International Journal of Education, Learning and Development
Vol. 12, No.9, pp.134-154, 2024
Print ISSN: 2054-6297(Print)
Online ISSN: 2054-6300 (Online)
Website: https://www.eajournals.org/
Publication of the European Centre for Research Training and Development-UK

Investigating the Awareness and Adoption of ChatGPT as a Learning Tool among Undergraduates in Lagos State Nigeria

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doi: *https://doi.org/10.37745/ijeld.2013/vol12n9134154* Published December 15, 2024

Citation: Ezurike N. and Akinsulire T. (2024) Investigating the Awareness and Adoption of ChatGPT as a Learning Tool among Undergraduates in Lagos State Nigeria, *International Journal of Education, Learning and Development*, Vol. 12, No.9, pp.134-154

Abstract: *In the field of education, Artificial Intelligence (AI) has already had a significant impact, particularly on administration, learning, and teaching. As an AI technology, ChatGPT plays a crucial role for students by enhancing their learning experience through various means. It supports students in understanding new concepts, completing assignments, and even providing virtual tutoring. This study investigated the awareness and adoption of ChatGPT among undergraduates in Lagos State Polytechnic. The study was anchored on the Technology Acceptance Model. The researcher adopted the descriptive survey research design, while the Taro Yamane formula was used to calculate a sample size of 390 respondents. Two sampling techniques were employed in this study. Firstly, the researcher utilized purposive sampling by selecting students specifically from the Department of Mass Communication and the Department of Office Technology. Also, convenience sampling was employed as the questionnaires were administered online via Google Forms and distributed through the students' departmental WhatsApp groups. Findings indicated a high level of awareness and adoption of ChatGPT as a learning tool among undergraduates at Lagos State Polytechnic. Furthermore, results also indicated a positive perception of ChatGPT amongst the respondents. Majority of the students disclosed that ChatGPT provides a personalized learning experience for them, assists with academic writing tasks and aids comprehension and retention of complex concepts. Based on the data elicited from respondents sampled in this study, the study concludes that undergraduates at Lagos State Polytechnic are aware of ChatGPT and actively adopt it as a learning tool.*

Keywords: artificial intelligence, ChatGPT, Lagos state polytechnic, undergraduates

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INTRODUCTION

Technological progress has always been a part of human history, with each new era bringing greater innovations than the last. The 21st century is no exception as this century has brought about major advancements in new technologies like Artificial Intelligence (AI), which, according to Bakare (2023), is a hallmark of the Fourth Industrial Revolution. In alignment with this assertion, Bozkurt (2023) notes that AI is quickly changing the human world at an unprecedented speed, especially in education, where it is reshaping teaching and learning.

Among digital technologies, Artificial Intelligence (AI) is particularly disruptive in fields such as medicine, science, health, aviation, and education. Often referred to as machine intelligence, AI involves developing computer programs to perform tasks that would typically require human intelligence (Bakare et al. 2023). Providing a definition of AI, Chaudhry and Kazim (2022) posits that AI is a computer system that can achieve a particular task through certain capabilities (like speech or vision) and intelligent behaviour that was once considered unique to humans. Expounding on the importance of AI in contemporary times, Bakare et al. (2023) connotes that AI is driving a shift aimed at promoting a synergy between technology and humans.

In the field of education, AI has already had a significant impact, particularly on administration, learning, and teaching (Nurtayeva et al., 2023). Universities are increasingly exploring how to use AI to support staff in their teaching and research activities, as well as to enhance the student experience (Zawacki-Richter et al., 2019). Commenting on the role of AI in the educational landscape, Chatterjee and Bhattacharjee (2020) notes that AI can help develop personalized teaching strategies tailored to meet each student's unique needs. Also, in congruence with this view, Fu et al. (2021) purports that the incorporation of artificial intelligence can provide insurmountable value in boosting students' learning motivation and academic success.

