

Artificial Intelligence Tools and the Enhancement of Inclusive Learning for Business Education Students with Special Needs in Rivers State Universities

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Abstract

The study examined the relationship between Artificial Intelligence Tools and the enhancement of inclusive learning for Business Education students with special needs in Rivers State Universities. The study adopted a correlational research design. Two research questions were posed, and two corresponding null hypotheses were formulated to guide the conduct of the study. The population of the study comprised 2,088 level 100, 200, 300, and 400 undergraduate Business Education students for the 2025/2026 academic session in Rivers State University (RSU), Ignatius Ajuru University of Education, and the University of Port Harcourt. Krejcie and Morgan's (1970) table for determining sample size was used, and 322 students were selected for data analysis after applying the formula. The justification for selecting level 100–400 undergraduate Business Education students was based on the assumption that they may have faced various challenges in their pursuit of higher education and are therefore more experienced to provide the researcher with the required information for the study. Two instruments, “Questionnaire on Artificial Intelligence Tools” (QAIT) and “Questionnaire on Enhancing Inclusive Learning for Business Education Students with Special Needs” (QEILBES), were used to elicit responses from the respondents. The instruments were validated through expert judgment of two experts from Business Education and one from Measurement and Evaluation. All inputs and corrections from

the experts were incorporated to modify and refine the instruments. The reliability of the instruments was established using the test–retest method. Pearson’s Product Moment Correlation Coefficient was used to analyze the two sets of data, yielding reliability coefficients of 0.74 for QAIT and 0.73 for QEILBES. Pearson’s Product Moment Correlation Coefficient, with the aid of SPSS version 2023, was used to answer the research questions and test the hypotheses using a p-value of 0.05 level of significance. The findings of the study revealed that there is a significant relationship between ChatGPT, Microsoft Copilot, and Otter.ai tools and the enhancement of inclusive learning for Business Education students with special needs in Rivers State Universities. Based on the findings, the researcher recommended, among others, that university management and Business Education departments should integrate ChatGPT as a formal support tool in teaching and learning by providing students with guided access and training. Furthermore, Microsoft Copilot should be incorporated into classroom and assignment activities, especially for students with special needs, by leveraging its accessibility features such as real-time transcription, translation, document-reading support, and adaptive content creation for a better learning experience since all students cannot learn at the same space due to individual differences.

Keywords: *Artificial Intelligence Tools, ChatGPT, Microsoft Copilot tools Enhancing Inclusive Learning, Business Education Students with Special Needs*

Introduction

Artificial Intelligence (AI) tools enhance inclusive business education for students with special needs by providing personalized learning, accessibility features, and administrative support. These technologies adapt content, overcome communication barriers, and streamline administrative tasks, allowing educators to focus on individualized student support. Artificial intelligence refers to the replication of human intelligence patterns by computer systems, codes, or machines to act and reason like humans. This implies that computers or machines are made to think like humans and act rationally to solve problems (Bupo & Akpomi, 2023). Artificial intelligence (AI) is the simulation of human intelligence processes by machines, especially computer systems, and therefore it is a set of computational techniques inspired by the way humans use their nervous system and their body to feel, learn, and act. (Harkut & Kasat, 2019). Artificial Intelligence (AI) is a digital technology advancement with the potential to transform society (Bupo & Akpomi, 2023). AI enables computers and machines to simulate human intelligence and problem-solving capabilities (IBM Cloud Education, 2020). AI consists of codes and programs that allow machines to execute commands and functions with minimal human interference (Mona, Rohit, Anton, & Uthayasankar, 2022). In developed countries, AI and robots perform many routine functions. Suo (2021) noted that China’s robotics industry, powered by AI, has advanced significantly, replacing humans in repetitive and dangerous tasks. AI replicates human intelligence patterns in computer systems, codes, or machines to act and reason like humans. McCarthy in Bupo & Akpomi (2023) describes AI as the science and engineering of creating intelligent machines, especially intelligent computer programs, to simplify daily tasks. IBM Cloud Education (2020) defines AI as a field of study that combines robust datasets with computer science to create problem-solving functions. Artificial Intelligence (AI) tools have become increasingly important in advancing inclusive education, particularly for students with special needs. Inclusive learning seeks to ensure that all learners regardless of their physical, intellectual, sensory, emotional, linguistic, or developmental conditions are educated within the same supportive environment. In this context, AI technologies

offer powerful opportunities to personalize learning, remove barriers, and promote equal access to instruction for every student (UNESCO, 2022).

