EXPLORING THE POWER OF AI BY BUSINESS EDUCATION LECTURERS FOR RESEARCH AND TEACHING IN PUBLIC TERTIARY INSTITUTIONS IN RIVERS STATE

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Abstract
The quest to know the extent to which AI can be explored informed this study, "Exploring the power of AI by Business Education lecturers in research and teaching in public tertiary institutions in Rivers State." One research question guided the study, and one null hypothesis was tested. A descriptive survey research design was adopted. From a population of 136 Business Education lecturers, a census sampling was employed. A four-point response options questionnaire was used for data collection, and it was validated by three experts. The reliability of the instrument was established using Cronbach's alpha, which yielded a coefficient of 0.75. The mean and standard deviation were used to answer the only research question and measure the spread in respondents' opinions, while one-way analysis of variance (ANOVA) was used to test the null hypothesis at the 0.05 level of significance. Findings revealed how highly the power of AI can be explored by Business Education lecturers in research and teaching, while educational attainment and years of teaching experience played vital roles in exploring the power of AI in research and teaching. The researchers concluded that if the power of AI is highly explored by Business Education lecturers in research and teaching, it will lead to high-level research and teaching activities. Among other things, it was recommended that the power of AI tools like Zotero be used to organise, cite, reference and share your research sources in research and teaching.
***Keywords**: Exploring the power of AI, researching, teaching, artificial intelligence, Business Education, lecturers*

Introduction

Artificial Intelligence (AI) as an aspect of information and communication technology is being used in educational management to enhance the teaching and learning process, improve student outcomes, and streamline administrative tasks (Ukata & Agburuga, 2024a). In recent years, AI has also made inroads into the education sector, particularly in educational management (Igbokwe, 2023). Exploring the power of AI can help improve the teaching and learning process, enhance teachers' performance, student outcomes, and automate administrative tasks. Although the use of AI in teaching and learning is still in its early stages, in Nigeria it has already shown promising results (Gupta, 2020). AI in schools offers multiple possibilities for school administrators, teachers, and students**.** AI as a technology in education is expected to grow significantly in the coming decades, presenting new opportunities (Surugiu et al., 2024; Khosravi et al., 2022). Researchers, policymakers, and practitioners are exploring the power of AI by integrating Artificial Intelligence Education (AIE) to improve teaching, personalised learning, assessments, and administrative services (Zhang & Aslan, 2021; Chiu et al., 2023).

Artificial Intelligence

AI is the theory and development of computer systems that are able to perform tasks requiring human intelligence, such as teaching, visual perception, speech recognition, decision-making, and translation between languages (Pattam, 2021). Artificial intelligence is the science of making machines that can think and act like humans.

AI is an advanced part of information and communication technology (ICT) which adopts the application of hardware and software in imitation to demonstrate what human beings can do with those technologies.

Exploring the Power of Artificial Intelligence

Exploring the power of artificial intelligence is taking advantage of its capabilities as a tool when researching, teaching and learning at different levels of education. Exploring the power of AI represents progress in education which offers benefits on multiple levels, and stimulates the evolution of researching, teaching and learning AI tools like Zotero, Quill Bot, market research and trend analysis, chatbots, Mavis Beacon Teaches Typing (MBTT), Turnitin, robots, automated assessment, digitised artefacts, and intelligent tutoring systems (Ukata & Agburuga, 2024b; Veletsianos, 2019). AI is currently used in Plagiarism Detection (Turnitin, Eagle Scan), Academic Research, Online Teaching and Learning, Chatbots for Enrolment and Retention, Learning Management Systems, Transcription of faculty lectures, enhanced online discussion boards, analysing student success metrics, and connected campuses (Online Degrees, 2024; Smith, 2022). According to Rose Luckin, a professor of learning-centred design at University College London, as quoted saying, "The real power of artificial intelligence for education is in the way that we can explore it to process vast amounts of data about learners, about teachers, about teaching and learning interactions." Ultimately, AI can "help teachers understand their students more accurately, more effectively (Online Degrees, 2024)." Unfortunately, in the Core Curriculum and Minimum Academic Standard (CCMAS) published by the National Universities Commission in 2022, nothing precise was mentioned about AI in the Business Education programme, and exploring its potential by Business Education teachers, despite the abundant benefits in the teaching and learning process. These are issues of serious concern, looking at the needs of the current global workplace and if Nigeria wants to produce graduates of high global standards. There is a need for internal curriculum review by teachers at the various departments during the teaching and learning process.