It is noteworthy to say that one transformative AI technology making waves in this present domain is ChatGPT (Generative Pre-trained Transformer), an advanced language model developed by OpenAI (Kangiwa & Abubakar, 2024). While tools like Grammarly, Quillbot, Google Lens, ProWriter, Article Rewriter, and other writing assistants were already popular among teachers and learners (Sánchez-Prieto et al., 2020), the arrival of ChatGPT in November 2022 introduced an unprecedented interactive model which is currently redefining the landscape of AI in education.
ChatGPT is an AI-powered chatbot which uses a substantial language model known as GPT-3 and GPT-4 to generate responses based on the prompt provider by the user (Opesemowo et al., 2024). As a type of AI that utilizes deep learning to process and generate natural language text, ChatGPT can engage in complex discussions, provide information on various subjects, and deliver precise answers to problems requiring advanced analysis, synthesis, and application of information

(Susnjak, 2022). A distinctive hallmark of ChatGPT is its ability to generate responses that closely mimic human conversation (Oladokun et al., 2024).

ChatGPT plays a crucial role for students by enhancing their learning experience through various means. It supports students in understanding new concepts, completing assignments, and even providing virtual tutoring (Mahmud et al., 2024; Chevose, 2023). By generating diverse problem-solving scenarios and delivering personalized instruction, ChatGPT promotes experiential learning (Rudolph et al., 2023). ChatGPT also aids in language learning, assists with writing tasks as a cognitive aid, and creates customized learning experiences that cater to individual student needs and learning styles (Heng, 2023; Kasneci et al., 2023). However, while ChatGPT offers these advantages, educators and students must ensure its responsible use to avoid over-reliance, which could potentially undermine active participation and critical thinking skills provided by traditional teaching methods (Oladokun et al., 2024).

Statement of Problem

The development of Artificial Intelligence which brought about the emergence of ChatGPT have revolutionized the education landscape by offering unprecedented opportunities for personalized learning experiences and enhanced educational outcomes (Oladokun et al., 2024). Despite the rapid integration of AI tools like ChatGPT into various educational settings worldwide, there remains a lack of comprehensive understanding regarding how these technologies are perceived and utilized by undergraduate students, particularly in Nigerian tertiary institutions. (Kangiwa & Abubakar, 2024).

While empirical studies such as Mahmud et al. (2024) and Heng (2023) have explored the awareness and adoption of generative AI in the educational domain across various countries, there is a notable gap in the literature specifically investigating the awareness and adoption of ChatGPT among undergraduates in Nigeria. Even the limited studies that have been conducted, such as those by Wagwu et al. (2023), Frank and Idowu (2024), and Oladokun et al. (2024), have primarily focused on universities. To the best of the researcher's knowledge, no study has yet examined the awareness and adoption of ChatGPT among polytechnic students. This study seeks to address this gap by investigating the awareness and adoption of ChatGPT as a learning tool among undergraduates at Lagos state polytechnic.

Research Objectives

The objective of this study is to investigate the awareness and adoption of ChatGPT among undergraduates in Lagos State University, Ojo. However, the specific objectives of this study are to:

- Discover the extent at which undergraduates in Lagos State Polytechnic are aware of ChatGPT as a learning tool.

- Assess how undergraduates in Lagos State Polytechnic perceive ChatGPT as a learning tool.
- Investigate the extent at which undergraduates in Lagos State Polytechnic adopt ChatGPT as a learning tool.
- Identify the factors responsible for the adoption of ChatGPT as a learning tool among undergraduates in Lagos State Polytechnic.

Research Questions

- To what extent are undergraduates at Lagos State Polytechnic aware of ChatGPT as a learning tool?
- How do undergraduates at Lagos State Polytechnic perceive ChatGPT as a learning tool?
- To what extent do undergraduates at Lagos State Polytechnic adopt ChatGPT as a learning tool?
- What are the factors responsible for the adoption of ChatGPT as a learning tool among undergraduates at Lagos State Polytechnic?

LITERATURE REVIEW

Generative Artificial Intelligence in Education

Since its emergence Generative Artificial Intelligence (GenAI) includes various AI techniques designed to create unique and human-like content in different formats, such as text, images, audio, and video (Cooper, 2023). Unlike traditional AI, which relies on pattern recognition or rules, GenAI tries to mimic human creativity (Yusuf et al., 2024). According to (Tlili et al., 2023), these systems use machine learning, especially deep learning and neural networks, to learn from large datasets. With extensive training, GenAI systems find patterns in the data and use probabilistic models to create new content that matches these patterns, making the outputs coherent and relevant (Tlili et al., 2023). This advanced AI technology can transform various fields, from creative content generation to natural language processing (Chan & Hu, 2023).