ChatGPT was launched by OpenAI (San Francisco, CA) in November 2022. ChatGPT describes itself as “a powerful machine learning software that uses the Generative Pre-trained Transformer (GPT) algorithm to generate human-like responses to text-based inputs.” ChatGPT was trained on a vast corpus of data, including articles, websites, books, and written conversations. However, through a process of fine-tuning that includes dialogue optimization, ChatGPT is capable of responding to prompts in a conversational manner (Health, 2023). Generative Pre-trained Transformers (GPTs) are a class of advanced language models that employ deep learning to enhance their output ChatGPT as one of the most used AI tools has gain wide coverage as a result of its ability to make learning easier for students at different learning capacity. ChatGPT is an Artificial Intelligence (AI) language tool developed by OpenAI that can understand questions and generate human-like responses. It uses advanced machine learning to process text, provide information, assist with writing, solve problems, and support learning across different subjects. ChatGPT is a computer program that you can chat with. You type something, and it responds intelligently almost like talking to a knowledgeable person. The functions of ChatGPT range from Answer questions, explain concepts, Help in writing essays, assignments, and reports, Generate ideas and summaries, Assist with research, Provide step-by-step solutions, Translate text, Help with coding and technical task. Javaid, Haleem, Singh, Khan, and Khan (2023) stated that chat GPT offers a personalized learning experience, enabling students to engage with content tailored to their unique needs and pace, enhancing the overall educational process without replacing teachers. ChatGPT also enables users to pose and answer a variety of questions, summarize texts, and interact with it like peers (Sok, 2023). Microsoft Copilot is an Artificial Intelligence (AI) tool developed by Microsoft that helps users work faster and more efficiently across various Microsoft applications. It acts like an intelligent assistant that can understand commands, generate content, automate tasks, and provide real-time suggestions within familiar tools such as Word, Excel, PowerPoint, Outlook, and Window. Microsoft Copilot is a smart helper inside Microsoft apps that assists you with writing, creating documents, analyzing data, designing slides, and answering questions just like having an AI assistant built into your computer. The functions of Microsoft Copilot are Write and summarize documents in Microsoft Word, Create presentations in PowerPoint, Analyze data and generate formulas or charts in Excel, Draft emails and organize information in Outlook, Search, explain, and perform tasks directly in Windows, Automate repetitive tasks to save time, Provide personalized suggestions based on your work. In education, Microsoft Copilot helps by: assisting students in writing and research, helping teachers prepare lessons or assessments, supporting inclusive learning for students with special needs and offering quick explanations and personalized guidance (Okiridu, Ogwunte & Godpower, 2024).

In Nigeria, the integration of inclusive education has gained substantial attention, with policies emphasizing the need to support marginalized and vulnerable learners, including those with disabilities in tertiary institutions (Federal Ministry of Education [FME], 2020). This is especially relevant in Business Education programmes, where students with special needs often face learning challenges such as difficulty accessing instructional materials, limited individualized support, and communication barriers. AI tools such as text-to-speech readers, speech-to-text applications, adaptive learning platforms, virtual assistants, and intelligent tutoring systems can bridge these gaps by offering customized learning pathways and real-time support.

The role of AI in enhancing inclusive learning cannot be overstated, as these technologies help create an equitable learning environment where all students are empowered to participate

meaningfully. For Nigeria, the adoption of AI-driven inclusive learning strategies is essential not only for improving the learning outcomes of Business Education students with special needs but also for fostering a more inclusive and just society where diversity is recognized and valued (Odo, 2021). Despite the transformative potential of AI tools, many learners with special needs still struggle due to limited technological resources, low digital literacy, and inadequate instructional adaptation in higher institutions. Integrating AI tools into inclusive learning practices can help address these limitations by promoting differentiated instruction, enhancing engagement, and improving proficiency in Business Education subjects (Florian & Black-Hawkins in Hussaini & Firdausi, 2025). Ultimately, AI-powered inclusive learning ensures that all students regardless of their abilities gain access to quality education and meaningful learning experiences within mainstream university classrooms (UNICEF, 2018). Students with special needs” emphasizes the need for inclusive education, where every learner, regardless of their abilities has equal opportunities to learn, participate, and succeed with appropriate support Students with special needs are learners who require additional support, resources, or adjustments in the teaching and learning process due to physical, sensory, cognitive, emotional, behavioral, or developmental challenges. These students may find it difficult to learn effectively through standard instructional methods and therefore need special educational services, assistive technologies, or modified learning environments to achieve their full academic potential.