Business Education

National Universities Commission (2022) posited that Business Education is a specialised profession designed to provide students with knowledge, skills and competence leading to employability and advancement in office occupations, pedagogical skills in teaching business subjects at different levels of the educational system, as well as self-employment or being an employer of labour. As an aspect of Vocational Education and Training, Business Education is designed to fill the gap between knowledge and practice by exposing students to General Education as well as specialised areas in Accounting, Entrepreneurship, Marketing and Office Technology and Management. Business Education contents are all-encompassing programmes in which course contents are in the areas of Business Management, Business Administration, Office Information Management System, Office Technology and Management (Information and Communication Technology or Information Management System, and Purchase/Supply Education. Others are Accountancy Education, Marketing Education, Communication Skills, English Language, Distributive Education, Entrepreneurship Education, Management/Marketing, Educational Psychology, Philosophy and Sociology of Education, Business Law, Research Methodology, etc.; these require exploring the power of Artificial Intelligence (AI) (Ukata & Silas-Dikibo, 2020; Ukata, 2019).
It is an education that theoretically and practically prepares learners with the required skills needed in global workplaces (Ukata, Adejola & Okoye, 2018). Business Education programme is offered as a course in universities, colleges of education and as an option in polytechnics (Ukata & Wechie, 2020; Ukata & Silas-Dikibo, 2020). Accordingly, running his list, Lynch cites current areas AI is explored in education which apply to business education programme to include but not limited to: Classroom/Behaviour Management, Lesson Planning, Classroom Audio-Visual, Parent-Teacher Communication, Language Learning, Test Prep, Assessment, Learning Management Systems, Gamification for Enhanced Student Engagement, Staff Scheduling and Substitute Management, Professional Development, Transportation, Maintenance, Finance, Cybersecurity, Academic Fraud Detection, Safety and Security (Onlinedegrees, 2024; Smith, 2021; Singh & Singh, 2021).

Business Education Lecturers

These are male and female teachers who are employed in both private and public universities, polytechnics, and colleges of education who teach Business Education courses with specialities in

Accounting, Management, Marketing, Office Technology and Management (Office Information Management) and Entrepreneurship.
These are teachers who engage in rigorous research and teaching with different high academic qualifications. These are teachers who explore the power of artificial intelligence to aid in their research and teaching.

Researching

Library & Information Science Community (2016) posited that research is a systematic and organised investigation conducted to expand knowledge, gain a deeper understanding, and generate new insights in a specific field. It involves rigorous and organised data collection, analysis, and interpretation to address research questions or hypotheses. The pursuit of new information drives research, the validation of existing theories, or the exploration of new perspectives. It employs various methodologies and tools to gather and analyse data, including empirical studies, experiments, surveys, interviews, or theoretical analyses. The ultimate goal of the research is to contribute to the existing body of knowledge, advance understanding, and inform decision-making processes across academic, scientific, and professional domains. It is also trying to find out what was, what is and what will be, which requires assisting tools like artificial intelligence.

Teaching

Teaching is an attempt to assist people to acquire knowledge, tools, entrepreneurship skills, attitudes, ideas or appreciation (Ukata et al., 2017). Teaching is also an interaction between teachers and students under the auspices of the teacher in order to bring about the expected change in the students' behaviour (Ukata & Silas - Dikibo, 2019). Teaching is a great profession; it is an act of relating information to the learner or assisting in the learning of how to do something in a required manner (Ukata & Nmehielle, 2020). It is a process of assisting the learner to gain useful artificial intelligence skills, attitudes, ideas, and values in a designed and undersigned environment that will help the learner become an acceptable person to society as well as be independent in life (Ukata & Worgu, 2025). Teaching leads to learning. Teaching is an exchange of ideas between a teacher and students (learners) on what to learn, how to learn, what to use in learning and what to do with the learning (Ukata, 2019).

Artificial Intelligence during Researching and Teaching

The following listed and explained are some of the areas AI can be used in research:

Zotero (AI)

Zotero (AI) is a powerful open-access, easy-to-use reference management tool that serves as your personal research assistant and helps you collect, organise, cite, and share your research sources. Zotero allows teachers and learners to save references from library catalogues, research databases, and the web. It is used by researchers to add PDFs, images, audio and video files, snapshots of web pages, and more; write annotations and attach them to citations; and create bibliographies using most major citation styles (Libraries Central Michigan University, 2024).

QuillBot Paraphrasing Tool (AI)

QuillBot paraphrasing tool (AI) is an online writing platform with a bunch of powerful tools that can be explored to elevate and perfect writing. QuillBot (AI) paraphrases, summarises, checks for grammar errors and plagiarism, translates, outlines, creates citations and sets researchers up for success in schools, workplaces and personal engagements (QuillBot, 2024). Online Degrees (2024) outlined some AI tools for teachers and learners in the educational system, including Palitt, which was built to help instructors to easily create "their own custom lecture series, syllabus or textbook for teaching and learning**.**
According to Tuhin (2025), as we step deeper into the 21st century, the union between AI and scientific research is opening doors we never imagined could exist. AI is accelerating the pace of innovation, uncovering hidden patterns in oceans of data, predicting outcomes with staggering accuracy, and even formulating hypotheses that human minds may have missed. It is reshaping not just how we do science, but what science can do.

In the view of Rutgers University Libraries (2025), AI tools can be used to support different aspects of the research process, including but not limited to:

Hypotheses Generation

AI can automatically generate research questions based on a given dataset or topic that can serve as starting points for researchers to refine and develop into hypotheses.

Literature Review

AI can accelerate the literature review process by analysing and summarising a body of literature on a topic, identifying relevant trends, patterns, and gaps in existing knowledge.

