



BUSINESS EDUCATORS' AWARENESS AND READINESS TO USE ARTIFICIAL INTELLIGENCE IN INSTRUCTIONAL DELIVERY IN KWARA STATE COLLEGES OF EDUCATION

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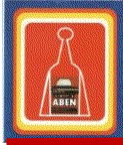
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Abstract

The study investigated the awareness and readiness levels of business educators to use artificial intelligence in instructional delivery in Kwara State Colleges of Education. The study adopted a descriptive research survey design. The total population for the study comprised 32 business educators/ lecturers in business education departments in Kwara State colleges of education. The population was sizeable and was therefore used for the study. Two research questions were answered. A researcher-designed questionnaire titled "Business Educators' Awareness and Readiness to Use Artificial Intelligence in Instructional Delivery Questionnaire (BEARUAIIDQ)" was used for data collection. The instrument had two sections for the problems of the study. Cronbach Alpha reliability test was used to determine the psychometric properties of the instrument which yielded 0.75. Data on research questions were analyzed using mean and standard deviation. Findings revealed that business educators were not aware of artificial intelligence tools (Mean = 2.27; SD = 0.778) but they were ready to use them in instructional delivery (Mean = 3.08; SD = 0.800). Based on the findings of the study, it was concluded that business educators were not aware of many artificial intelligence tools that could assist them in achieving behavioural objectives of their lessons. However, with the education created by this study particularly, through the interactions between the researchers and the business educators who were the respondents, there was high level of readiness among them to use artificial intelligence in instructional delivery. It was thereafter recommended that that sensitization activities and trainings in form of workshops and seminars should be conducted for business educators in Kwara State Colleges of Education tailored towards creating awareness about artificial intelligence tools and their educational significance when adopted in instructional delivery. Also, government and other relevant stakeholders in education such as Association of Business Educators of Nigeria (ABEN) and school administrators should equip Kwara State Colleges of Education and other institutions with adequate computer hardware, software and internet facilities that would enable business educators and students to have unrestricted access to artificial intelligence tools which they can use in teaching and learning.

Keywords: Artificial Intelligence, Awareness, Readiness, Business Educators, Instructional Delivery.



Introduction

Today, “education” as an act is encapsulating which requires technologies to bring the abstract to concrete, ease the teaching and learning process and achieve the set behavioural objectives at the beginning of the lesson. Therefore, methods of learning are constantly evolving and undergoing numerous changes due to new technologies. We are all intimated with the traditional ways of learning where education is imparted within the walls of classrooms to a group of students with no technologies. This moved to where simple technologies were used in teaching and learning such as overhead projectors, tape recorder and others. Internet and digital technology trended slowly and surely taking the place of classrooms. This advancement eradicated the problem of many students to a teacher because technologies are there to assist the work of the teachers. The usage of Artificial intelligence is growing at an unprecedented rate and it is rapidly changing the aspects of human life including education (Xue & Wang, 2022a). According to Mircea (2023), the modern education system has been able to facilitate avenues for students and teachers to participate in technology-based learning. These avenues are free from any kind of limitations of time, space or number of students. As a result, the popularity of online learning is increasing day by day. The benefits of these various avenues range from flexibility, lower costs, timely, accurate responses to wide range of content.

In recent decades, Artificial Intelligence (AI) has become increasingly used in driving education. It has encouraged focused learning, exciting learning experiences, goal accomplishment, simplicity in teaching and learning. Thus, artificial intelligence refers to the development of systems, machines and technologies that can simulate intelligent human behavior, such as learning, reasoning, and problem-solving (Mircea, 2023). AI has been designed to use algorithms and complex mathematical models to enable machines to learn and improve their performance autonomously and the fundamental purpose of AI is to enable machines to exhibit traits specific to human intelligence. Artificial intelligence (AI) is the ability of machines or computers to think and act as humans do, represents the efforts towards computerized systems to imitate the human mind, actions and behavior (Wartman & Combs, 2018). It can therefore be expressed as the skillful imitation of human behaviour or mind by tools or programs designed to do these (Mohammed & Watson, 2019).