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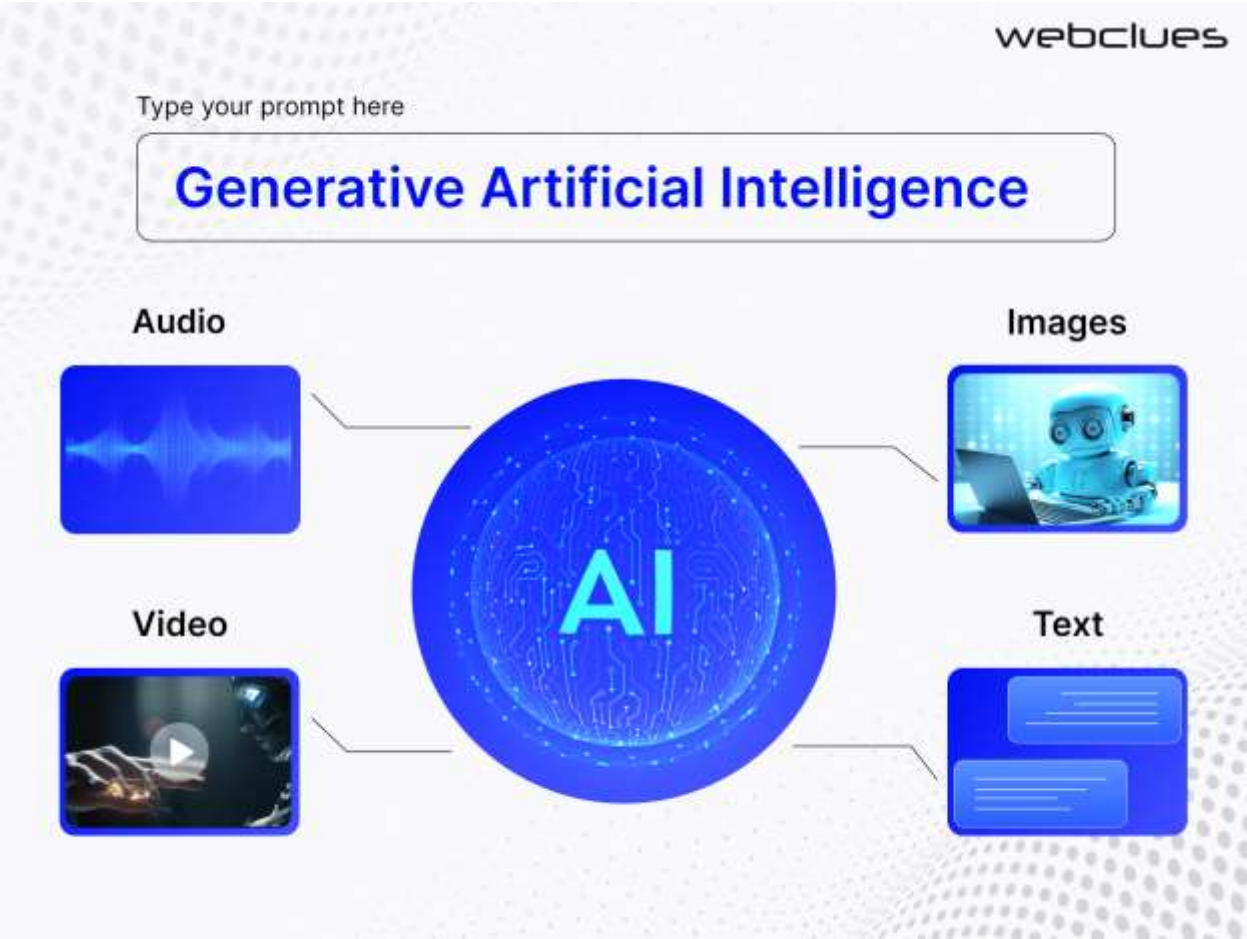

Figure 1: Dimensions of Generative Artificial Intelligence

Source: Webclues (n.d)

The ability of Gen AI to emulate human-like responses has enabled its integration into educational practices as it has provided unique opportunities for personalized learning experiences, content generation, and management (Liu et al., 2022). This perhaps accounts for the reason why educators worldwide have found these tools extremely valuable for generating lesson plans, conducting assessments, and grading students (Bakare et al., 2023). According to Mhlanga (2023), another cogent reason for the adoption of GenAI among educators is the necessity to thoroughly understand how these tools work. This understanding enables educators to point out the strengths and weaknesses of GenAI to students, who may have begun to see these tools as the ultimate authority on knowledge (Cooper, 2023). However, it appears that only lecturers in developed countries have publicly embraced the use of tools like Chat GPT and openly integrated them into

their official duties (Baidoo-Anu & Owusu-Ansah, 2023). In contrast, educators in Africa remain largely uncertain about the use of generative AI in education, often believing that it promotes intellectual laziness and encourages cheating (Bakare et al., 2023).