Data Analysis

AI can aid in processing and analysing large datasets, making it easier to identify emerging trends, correlations, outliers, and other patterns.

Experiment Design

AI algorithms can assist researchers in designing experiments by suggesting variables, methodologies, and potential outcomes based on existing data.

Communication of Findings

AI can assist in drafting, proofreading, and editing research papers.

Collaboration and Networking

AI-driven recommendation systems can help researchers connect with peers, collaborators, and experts in their field, fostering interdisciplinary collaboration and knowledge sharing.

In the view of Arangüena (2024), the following are some of the ways AI could be explored in research:

Navigating the literature

Literature reviews are another fundamental component of research, which synthesise the existing knowledge in a field of research. AI is transforming this process, offering assistance in the identification, analysis, and synthesis of relevant literature.

Deriving insights from complex databases

Data analysis is at the heart of rigorous research, and AI enhances this process. Machine learning (ML) algorithms can navigate vast databases: identifying patterns and correlations is one of its greatest strengths. This isn't just about speed, however; it's about uncovering nuanced insights that may be missed by humans.

Streamlining peer-reviewing

Traditionally a time-consuming process, peer-reviewing involves experts reviewing each other's research manuscripts before publication. AI emerges as a natural collaborator in this task, making peer-reviewing far more efficient by automating the initial stages. According to Rutgers University Libraries (2025), the following are some AI tools that can be explored in research:

Perplexity

It is an AI-powered search engine that responds to questions by summarising relevant sources from the internet with inline citations. Perplexity's paid Pro Search includes additional features such as an interactive search mode that asks you clarifying questions to guide the AI search process and find the best answer for you.

Consensus

It is a search engine that uses AI to search over 200 million scientific papers from Semantic Scholar and deliver reliable, evidence-based answers tied to actual studies. It also provides summaries of the top articles it analyses, making it easier to understand complex research.

Elicit

AI search assistant for researchers and academics that helps conduct literature reviews by identifying relevant research papers on a topic and summarising key points.

Scite

It is an AI platform that helps researchers find and understand research articles through Smart Citations. Scite uses access to full-text articles and its deep learning model to tell you how many times an article was cited and the context of the citation (i.e., whether the article provides supporting or contrasting evidence).

Research Rabbit

It is described as the "Spotify of research"; users can create collections of academic papers that the software can learn from to give them relevant recommendations. It also visualises scholarly networks in graphs, so it is possible to follow the work of specific authors or topics.

NotebookLM

It is an AI-powered research and note-taking app that allows you to summarise, ask questions, and extract information from your personal document library.

Scholarcy

It is an AI summarisation tool that reads your research articles, reports, and book chapters and extracts key information to create a summary flashcard identifying study participants, data analyses, main findings, and limitations.

ChatPDF

It is an AI chatbot designed to help researchers read, analyse, and extract answers from research papers. Simply upload a file, and ChatPDF will generate a summary of the paper and provide examples of questions it can answer based on the full text.

Semantic Scholar

It is a free, AI-powered research tool for scientific literature. Semantic Scholar helps researchers understand a paper at a glance by extracting meaning and identifying connections from within papers. Indexes over 200 million academic papers sourced from publisher partnerships, data providers, and web crawls.

Iris.ai

It is an AI tool designed to aid researchers in scientific discoveries. The service uses natural language processing and machine learning algorithms to comprehend the context of a research project and suggest pertinent literature. It helps navigate and find data sources without relying on specific keywords, making it significantly more efficient than traditional search engines.

Scispace

Is an AI-driven platform for exploring, understanding, and publishing research papers. It offers a comprehensive searchable database of over 270 million papers, authors, topics, journals, and conferences. It also provides a variety of features such as a manuscript editor, citation generator, plagiarism checker, and an AI copilot to summarise any research paper.

You.com

It is a search engine built on artificial intelligence that provides users with a customised search experience while keeping their data 100% private.

The following listed and explained are some of the areas AI can be used during teaching (Amesi & Peterside, 2024):

Mavis Beacon Teaches Typing (AI)

Gentle (2024) posited that the software Mavis Beacon Teaches Typing was first released in 1987 as a tool to train new computer and advanced users on keyboard skills (touch typing). The software (AI), Mavis Beacon Teaches Typing, whether you want to learn essential keyboarding skills or improve your overall typing efficiency, Mavis Beacon Teaches Typing Anniversary Edition will guide you on your

road to success. It gives you beginner-friendly ways to improve speed and accuracy with detailed assessments, customised lessons and skill-building games which are needed in different global workplaces (Ukata & Agburuga, 2024a; Broderbund, 2024).

Based Mentorship and Networking

This is an Artificial intelligence-driven tool like MentoBot, a connecting device that connects business, marketing and entrepreneurship students with virtual mentors or coaches by offering advice, feedback, and guidance on various business-related issues. Business, marketing and entrepreneurship education students could also use devices like LinkedIn to help them connect with the right networks based on interests, industry trends, and mutual connections.