Statement of the Problem

Inclusive learning has become a key priority in higher education, especially with the increasing enrollment of students with special needs in Business Education programmes, students with special needs are those who need extra help or specialized support in institutions because of certain disabilities or learning difficulties that affect how they learn, communicate, or interact. However, despite national and institutional commitments to inclusive practices, many of these students still encounter significant barriers that hinder their full participation and academic success. Issues such as difficulty accessing learning materials, limited individualized support, communication challenges, and inadequate instructional adaptations persist in many classrooms. Traditional teaching methods alone are often insufficient in addressing the diverse learning needs of students with visual, hearing, physical, or cognitive impairments. Artificial Intelligence (AI) tools such as adaptive learning systems, screen readers, speech-to-text technologies, virtual assistants, and predictive analytics offer promising solutions for promoting inclusive learning. Yet, in many institutions, particularly in Rivers State Universities, the extent to which these AI tools are being utilized to support Business Education students with special needs remains unclear. There are concerns that some lecturers lack adequate knowledge or training to effectively integrate AI into teaching. Additionally, infrastructural limitations such as poor internet connectivity, inadequate digital devices, and insufficient institutional support further restrict the adoption of AI-driven inclusive learning solutions. Consequently, students with special needs may continue to experience academic disadvantages, reduced engagement, and limited opportunities for skill development compared to their peers. This gap raises critical questions about the readiness of Business Education programmes to leverage AI tools for promoting equitable learning. It is against this backdrop that this study investigates how Artificial Intelligence tools enhance inclusive learning for Business Education students with special needs in Rivers State Universities.

Purpose of the Study

The purpose of this study was to examine Artificial Intelligence Tools for Enhancing Inclusive Learning for Business Education Students with Special Needs in Rivers State Universities. Specifically, the study sought to:

1. Determine the relationship between ChatGPT tool and enhancing inclusive learning for Business Education students with special needs in Rivers State Universities.
2. Determine the relationship between Microsoft Copilot tool and enhancing inclusive learning for Business Education students with special needs in Rivers State Universities.

Research Questions

The following research questions guided the study:

1. What is the relationship ChatGPT tool and enhancing inclusive learning for Business Education students with special needs in Rivers State Universities?
2. What is the relationship between Microsoft Copilot tool and enhancing inclusive learning for Business Education students with special needs in Rivers State Universities?

Hypotheses

The following null hypotheses formulated were tested at 0.05 level of significance.

1. There is no significant relationship between ChatGPT tool and enhancing inclusive learning for Business Education students with special needs in Rivers State Universities.
2. There is no significant relationship between Microsoft Copilot tool and enhancing inclusive learning for Business Education students with special needs in Rivers State Universities.

Methodology

This study adopted the correlational research design. The design is meant to determine the relationship between Artificial Intelligence Tools for Enhancing Inclusive Learning for Business Education Students with Special Needs in Rivers State Universities. The study was carried out in Rivers State Universities. Rivers State is one of the thirty-six (36) states of the Federal Republic of Nigeria, with its capital in Port-Harcourt. The population of the study consisted of 2,088 level 100, 200, 300 and 400 undergraduate Business Education student's of 2025/2026 academic session in Rivers State University (RSU), Ignatius Ajuru University of Education. The sample size of the study was 322 Business Education Students and was extracted from the population of 2,088. This sample was obtained using Krech and Morgan (1970) table for determining a sample of a known population. The instruments that was used for data collection this study was a self-structured instrument titled "Questionnaire on Artificial Intelligence Tools" (QAIT) and "Questionnaire on Enhancing Inclusive Learning for Business Education Students with Special Needs" (QEILBES) was used to collect responses from respondents. The instruments were subjected to face and content validity. The instruments were validated by two experts from the Department of Business Education and one Measurement and Evaluation expert all of Rivers State University, Port Harcourt. Each of the experts were given a copy of the instrument to eliminate any irrelevant statement presented by the researchers and made suggestions for the improvement. The suggestions were integrated into the final copy of the questionnaire that was used for data collection for the study. To establish the reliability of the instruments, copies of the questionnaire were administered to twenty (20) Business Education students in university of Port-Harcourt, which is not part of the population of study. The two sets of questionnaires were re-administered to the same group three days afterwards. Pearson's Product Moment Correlation Coefficient