For students, GenAI is fast becoming a veritable instrument in their learning endeavours. According to Chan and Hu (2023), university students express a favourable attitude towards technologies like ChatGPT, appreciating their assistance in academic writing tasks. This sentiment is echoed by Malik et al. (2023), who asserts that GenAI can be of great value to students as it enhances creativity in writing and facilitates deeper comprehension and retention of complex concepts. However, skepticism has been met with concerns that over-reliance on these tools may promote intellectual laziness and encourage academic dishonesty (Oladokun et al., 2024). This apprehension is particularly pronounced among educators in regions such as Africa, where there is a prevailing belief that GenAI might undermine students' independent critical thinking and problem-solving skills (Bakare et al., 2023). Despite these challenges, the potential benefits of GenAI in providing personalized learning experiences and fostering collaborative creativity among students continue to drive its adoption in educational settings.

ChatGPT as a Learning Tool

ChatGPT is an artificial intelligence chatbot created by OpenAI in November 2022 (Mahmud et al., 2024). Since its launch, ChatGPT has rapidly gained popularity, amassing a user base of over 100 million globally, thus making it the platform with the highest adoption rate ever (Heng, 2023) Known for its ability to generate sophisticated text and engage users in meaningful conversations, ChatGPT is widely used for tasks ranging from coding and editing to assisting with academic writing (Owens, 2023).

ChatGPT is widely embraced by students who value its rapid and comprehensive assistance in various academic tasks (Oladokun et al., 2024). According to Heng (2023), the popularity of this technology stems from its ability to provide quick, thorough, and reliable support, making it an indispensable tool for enhancing learning efficiency and understanding. When utilized responsibly and judiciously, ChatGPT can profoundly influence the overall learning journey by complementing traditional teaching methods, which in turn enhances students' comprehension and engagement (Chevose, 2023).

In today's world, quick access to information is crucial for effective learning. ChatGPT is a powerful tool that helps students get instant answers and resources, making it easier to understand difficult subjects (Heng, 2023). This is because it not only provides explanations but also offers references and definitions, which helps students grasp complex ideas more deeply (Chevose, 2023). ChatGPT also supports personalized learning, recognizing that education works best when it's tailored to each student's needs (Owens, 2023). It adapts to different learning styles, offering customized resources and study materials, which boosts student engagement by addressing their

unique strengths and weaknesses (Mahmud et al. 2024). This flexibility makes learning more effective and keeps students motivated to succeed.

Furthermore, the consistent availability of ChatGPT removes the limits of traditional learning times, allowing students to get help anytime, whether they are studying at home or in other settings (Rudolph et al. 2023). This constant support helps maintain a flexible learning environment, which is essential in promoting continuous progress and better educational outcomes.

Commenting on the role of ChatGPT in aiding research endeavours of students, Kasneci et al. (2023) connotes that ChatGPT can significantly contribute to developing students' research skills by offering information, recommending resources, introducing new concepts, and exposing students to unfamiliar research areas. For educators, ChatGPT enhances teaching by helping educators explain difficult concepts and providing extra learning materials like quizzes and practice questions, making lessons more interactive and effective (Mahmud et al., 2024). Through the utilization of ChatGPT, teachers can create richer educational experiences that meet the diverse needs of all students, thus helping them succeed regardless of their learning styles.

Theoretical Framework

Technology Acceptance Model (TAM)

This study would be anchored on the Technology Acceptance Model (TAM), propounded by Fred Davis in 1989. According to Abubakar and Mohammed (2022), this model was proposed by Fred Davis in his PhD thesis at MIT Sloan School of Management, Massachusetts, United States of America to explain how users actually come to accept and use a technology due to its perceived usefulness.

TAM suggests that two primary factors influence an individual's decision to adopt a new technology which are perceived usefulness and perceived ease of use (Nordum et al., 2022). Perceived usefulness refers to the degree to which a person believes that using a particular system would enhance their job performance (Ezurike, 2023). Perceived ease of use, on the other hand, is the degree to which a person believes that using the system would be free from effort (Nordum et al., 2022). These two factors are critical in understanding the acceptance and usage of technology in various contexts.