Artificial Intelligence (AI) is also a field of computer science concerned with the development of computer systems capable of performing tasks that normally require human intelligence and understanding. According to one of the founders of AI, McCarthy (2007) in Riki and Marlina (2023) defined Artificial Intelligence as the science and engineering that deals with creating intelligent machines especially intelligent computer programs. It is conceived as machines that can perform the tasks that humans carry out through their thinking (Dörfler, 2022).

Specifically, students make use of AI to learn at their own pace - create tutorials and interactive virtual assistants, systems that can answer students' questions, provide additional explanations and guide students in real-time through the learning process. Therefore, through tutorials and virtual assistance students can benefit from additional support and learn at an individualized pace receiving real-time guidance to support the learning process (Mahendra 2023). Just as students make use of it for easing learning, teachers also employ it to deliver instructions, give assignments/ home works, solve difficult questions and so on. Therefore, when AI is applied effectively in teaching business subjects, it will increase students' assimilation and make learning more attractive to learners.

Business educators are those teachers specialized in teaching business subjects at all levels of education. Business subjects include Accounts, Marketing, Commerce & E-commerce, Business Mathematics & Statistics, Economics, Computer and so on. These educators could also



make use of various artificial intelligence tools to teach their various subjects. The AI that could be used include Machine Vision (MS), Expert System (ES), Natural Language Processing (NLP), Machine Learning (ML), Deep Learning (DP) and Robotics. At this juncture, it should be known that for business educators to adopt technologies in their classes, they must be aware of it and be ready to use them.

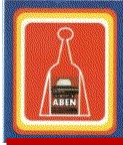
Awareness can be regarded as the state of being informed about the existence of an innovation or technology. It can also be described as the state of consciousness of a thing and it can to a large extent determine whether an individual will accept or reject such thing (Falode et al., 2018). For instance, Edumadze et al. (2014) stated that failure of lecturers (business educators inclusive) to use e-learning tools to low level of awareness and proficiency in usage. For lecturers to use artificial intelligence for instructional delivery in institutions of higher learning in Kwara State, there is need for them to be aware of it, know its' features, benefits and procedures for usage. The adoption of artificial intelligence by business educators does not only depend on their level of awareness as they may be aware but not ready to use it for instructional delivery.

Readiness refers to the state and/ or condition of an individuals that makes it possible for them to engage profitably in a given activity (Falode et al., 2018). It is also regarded as the preparation and anticipation for a task. Borotis and Poulymenakou (2008) explained readiness as the mental or physical preparedness of teachers and students for electronic teaching and learning. Schreurs et al. (2008) stated that, for any category of technologies to be adopted in teaching and learning process, stakeholders' readiness must be ensured. This was corroborated by Falode et al. (2016) that, technologies meant for distance and other forms of learning require mental, physical and financial readiness on the part of the users before success can be recorded. Thus, this study was carried out to investigate business educators' awareness and readiness to use artificial intelligence in instructional delivery in Kwara State colleges of education.

Statement of the Problem

Artificial intelligence has taken over spaces of traditional methods of teaching through improvement in teaching and learning process. Both students and teachers use AI in their educational endeavor. For any technology to be used whether in the companies, industries or offices, awareness about such technology must be created so that those that will use it for their work will know of it and be ready to use it when it is time. This is analogous to business educators adopting AI tools in instructional delivery. These tools include among others: Plagiarism Detection, Exam Integrity, Chatbots, Enhanced Online Discussion Board, Learning Management Systems, Jill Watson, Brainly, Nuance, Palitt and so on. When these are used in instructional delivery, teaching will be easy and simple, learning will be more attractive, interest will aroused, effects of noise to physical classes are defeated and so on