Intelligent tutoring systems

AI is explored in tutoring systems that provide real-time feedback to students, adapt to their individual learning needs, and track their progress.

Student performance prediction

It is an AI algorithm that analyses data on student performance, attendance, and other factors to predict which students may be at risk of falling behind and intervene early.

Automated grading

It is an AI tool used to grade multiple-choice and short-answer questions, freeing up teacher time for other tasks.

Subjects and Moderating Variables of the Study

The subjects for this study are male and female Business Education lecturers with different levels of educational attainment and years of teaching experience in public tertiary institutions in Rivers State. How well lecturers explore the power of AI in researching and teaching depends on their level of educational qualification, training and retraining, age and teaching experience (Ukata & Obinichi-Aaron, 2025). For example, lecturers with higher degrees such as PhD and M.Sc. /M.Ed.) are expected to possess higher knowledge and skills in exploring the power of AI in researching and teaching Business Education courses than those with HND/B.Sc./B.Ed (Ukata & Udeh, 2022; Ezenwafor & Ukata, 2022a; Ezenwafor & Ukata, 2022b). Accordingly, Ukata and Okeke (2023) and Ukata and Nmehielle (2022) claimed that teaching experience and age are among the factors that influence lecturers' knowledge and skills in exploring AI in research and teaching because younger and more experienced lecturers are more likely to possess higher levels than older and less experienced ones. Also, lecturers who have spent 10 years and above in researching and teaching AI-related courses are expected to possess higher knowledge and skills to be able to identify the types of AI and explore their power in researching and teaching Business Education courses than those with less than 10 years of teaching experience. Consequently, the study tested the influence of these respondents' variables of their level of educational attainment and years of teaching experience on exploring the power of AI by Business Education lecturers in research and teaching in public tertiary institutions in Rivers State.

Statement of the Problem

Artificial Intelligence (AI) as an aspect of information and communication technologies (ICTs) seems to be reshaping numerous sectors, including the education environment. However, the power of AI seems not to have been explored in the Nigerian educational system in the research and teaching process to improve and enhance students' learning outcomes and streamline administrative tasks in tertiary institutions. The problem of this study is that, despite many available types of AI and rich benefits, the power of AI and the extent to which it can be explored by Business Education lecturers in research and teaching for an improved researching and teaching and enhance students' learning outcomes seem not to be known. This study was therefore necessitated by the need to address this gap, "exploring the power of AI by Business Education lecturers in research and teaching in public tertiary institutions in Rivers State." The findings of the study will provide empirical data and recommendations to enable stakeholders to address related issues in Rivers State in particular and Nigeria in general.

Purpose of the Study

The purpose of this study was to explore the power of AI by Business Education lecturers in research and teaching in public tertiary institutions in Rivers State. Specifically, the study seeks to:

1. Find out how the power of AI and the level at which it can be explored by Business Education lecturers in research and teaching in public tertiary institutions in Rivers State

Method

The study adopted a descriptive survey research design. Descriptive survey research design was deemed appropriate since it sought to obtain the views of Business Education lecturers on the topic, "exploring the power of AI by Business Education lecturers for research and teaching in public tertiary institutions in Rivers State." The population of the study was 138 lecturers selected from the Federal College of Education (Technical) Omoku (57), University of Port Harcourt (9) Rivers State University (21) and Ignatius Ajuru University of Education (25), Captain Elechi Amadi (14) and Ken Sarowiwa Polytechnic (10), (Head of the Departments of Business Education of the Institutions, 2025). Census sampling technique was adopted to sample all 136 Business Education lecturers because it was of manageable size. The instrument used for data collection was a self-designed four-point response options questionnaire titled: "Exploring the power of AI by Business Education lecturers in research and teaching (EPAIBELRT)".
It contains one section carrying 15 items and was rated as very highly (4.50 - 500), highly (3.50 - 4.49), lowly (2.50 - 3.49), and very lowly (1.50 - 2.49). The questionnaire was subjected to face and content validation by three experts from the Faculty of Education in Ignatius Ajuru University of Education, Port Harcourt.

The internal consistency method was used to establish the reliability of the instrument. The instrument was administered to 15 lecturers from the University of Uyo who were not part of the population of the study. Cronbach's alpha was applied to compute the reliability coefficient, which yielded an alpha value of 0.75. This high reliability coefficient shows that the instrument is reliable. The researchers personally administered the copies of the questionnaire to the respondents in their schools with the help of four (4) research assistants who were adequately briefed on the modalities to follow. The researchers first visited each of the tertiary institutions and sought consent from the relevant Heads of Department for the study. Thereafter, the researchers and assistants visited each school and handed over the required number of copies of the instrument to the Heads of Department to distribute to the lecturers for completion and revisited after five working days to retrieve the completed copies. One hundred twenty-five copies of the instrument (125), representing 92% of the administered, were correctly filled, retrieved and used for the data analysis. The mean and standard deviation were used to answer the research question and ascertain how homogeneous or heterogeneous the respondents' opinions were relative to the questionnaire items and the aggregated mean. The one-way analysis of variance (ANOVA) was used to test the null hypothesis at the 0.05 level of significance. The ANOVA was used for the null hypothesis because it measured one categorical independent variable with three levels of the moderating variable. A null hypothesis was not rejected when the calculated significance (Sig.) value (p- value) was greater than or equal to (≥) the alpha value of 0.05. Otherwise, the null hypothesis was rejected. The data analysis was carried out using Statistical Package for the Social Sciences (SPSS) version 25.