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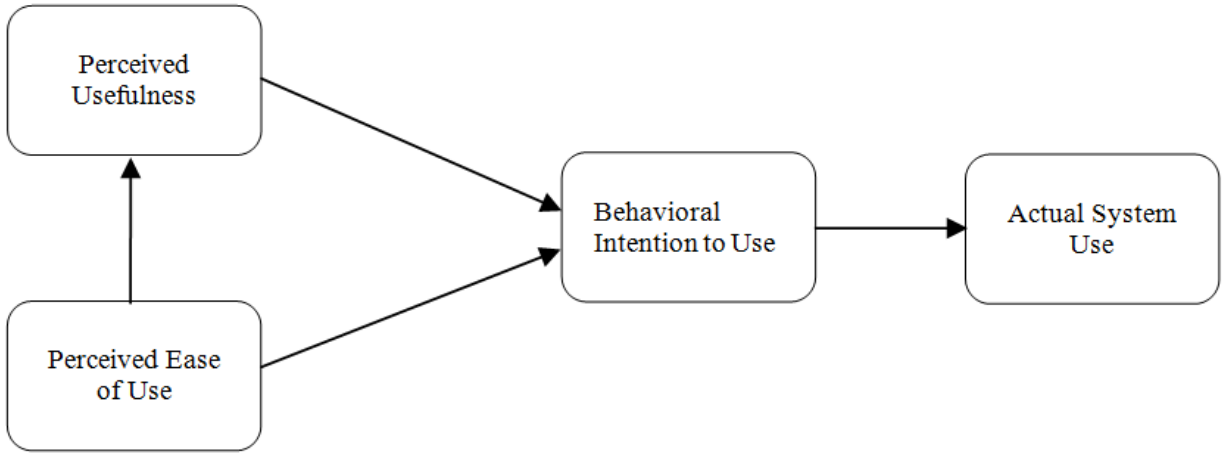

Figure 2: Technology Acceptance Model
Source: Abubakar and Mohammed (2022)

Perceived usefulness is a fundamental component of TAM, as it directly impacts users' attitudes toward technology adoption. If individuals believe that a new technology will improve their efficiency, productivity, or overall performance, they are more likely to embrace it (Abubakar & Mohammed, 2022). This concept is especially relevant in educational settings, where tools like ChatGPT can significantly enhance learning experiences by providing instant access to information and personalized support. When students perceive that using ChatGPT will help them achieve better academic outcomes, their acceptance and use of the technology increase.Perceived ease of use is equally important in determining technology acceptance. If a system is user-friendly and easy to navigate, users are more inclined to adopt it. In the context of ChatGPT, if users perceive it as a seamless and easy to navigate technology, it lowers the barriers to adoption and encourages more students and educators to integrate it into their learning and teaching processes. This theory is highly relevant to this as it provides a robust framework for understanding the factors that influence students' acceptance and use of ChatGPT. By focusing on perceived usefulness and perceived ease of use, the Technology Acceptance Model (TAM) helps to identify the key elements that drive students' willingness to adopt this innovative tool for their academic activities.

Review of Empirical Studies

Since the emergence of ChatGPT, a plethora of empirical studies have explored its impact and potential in various educational contexts. For instance, Oladokun et al. (2024) examined undergraduate students' attitudes and experiences regarding the use of ChatGPT as a reference services tool. The study population comprised of students enrolled at Ignatius Ajuru University of Education, Port Harcourt, Rivers State. The survey research method was employed in the study and questionnaires were administered to 103 undergraduates in the university. Findings from this study revealed that ChatGPT is gaining popularity globally and is being increasingly adopted by

students sampled for this study. Furthermore, the study revealed that while ChatGPT offers potential advantages, such as time-saving capabilities and a vast knowledge base, some limitations such as unreliable information, inability to understand emotions, and the currency of information are inherent in the system. Based on the findings, the researchers recommended the integration of AI technology and human-driven services in the academic realm.