According to the study by Edumadze et al. (2014), the awareness and perception of lecturers in using e-learning tools for teaching were assessed and it was revealed that 75.8% of the respondents were aware of the existence of Learning Management Systems since they had heard of the term LMSs. However, only 2% of the respondents specifically mentioned the various types of LMS in existence out of 75.8%. The low awareness of specific LMSs was therefore attributed to lack of experience in using the technologies in instructional delivery. It was also found from the same study that 95.3% of the respondents indicated willingness and readiness towards the adoption of LMSs in teaching and learning process. Therefore, instructional significance of artificial intelligence is enormous. If adopted in teaching business subjects, teaching becomes easier, business lecturers become more efficient and learners' performance would be greatly improved. Despite the benefits of these tools, there is insufficient literature revealing the success or otherwise of their utilization by business educators in Kwara State colleges of education. Could



it be because business educators are not aware or probably they are not ready to use it in instructional delivery? Hence, the need for this study.

Research Questions

The following research questions guided the study:

1. What is the business educators' awareness level about artificial intelligence tools in Kwara State colleges of education?
2. To what extent are business educators ready to use artificial intelligence in instructional delivery in Kwara State colleges of education?

Methodology

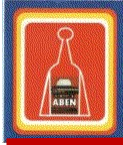
Descriptive survey design was adopted for this study. The descriptive survey design was preferred because it largely focuses on vital facts, beliefs, opinions, demographic information, attitudes, motives and behaviours of respondents giving responses to the research instrument (Osinbajo et al., 2014). The population of this study consisted of 32 Business Educators in Kwara State colleges of education, Ilorin. Due to the fact that the population is sizeable, the total population was used in the study.

A questionnaire titled "Business Educators' Awareness and Readiness to Use Artificial Intelligence in Instructional Delivery Questionnaire (BEARUAIIDQ)" designed by the researcher was used to collect data from the respondents. To ensure the face and content validities of the questionnaire, the researcher submitted the draft of it to two (2) experts in the Department of Business Education – one was Senior Lecturer and the other was a Chief Lecturer. Items in the questionnaire were reviewed to ascertain that the statements in the instrument actually covered the contents that they were expected to measure. The experts' constructive criticisms and suggestions were incorporated to improve and prepare the final version of the instrument. The Cronbach Alpha Method was used to determine the reliability of the instrument. To determine the internal consistency of the question items of the questionnaire, the instrument was administered to six lecturers in Kwara State colleges of education. The Alpha reliability test yielded correlation coefficient of 0.75.

Data collected to answer research questions was analyzed using mean and standard deviation. The decision rule for the research questions was that any question item with a mean of 2.50 and above was rated "Agreed" while question items with a mean of 2.49 and below was rated "Disagreed".

Results and Interpretation

Research Questions One: What is the business educators' awareness level about artificial intelligence tools in Kwara State colleges of education?

**Table 1**

Mean and standard deviation on the business educators' awareness level about artificial intelligence tools

S/N	Business Educators' Awareness Level about Artificial Intelligence Tools	Mean	SD	Remark
1.	Business educators can maintain exam Integrity using an AI tool.	2.02	.741	Disagreed
2.	Chatbots are used for personalized learning path.	2.15	.796	Disagreed
3.	There is an effective AI tool that business educators can use to detect plagiarism.	3.20	.721	Agreed
4.	There is enhanced Online Discussion Board for facilitating discussions between teachers and students.	2.12	.823	Disagreed
5.	Jill Watson can provide virtual learning assistant to business educators.	2.22	.945	Disagreed
6.	Brainly is an effective AI tool that can enhance the teaching and learning of business education	2.01	.791	Disagreed
7.	Existence of Nuance is known to business educators	2.00	.723	Disagreed
8.	Through Palitt, lecture series, syllabus or textbooks can be built by business educators.	2.16	.698	Disagreed
9.	WizIQ is an effective Learning Management System that could enhance the performance of business educators	2.54	.764	Agreed
Average Mean and SD		2.27	.778	Disagreed