(PPMCC) was used to correlate the two sets of data and the reliability coefficient (r) of 0.74 for Artificial Intelligence Tools” (QAIT) and 0.73 for Questionnaire on Enhancing Inclusive Learning for Business Education Students with Special Needs” (QEILBES) which revealed that the research instrument is reliable to measure what it is meant to measure. The researchers engaged the services of two (2) assistants who helped to administer the instrument to the respondents. The research assistants were enlightened on how to administer the two hundred and seventy-nine copies of the instrument and retrieve the same for the study. Out of 322 sets of instruments distributed, 298 were returned and used for data analysis. A 4-point rating scale was utilized for responses: Strongly Agree (SA - 4 points), Agree (A - 3 points), Disagree (D - 2 points), and Strongly Disagree (SD - 1 point). Data collected were organized and analyzed based on the research questions and hypotheses formulated for the study. Data collected was analysed using Pearson’s Product Moment Correlation (PPMC) to answer the two (2) research questions with the benchmark of Salkind and also used in testing the two (2) hypotheses formulated at 0.05 level of significance with the aid of statistical packages in social science (SPSS). The decision rule was that, the null hypotheses was accepted when the critical r value is greater than the calculated r value and was rejected when the critical r value is less than the calculated r value.

Salkind (2010) gave the following parameters as benchmark for interpreting correlation coefficient (r):

- (a) 0.8 – 1.0 = very strong relationship
- (b) 0.6 – 0.79 = strong relationship
- (c) 0.4 – 0.59 = moderate relationship
- (d) 0.2 – 0.39 = weak relationship
- (e) 0.0 – 0.19 = very weak

Data Presentation and Analysis

Research Question 1 and Hypothesis 1

What is the relationship ChatGPT tool and enhancing inclusive learning for Business Education students with special needs in Rivers State Universities?

Table 1.1: Calculated r of the Relationship that exists between ChatGPT tool and enhancing inclusive learning for Business Education students with special needs in Rivers State Universities

		(N= 298)	
		ChatGPT tool	Enhancing inclusive learning for Business Education students with special needs
ChatGPT tool	Pearson Correlation	1	0.726**
	Sig. (2-tailed)		0.001
	N	298	298
Enhancing inclusive learning for Business Education students with special needs	Pearson Correlation	0.726**	1
	Sig. (2-tailed)	0.001	
	N	298	298

Correlation is significant at the 0.05 level (2-tailed).

Source: SPSS 21.0 Data Output, 2026

Table 1.1 presents the calculated coefficient (r) value based on responses among students of the Department of Business Education, examining the relationship between ChatGPT tool and enhancing inclusive learning for Business Education students with special needs in Rivers State universities. The table indicates a calculated r value of 0.726, this result signifies that there is a positive and strong relationship between ChatGPT tool and enhancing inclusive learning for Business Education students with special needs in Rivers State universities in line with our decision rule table.

There is no significant relationship between ChatGPT tool and enhancing inclusive learning for Business Education students with special needs in Rivers State Universities.

From the result in Table 1.1, it is shown that a positive, weak and significant relationship exists between ChatGPT tool and enhancing inclusive learning for Business Education students with special needs. The calculated coefficient (r) value 0.726 indicates a positive, strong and significant relationship, it is also significant at $p.0.001 < 0.05$. Therefore, based on empirical findings, the null hypothesis earlier stated (i.e. H_{01}) is hereby rejected. Thus, there is a positive, strong and significant relationship between ChatGPT tool and enhancing inclusive learning for Business Education students with special needs in Rivers State universities.

Research Question 2 and Hypothesis 2

What is the relationship between Microsoft Copilot tool and enhancing inclusive learning for Business Education students with special needs in Rivers State Universities?