Result Presentation, Analysis and Discussion Research

Question 1

How and at what level can the power of AI be explored by Business Education lecturers in research and teaching in public tertiary institutions in Rivers State?

Table 1: Respondents' mean ratings on how the power of AI can be explored by Business Education lecturers in research and teaching **N - 125**

SN	How and the level the power of AI can be explored in research and teaching.	$\bar{X}$	SD	Remarks
	How and the level the power of AI can be explored in research			
1	Zotero is used to organise, cite, reference and share your research sources.	4.25	.83	Highly
2	Text to image converter (I Love My PDF) is applied to convert documents of different forms into different formats in research.	4.13	.81	Highly
3	Turnitin is explored for anti-plagiarism detection and to reduce academic fraud	4.14	.84	Highly
4	The QuillBot paraphrasing tool assist to summarise sentences, checking grammar errors and plagiarism, translating, and creating citations.	4.12	.88	Highly
5	Perplexity can be explored to summarise relevant sources from the internet with inline citations**.**	4.10	.90	Highly
6	Consensus is used to summarise the top articles and analyses, making it easier to understand complex research.	4.22	.82	Highly
7	Elicit assists researchers and academics in conducting literature reviews by identifying relevant research papers on a topic and summarising key points.	4.11	.81	Highly
8	Scholarcy reads your research articles, reports, and book chapters and extracts key information to create a summary flashcard identifying study participants, data analyses, main findings and limitations.	4.24	.80	Highly
9	Scispace is a platform for exploring, understanding, and publishing research papers.	4.22	.81	Highly
	How and the level the power of AI can be explored during teaching			
10	Mavis Beacon Teaches Typing teaches keyboarding skills (touch typing)	4.01	.82	Highly
11	AI-based mentorship and networking are used to teach students on how to be mentored and connect to others in the industries.	4.08	.92	Highly
12	Palitt assists instructors to easily create "their own custom lecture series, syllabus or textbook for teaching.	4.02	.82	Highly
13	Content technologies assist in instructional design and contents creation for teaching students.	4.21	.81	Highly
14	Personalised learning AI is used to create customised learning paths for individual students	4.34	.80	Highly
15	Intelligent tutoring systems track learners' progress and give feedback on their performance.	4.32	.81	Highly
	Aggregate Mean	**4.16**		**Highly**

Table 1, with 15 listed items shows how and how highly the power of AI can be explored by Business Education lecturers in research and teaching, with mean scores that ranged from 4.01 to 4.34. In the same manner, the aggregated mean score of 4.16 also shows how highly the power of AI can be explored by Business Education lecturers in research and teaching in public tertiary institutions in Rivers State. The standard deviations for the 15 listed items ranged from 0.80 to 0.92, which shows that respondents were homogeneous in their opinions on how and how highly the power of AI can be explored by Business Education lecturers in research and teaching in public tertiary institutions in Rivers State.

Hypotheses Testing

The following null hypotheses were tested at the 0.05 level of significance:

H01: Lecturers do not differ in their mean responses on how the power of AI can be explored by Business Education lecturers in research and teaching based on their educational attainment and years of teaching experience.

Table 2: ANOVA summary of mean responses on how the power of AI can be explored by Business Education lecturers in research and teaching based on their educational attainment and years of teaching experience.

Sources of Variance	Sum of Squares	Df.	Mean Square	F-cal.	Sig.	Decision
Between Groups	3.258	2	1.339	1.389	.193	Not rejected H01
Within Groups	55.357	123	.779			
Total	**58.615**	**125**				

Table 2 shows a calculated F-value of 1.3 with a significant (sig.) p-value of 0.19, which is greater than the alpha value of 0.05 (0.19 > 0.05) at degrees of freedom of 2 and 123. Therefore, the null hypothesis (H01) was not rejected. This means that lecturers do not differ in their mean responses on how the power of AI can be explored by Business Education lecturers in research and teaching based on their educational attainment and years of teaching experience.