Source: Field Survey (2024)

Table 1 shows the mean and standard deviation on the business educators' awareness level about artificial intelligence tools in Kwara State colleges of education. The table shows that the respondents agreed that they were aware about plagiarism detection and learning management systems (items 3 and 9) because their mean scores were above the criterion mean of 2.50 and above while they disagreed to be aware about exam integrity, chatbots, enhanced online discussion board, jill Watson, brainly, nuance and palitt (items 1, 2, 4, 5, 6, 7 and 8) because they had mean scores that were between 2.49 and below.

Research Questions Two: Are business educators ready to use artificial intelligence in instructional delivery in Kwara State colleges of education?

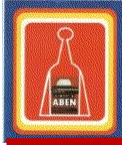


Table 2
Mean and standard deviation on the business educators' readiness to use artificial intelligence in instructional delivery

S/N	Business Educators' Readiness to Use Artificial Intelligence in Instructional Delivery	Mean	SD	Remark
10.	I am ready to Exam Integrity to improve my instruction.	3.43	.750	Agreed
11.	My knowledge about computer has prepared me to use chatbots in instructions.	2.37	.793	Agreed
12.	I have been using Plagiarism Detection in my research studies.	3.17	.808	Agreed
13.	My skills on zoom have prepared me to use Enhanced Online Discussion Board in instructions.	3.09	.850	Agreed
14.	With enabling environment, I am ready to use Jill Watson in instructions.	3.05	.954	Agreed
15.	I am ready to use Brainly to attend to students' questions.	3.43	.718	Agreed
16.	I am ready to use Nuance to improve students' reporting skills.	3.45	.740	Agreed
17.	I am ready to use Palitt for building lecture series, syllabus or textbooks.	3.21	.814	Agreed
18.	With enabling environment, I am ready to use Learning Management Systems such as WiziQ for instructions.	2.53	.773	Agreed
Average Mean and SD		3.08	.800	Agreed

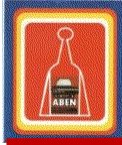
Source: Field Survey (2024)

Table 2 shows the mean and standard deviation on the business educators' readiness to use artificial intelligence in instructional delivery in Kwara State colleges of education. The table shows that the respondents agreed that they were ready to used AI tools in instructional delivery (items 10 – 18) because their mean scores were above the criterion mean of 2.50 and above.

Discussion of Findings

Analysis of research question one revealed that business educators were not aware of artificial intelligence tools in Kwara State colleges of education with average mean and standard deviation of M= 2.27; SD= .778 respectively. This was in tandem with the study of Edumadze et al. (2014) which assessed the awareness and perception of lecturers in using e-learning tools for teaching and it was revealed that 75.8% of the respondents were aware of the existence of Learning Management Systems since they had heard of the term LMSs. However, only 2% of the respondents specifically mentioned the various types of LMS in existence out of 75.8%. The low awareness of specific LMSs was therefore attributed to lack of experience in using the technologies in instructional delivery.

Analysis of research question two revealed that business educators were ready to use artificial intelligence tools in instructional delivery with average mean and standard deviation of M= 3.08; SD= .800 respectively. This was also in line with the findings of the Edumadze et al. (2014) which stated that 95.3% of the respondents indicated willingness and readiness towards the adoption of LMSs in teaching and learning process. Therefore, instructional significance of artificial intelligence is enormous. Also, the findings also conformed to the position of Agboola (2006) that



lecturers (including business educators) were prepared to embrace e-learning tools for instructional delivery in order to enhance their teaching and improve their students' performance.