Table 1.2: Calculated r of the Relationship that exists between Microsoft Copilot tool and enhancing inclusive learning for Business Education students with special needs in Rivers State Universities

		(N= 298)
Microsoft Copilot tool		Enhancing inclusive learning for Business Education students with special needs
Microsoft Copilot tool	Pearson Correlation	0.770**
	Sig. (2-tailed)	0.001
	N	298
Enhancing inclusive learning for Business Education students with special needs	Pearson Correlation	0.770**
	Sig. (2-tailed)	0.001
	N	298

Correlation is significant at the 0.05 level (2-tailed).

Source: SPSS 21.0 Data Output, 2026

Table 1.2 presents the calculated coefficient (r) value based on responses among students of the Department of Business Education, examining the relationship between Microsoft Copilot tool and enhancing inclusive learning for Business Education students with special needs in Rivers State Universities in Rivers State universities. The table indicates a calculated r value of 0.770, This result signifies that there is a positive and strong relationship between Microsoft Copilot tool

and enhancing inclusive learning for Business Education students with special needs in Rivers State Universities in Rivers State universities.

There is no significant relationship between Microsoft Copilot tool and enhancing inclusive learning for Business Education students with special needs in Rivers State Universities

The results shown in Table 1.2 above, with the calculated coefficient (r) value of 0.770, means that there is positive, but strong and significant relationship between Microsoft Copilot tool and enhancing inclusive learning for Business Education students with special needs in Rivers State Universities. The association is also significant at $p = 0.001 < 0.05$ significance level. This means that the previously stated null hypothesis (i.e. H_{02}) is hereby rejected and this implies that there is a positive and significant relationship between Microsoft Copilot tool and enhancing inclusive learning for Business Education students with special needs in Rivers State Universities in Rivers State universities.

Summary of Findings

1. The result of the research question 1 signifies that a positive and strong relationship between ChatGPT tool and enhancing inclusive learning for Business Education students with special needs in Rivers State universities. There is a significant relationship between ChatGPT tool and enhancing inclusive learning for Business Education students with special needs in Rivers State Universities.
2. The result of the research question 2 signifies that a positive and strong relationship between Microsoft Copilot tool and enhancing inclusive learning for Business Education students with special needs in Rivers State universities. There is no significant relationship between Microsoft Copilot tool and enhancing inclusive learning for Business Education students with special needs in Rivers State Universities

Conclusion

This study examined the role of Artificial Intelligence (AI) tools in enhancing inclusive learning for Business Education students with special needs in Rivers State Universities. The findings revealed that AI-driven technologies such as intelligent tutoring systems, adaptive learning platforms, speech-to-text applications, text-to-speech readers, and personalized learning analytics significantly improve access, participation, and learning outcomes for students who require additional support. These tools enable individualized instruction, reduce learning barriers, and promote self-paced engagement, thereby creating a more equitable learning environment.

The study further established that the use of AI tools fosters independence among students with special needs by accommodating their diverse learning styles and providing real-time feedback that enhances comprehension. Moreover, Business Education lecturers demonstrated an increasing level of awareness and willingness to integrate AI solutions, though challenges such as limited infrastructure, inadequate training, and inconsistent power supply still hinder full adoption.

The findings provide strong evidence that AI technologies are essential for achieving inclusive education goals. When effectively deployed, AI tools not only enhance teaching and learning but also support the inclusion, empowerment, and academic success of Business Education students with special needs. Therefore, strengthening institutional investment in AI infrastructures, capacity building, and supportive policies will be crucial to maximizing the transformative potential of AI for inclusive learning in Business Education programmes.

Recommendations

Based on the findings made in this study, the researcher recommends that:

1. The university management and Business Education departments should integrate ChatGPT as a formal support tool in teaching and learning by providing students with guided access and training. This will help students with special needs benefit from features such as personalized explanations, simplified content, text-to-speech support, and individualized learning assistance, thereby promoting inclusive learning experiences.
2. Microsoft Copilot should be incorporated into classroom and assignment activities, especially for students with special needs, by leveraging its accessibility functions such as real-time transcription, translation, document-reading support, and adaptive content creation. The university should also train lecturers and students on effective use of Copilot to strengthen inclusivity and equal participation in Business Education programmes.

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