Discussion

The findings of the study showed how highly the power of AI can be explored by Business Education lecturers in research and teaching. This finding is consistent with Libraries Central Michigan University (2024), QuillBot (2024), Online Degrees (2024), Tuhin (2025), Rutgers University Libraries (2025), Arangüena (2024), who argued Zotero is used to organise, cite, reference and share your research sources; text to image converter (I love my pdf) is applied to convert documents of different forms into different format in research; Turnitin is explored for anti-plagiarism detection and reduce academic fraud; Quillbot assist to summarise sentences, checks grammar error and plagiarism, translate and create citations; Perplexity can be explored to summarise relevant sources from the internet with inline citations; Consensus is used to summarise of the top articles, analyses and making it easier to understand complex research; Elicit assists researchers and academics to conduct literature reviews by identifying relevant research papers on a topic and summarising key points; Scholarcy reads your research articles, reports, and book chapters and extracts key information to create a summary flashcard identifying study participants, data analyses, main findings and limitations; Scispace is platform for exploring, understanding, and publishing research papers. In the manner, the finding is also consistent with Amesi and Peterside (2024); Gentle (2024); Broderbund (2024), who postulated that Mavis Beacon Teaches Typing teaches keyboarding skills (touch typing); AI-based mentorship and networking are used to teach students on how to be mentored and connect to others in the industries; Palitt assists instructors to easily create “their own custom lecture series, syllabus or textbook for teaching; Contents Technologies assist in instructional design and contents creation for teaching students; Personalized learning AI is used to create customized learning paths for individual students and Intelligent tutoring systems track learners progress and gives feedback on their performances.

Findings of the study further showed that lecturers do not differ in their mean responses on how the power of AI can be explored by Business Education lecturers in research and teaching based on their educational attainment and years of teaching experience. These findings agree with the study of Taiwo and Ade-Ajayi (2015), which revealed that teachers’ educational attainment can have a great influence on perceived factors affecting effective teaching and learning. Taiwo and Ade-Ajayi (2015) further argued that the educational attainment of teachers can influence their understanding of the subject matter, selection of tools, use of appropriate instructional strategies and classroom management skills applied in teaching. The

incorporation of digital technologies in education, like Artificial Intelligence (AI), is changing the manner in which teaching and learning occur while helping to address the challenges in access to quality education for everyone, depending on the level of education (UNESCO, 2025). Applications of machine learning, natural language understanding, adaptive learning technologies, and computer vision are examples of AI paradigm shifts in education (Young, 2024). AI is also making strides in the field of business education through the emergence and proliferation of personalised learning programs and intelligent tutoring systems. The same applies to the use of AI in teaching and learning business education, where personalisation, efficiency, and effectiveness are greatly improved, helping to prepare students for the realities of the world of business and skills development. Moreover, generative AI tools can prepare learners with digital entrepreneurship skill of how to capture big ideas to establish small-scale viable businesses, customer retention and marketing planning, and business concept development using industry analysis (Okonkwo et al., 2025). This finding is also consistent with the opinions of Ukata and Okeke (2023), who claimed that teaching experience and age are among the factors that influence lecturers' knowledge and skills in exploring the power of AI tools for researching and teaching depend seriously on teaching, because younger lecturers with better experience may possess and deliver them better than older ones. Additionally, these findings harmonise with Scholars (2013), who affirmed that teaching experience and age are factors that influence lecturers' level of modern instructional competencies because younger and experienced lecturers are more likely to perform at a higher level than older and less experienced ones. The fact that all the lecturers indicated that educational attainment, teaching experience and age are factors that influence exploring the power of AI by Business Education lecturers in research and teaching shows that younger lecturers with the best academic qualifications and experience should be employed to teach AI-related courses to enable learners to acquire the skills for the global workplace.

Conclusion

Based on the findings that emanated from the discussions of the study, it was concluded that if the power of AI is highly explored by Business Education lecturers in research and teaching, it will lead to a high level of research and teaching activities. Additionally, it was concluded that educational attainment and years of teaching experience played vital roles in exploring the power of AI tools for effective research and teaching.

Recommendations

Based on the findings and conclusion of the study, the following recommendations were made:

1. AI tools should be included during the teaching of Business Education courses through yearly internal curriculum review by lecturers in collaboration with the authorities of their various institutions. Federal, state and local governments should provide enough funding and procurement of AI equipment to enable lecturers and students to access them for a better teaching and learning experience. Heads of institutions running Business Education and Entrepreneurship programmes should fund the procurement of AI facilities via internally generated revenue. Also, since whatever knowledge one acquires remains with the person, the Business Education lecturers should make personal sacrifices from their earnings and engage in AI tools and training through online and offline short courses to effectively teach digital entrepreneurship skills development as well as sustain and remain relevant in their areas of operations. Tertiary institutions running Business Education should send lecturers for specialised AI tool training to build the needed competencies, since the training may be too expensive for lecturers to bear. Additionally, the level of educational attainment and years of experience play vital roles in identifying the types of AI tools to be explored with benefits for skills development; younger Business Educators with the required academic qualifications and years of experience should be employed by institutions running the programme. These will support the effective implementation of AI tool skills and transfer them to learners, helping them acquire the employability skills needed to reduce high rates of unemployability and unemployment.

References

Amesi, J. & Peterside, T. R. (2024). Artificial intelligence tools in Business and Entrepreneurship Education for improved learning outcomes. Presented at the 3rd International/36th Annual National Conference of the Association of Business Educators of Nigeria (ABEN) held in Abuja at Chinua Achebe International Conference Centre, Mamman Vatsa Writers Village, Mpape, Abuja, from 9th -11th October, 2024.