Cosnclusion

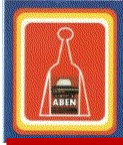
Artificial intelligence is a general innovation that can be used in any field of endeavor. In business education, artificial intelligence tools such as Plagiarism Detection, Exam Integrity, Chatbots, Jill Watson, Brainly, Palitt and others could be used in teaching business subjects. If adopted, the behavioural objectives set at the beginning of the lesson will be achieved. It was crystal clear that that before this study, business educators were not aware of many artificial intelligence tools which they could apply in instructional delivery. However, with the education created by this study particularly, through the interactions between the researchers and the business educators who were the respondents, there was high level of readiness among them to use artificial intelligence in instructional delivery.

Recommendations

Based on the findings from this study, it is recommended that sensitization activities and trainings in form of workshops and seminars should be conducted for business educators in Kwara State colleges of education tailored towards creating awareness about artificial intelligence tools and their educational significance when adopted in instructional delivery. Also, government and other relevant stakeholders in education such Association of Business Educators of Nigeria (ABEN), school administrators should equip Kwara State colleges of education and others institutions with adequate computer hardware, software and internet facilities that would enable business educators and students to have unrestricted access to artificial intelligence tools which they can use in teaching and learning. Once, this is done, business educators would become better informed, skillful and efficient in using artificial intelligence tools in instructional delivery.

References

- Borotis, S. & Poulymenakou, A. (2008). Critical success factors for e-Learning adoption: Handbook of research on instructional systems and technology. *IGI Global*. 2nd Edition. 131-134.
- Dörfler, V. (2022). *Artificial Intelligence*. <https://doi.org/10.4135/9781071872383.n15>
- Edumadze, J. K. E., Ossei-Anto, T. A., Edumadze, G., Tamakloe, W. K., Asamoah, E. & Boadi, E. (2014). Evaluating the awareness and perception of lecturers in using e-learning tools for teaching in University of Cape Coast. *International Journal of Computing Academic Research (UCAR)*, 3(1), 1-11.
- Falode, O. C., Gambari, A. I., Alabi, T. O. & Falode, M. E. (2018). Investigation on awareness and readiness towards the adoption of WizIQ platform for instructional delivery among education lecturers in tertiary institutions of Niger State, Nigeria. *International Conference on Education, Development & Innovation*, 239-245.
- Falode, O. C., Mohammed, A., Gambari, A. I. & Ojoye, B. T. (2016). Civil servants' ICT self-efficacy, awareness and readiness for distance e-learning programmes' enrolment in Minna, Niger State, Nigeria. *Journal of Science, Technology, Mathematics and Education*, 12(3), 142-150.
- Mircea, M. (2023). Impact of artificial intelligence on education. *Research Association for Interdisciplinary Studies*



- Mohammed P. S. & Watson E. N. (2019). Towards inclusive education in the age of artificial intelligence: Perspectives, challenges, and opportunities. In Knox J., Wang Y., Gallagher M. (eds) *Artificial intelligence and inclusive education: Perspectives on rethinking and reforming education*. Singapore: Springer. https://doi.org/10.1007/978-981-13-8161-4_2
- Osinbanjo, O., Adeniji, A., Falola, H. & Heirmsmac, T. (2014). Compensation packages: A strategic tool for employees' performance and retention. *Leonardo Journal of Sciences*, 25(1), 15-18.
- Riki, N. & Marlina, N. (2023). The use of AI (artificial intelligence) in education (literature review). *Indonesian Journal of Primary Education*, 7 (2), 143-158.
- Schreurs J., Ehlers, U. D. & Sammour, G. E. (2008). E-learning Readiness Analysis (ERA): a health case study of e-learning readiness. *International Journal. Knowledge and Learning*, 4(5), 14-23.
- Wartman, S. A., & Combs, C. D. (2018). Medical education must move from the information age to the age of artificial intelligence. *Academic Medicine*, 93(8), 1107–1109.
- Xue, Y., & Wang, Y. (2022a). Artificial intelligence for education and teaching. *Wireless Communications and Mobile Computing*, 1–10. <https://doi.org/10.1155/2022/4750018>