings of their opinions are homogeneous. This finding agrees with that of Nguyen (2021) who reported absence of Ai tools could not enable students to solve complex and predictive analytics. The resultant effect is that their level of comprehension and retention could spoil their chance for competitive job. The tested hypothesis showed no significant difference in the mean rating of male and female respondents' perception of strategies on tackling the challenges in using Ai for successful instruction of business education courses Delta State University, Abraka.

Conclusion

Base on the finding of the study, it is therefore concluded that the lecturers in Delta State University perceived challenges in using artificial intelligence tool for successful instruction of Business Education courses Delta State University, Abraka to a high extent and the need to employ strategies in mitigating such challenges. Gender has significant influence in the mean ratings of how the respondents perceive challenges in using Ai tool for successful instruction of Business Education courses in Delta State University. However, there is no significant difference in the mean ratings of the respondents' perception of strategies on tackling the challenges in using Ai for successful instructions of business education courses in Delta State University, Abraka.

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