Arangüena, I. (2024, April 5). *AI in research: Its uses and limitations*. Retrieved from https://www.researchtoaction.org/2024/04/ai-in-research-its-uses-and-limitations/on.

Broderbund (2024, June 27). *Mavis Beacon Teaches Typing Anniversary Edition*. Retrieved from https://www.broderbund.com/mavis-beacon-teaches-typing-anniversary-edition.

Chiu, T., Xia, Q., Zhou, X., Chai, C. S., & Cheng, M. (2023). Systematic literature review on opportunities, challenges, and future research recommendations of artificial intelligence in education. *Computers and Education: Artificial Intelligence, 4* (1). https://doi.org/10.1016/j.caeai.2022.100118.

Ezenwafor, J. I. & Ukata, P. F. (2022a). ICT instructional competencies possessed by lecturers for implementing OTM curriculum in public tertiary institutions in Rivers State. *NAU Journal of Technology & Vocational Education, 7* (1), 73- 81.

Ezenwafor, J. I. & Ukata, P. F. (2022b). Level of lecturers' possessed leadership instructional competencies in implementing OTM curriculum in public tertiary institutions in Rivers State for acquisition of employability skills among students. *International Journal of Education and Evaluation, 8* (8), 23-35.

Gentle, D. (2024, July 20). *Mavis Beacon, 'the world's greatest typing teacher,' does not want to be found by Oakland filmmakers*. Retrieved from https://www.sfgate.com/sf-culture/article/mavis-beacon-teaches-typing-documentary-18635435.php.

Igbokwe, I. C. (2023). Application of artificial intelligence (AI) in educational management. *International Journal of Scientific and Research Publications, 13* (3), 300-307.

Khosravi, H., Shum, S. B., Chen, G., Conati, C., Tsai, Y. S., Kay, J., Knight, S., Martinez- Maldonado, R., Sadiq, S. & Gasevic, D. (2022). Explainable artificial intelligence in education. *Computers and Education: Artificial Intelligence, 3*(1) 1-22. https://doi.org/10.1016/j.caeai.2022.100074.

Libraries Central Michigan University (2024, May 2). *Zotero and how it works: Zotero? What is it?* Retrieved fromhttps://libguides.cmich.edu/Zotero#:~:text=Zotero%20(pronounced%20%22zoh%2DTAIR,research%20databases%2C%20and%20the%20Web on 3rd August, 2024.

Library & Information Science Community (2016, March 15). *What is research? – definition, objectives & types of research*. Retrieved from https://www.lisedunetwork.com/what-is-research/ on.

National Universities Commission (2022). *Core curriculum and minimum academic standard (CCMAS). A publication of the National Universities Commission, Abuja, Nigeria.

Online Degrees, (2024). *43 examples of artificial intelligence in education*. Retrieved from https://onlinedegrees.sandiego.edu/artificial-intelligence-education/on.

Okonkwo, M. U., Amahi, F.U., Nwaiwu, K. N. C. (2025). Equipping Students with Digital Entrepreneurial Skills for Job Creation through the Integration of Artificial Intelligence Teaching Models in Business Education. International Journal of Research and Innovation in Social Science (IJRISS), 4621-4630. DOI: https://dx.doi.org/10.47772/IJRISS.2025.908000369.

Pattam, A. (2021). *Artificial intelligence, defined in simple terms*. Retrieved from https://www.hcltech.com/blogs/artificial-intelligence-defined-simple terms#:~:text=Artificial%20intelligence%20is%20the%20science,decisions%2C%20and% 20judge%20like%20humans.

QuillBot, (2024, June 10). *How does QuillBot work?* Retrieved from https://quillbot.com/blog/quillbot-tools/how-does-quillbot-work/.

Rutgers University Libraries (2025, May 29). *An introduction to generative AI and its use in teaching, research, and publishing.* Retrieved from https://libguides.rutgers.edu/artificial-intelligence/ai-in-research.

Scholars (2013, February 14). Why experienced teachers are important: What can be done to develop them?

Retrieved from https://scholars.org/contribution/why-experienced-teachers-are-important-and-what-can-be-done-develop-them.

Singh, V., & Singh, A. (2021). Role of artificial intelligence in educational management. *Journal of Education and Practice, 12*(12), 78- 85.

Smith, J. (2021). Applications of AI in educational management. *International Journal of Educational Technology in Higher Education, 18*(1), 1-17. https://doi.org/10.1186/s41239.

Smith, J. (2022). Applications of artificial intelligence in educational management. *Educational Technology Research and Development, 70*(2), 457-478. https://doi.org/10.1007/s11423 022-09981-1.

Surugiu, C., Grădinaru, C. & Surugiu, M. R. (2024). Artificial intelligence in business education: Benefits and tools. *Amfiteatru Economic, 26* (65), 241-258.

Taiwo, A. E. & Ade-Ajayi, J. (2015). Teacher variables and school effectiveness in Ekiti State, Nigeria. International Journal of Humanities and Social Science, 5(7), 95-101.

Tuhin, M. (2025, April 21). *The role of artificial intelligence in scientific research*. Retrieved from https://www.sciencenewstoday.org/the-role-of-artificial-intelligence-in-scientific-research on the 16th September, 2025.

Ukata, P. F. & Amini, M. C. (2022). Digital entrepreneurial skills acquired by business education undergraduates for decent works in tertiary institutions in Rivers State. *International Journal of Innovative Education Research, 10*(2), 99-108

Ukata, P. F. & Agburuga, V. (2024a). 3rd International/36th Annual National Conference of Association of Business Educators of Nigeria (ABEN) Held at Abuja at Chinua Achebe International Conference Centre, Mamman Vatsa Writers Village, Mpape, Abuja from 9th–11th October, 2024. Application Of Artificial Intelligence (AI) In Teaching Business Education Courses in Rivers State Tertiary Institutions.

Ukata, P. F. & Agburuga, V. (2024b). 3rd International/36th Annual National Conference of Association of Business Educators of Nigeria (ABEN) Held in Abuja at Chinua Achebe International Conference Centre, Mamman Vatsa Writers Village, Mpape, Abuja from 9th–11th October, 2024. Challenges Lecturers Faced and Solutions to the Application of Artificial Intelligence (AI) in Teaching Business Education Courses in Rivers State Tertiary Institutions.

Ukata, P. F. & Amini, M. C. (2025). Exploring the Power of Artificial Intelligence (AI) for Improving the Teaching of Business Education Courses in Government Tertiary Institutions in Rivers State. *Research Journal of Mass Communication and Information Technology, 11* (1), 73-89.

Ukata, P. F. & Nmehielle, E. L. (2020). Roles of direct and indirect instructional strategies in teaching and learning courses in Rivers State universities: The Conflict and Resolution. *International Journal of Education and Evaluation (IJEE), 6* (4), 56 – 73.

Ukata, P. F. & Nmehielle, E. L. (2023). Cooperative Instructional delivery among Business Education lecturers and the delivery of digital skills for decent employment in tertiary institutions in Rivers State. *Nigeria Journal of Business Educator, 10* (2), 271-280

Ukata, P. F. & Obinichi-Aaron, E. O. (2025). Teaching artificial intelligence tools required of undergraduates for communication and digital entrepreneurship in public tertiary institutions in Rivers State. *GRS Journal of Multidisciplinary Research and Studies, 2* (4), 21-27.

Ukata, P. F. & Okeke, V. N. (2023). Survey of corruption and falling standard of education in tertiary institutions in Rivers and Anambra states with impact on Nigeria. *International Journal of Current Educational Studies, 2* (1), 62-76.

Ukata, P. F. & Silas – Dikibo, I. D. (2019). Challenges of Teaching and Learning Business Education with New Technologies in Rivers State Universities. *Contemporary Research in Education and English Language Teaching, 1* (1), 7-18.

Ukata, P. F., & Silas-Dikibo, I. D. (2020). Extent of students' satisfaction with business experiences acquired through business education programmes in Rivers State universities. World Journal of Entrepreneurial Development Studies (WJEDS), 5 (2), 1 - 11.

Ukata, P. F. & Udeh, C. P. (2022). Utilisation of new technologies by Business Education lecturers for teaching accounting courses in tertiary institutions in Rivers State. *International Journal of Innovative Information Systems & Technology Research, 10*(2), 29-38.

Ukata, P. F. & Wechie, N. (2020). Students' Satisfaction and Technological Learning Experiences Acquired Through Business Education Programme in Rivers State Universities. *Kobia International Journal of Education Humanities and Social Science, 1* (1), 80 - 99.

Ukata, P. F. (2019). Business education students' learning experiences and programme satisfaction. Germany: Lap Lambert Academic Publishing.

Ukata, P. F. (2019). Challenges and Solutions of Acquiring Environmental Teaching and Learning Experiences of OTM Programme in Rivers State Polytechnics. *International Journal of Education, Learning and Development (IJELD), 7* (11), 22 – 40.

Ukata, P. F., Adejola, B. C. & Okoye, A. J. C. (2018). Business education students' learning experience and programme satisfaction in Rivers State University. *World Journal of Innovation and Modern Technology, 2* (1), 9-34.

Ukata, P. F., Wechie, N. & Nmehielle, E. L. (2017). Instructional strategies and teaching of business education in Rivers State. *International Journal of Education and Evaluation, 3* (9), 20-36.

United Nations Educational, Scientific and Cultural Organisation. (2025). Artificial intelligence in education. https://www.unesco.org/en/digital-education/artificial-intelligence.

Veletsianos, G. (2019). A case study of machine learning in education: Shifting ontologies. *Educational Researcher, 48*(7), 397-405.

Young, J. (2024). The rise of artificial intelligence in education. International Journal of Innovative Research & Development, 13(2), 74-83. https://doi.org/10.24940/ijird/2024/v13/i2/FEB24019

Zhang, K. & Aslan, A. B. (2021). AI technologies for education: Recent research and future directions. *Computers and Education: Artificial Intelligence, 2* (1), 1-11. https://doi.org/10.1016/j.caeai.2021.100025.