Researching the Malaysian context, Hend (2023) investigated the factors influencing the adoption of ChatGPT amongst students in Universiti Tunku Abdul Rahman (UTAR). The study was underpinned on the Unified Theory of Acceptance and Use of Technology (UTAUT). Using the UTAUT model as a framework, the study explored performance expectancy, effort expectancy, social influence, perceived entertainment, perceived risk, adoption behaviour, and usage as response variables. The survey research methodology was adopted and questionnaires were prepared using Google Forms and distributed to 200 respondents who had used ChatGPT in their learning process. The collected data were decoded and analyzed using SmartPLS version 4 software. Findings from this study revealed that there is a significant relationship between performance expectancy and adoption behaviour, social influence and adoption behaviour, and adoption behaviour and usage. On the other hand, the results from this study showed that no significant relationship was found between effort expectancy and adoption behaviour, perceived risk and adoption behaviour, or perceived entertainment and adoption behaviour. Based on the findings, the researcher recommended that educational institutions should focus on enhancing students' performance expectancy and leverage social influence to promote the adoption of ChatGPT.

Opesemowo et al. (2024) aimed to examine lecturers' attitudes and perceptions regarding the potential of ChatGPT for instructional assessment. A correlational research design was employed, and purposive sampling was used to select 102 lecturers from Nigerian universities who had utilized ChatGPT for instructional assessment. Data were collected through an online structured questionnaire. Findings from this study revealed that lecturers had low attitudes and poor perception levels regarding the potential of ChatGPT. Based on the findings, the researchers recommended that training be provided to enhance lecturers' attitudes and perception levels to fully exploit the potential of ChatGPT for instructional assessment.

Kangiwa and Abubakar (2024) investigated the awareness and utilization of ChatGPT, among the academic staff of the Federal College of Education (Technical) Bichi, Kano State Nigeria. The researchers utilized a quantitative approach as it employed the survey research method, using questionnaires as the instrument of data collection. A total of 310 academic personnel served as the sample size for this study. The purposive sampling techniques was used to select respondents from the six schools (Science, Technical, Vocational, Business, Education, and Primary and Early Childhood Care) of the College. The findings revealed that majority of the respondents were aware of ChatGPT, while few of them used it frequently. Findings from the study also revealed that

factors such as familiarity with AI technologies, training opportunities, and perceived benefits played pivotal roles in influencing the adoption rate. The study also revealed that challenges such as technological infrastructure, concerns about AI's impact on traditional teaching methods, and the need for tailored professional development were identified as barriers to wider integration. Based on the findings, the researchers recommended the development of targeted training programs, fostering collaboration between AI specialists and educators, and creating a conducive environment for technological innovation among the Federal Colleges of Education in Nigeria.

Investigating the Kenyan context, Chevose (2023) explored the adoption and usage patterns of ChatGPT within the Faculty of Education at the University of Nairobi, focusing on the factors motivating students to integrate ChatGPT, the complex usage patterns among students, and faculty members' perspectives on its incorporation into educational approaches. The study was anchored on the Diffusion of Innovation Theory and Technological Adoption Theory. The researcher employed a mixed-method approach involving surveys, interviews, and focus group discussions. Findings from this study a significant adoption rate of ChatGPT among undergraduates, postgraduates, and faculty members. The findings indicated that ChatGPT plays various roles in academia, such as; information retrieval, research facilitation, and problem-solving. The study recommended the advocation for a comprehensive adoption approach and strategic investment in faculty training to ensure full actualization of the benefits of ChatGPT.

Frank and Idowu (2024) explored the awareness, knowledge, and perception of Chat-GPTamong undergraduate students at Nnamdi Azikiwe University, Awka, Anambra State. The study was grounded in the Technology Acceptance Model (TAM) and Uses and Gratification Theory, the research employed a cross-sectional survey design with a structured questionnaire, involving 370 students determined through Krejcie & Morgan's formula and selected via multi-stage sampling. The results indicated a high level of awareness and knowledge, with 92% of students understanding Chat-GPT’s functionalities and widespread adoption for academic and research tasks. Despite positive perceptions of Chat-GPT’s potential, students highlighted challenges such as plagiarism and reduced critical thinking skills. The study recommends educational campaigns to enhance awareness, the development of clear ethical guidelines for AI integration in education, and addressing challenges through open dialogues between AI developers, students, educators, and the broader academic community.

METHODOLOGY

In this study, the researcher utilized a descriptive survey research design to achieve the research objectives. The population comprised undergraduates from Lagos State Polytechnic (LASPOTECH), which currently operates on three campuses: Isolo, Surulere, and Ikorodu. Although the institution has transitioned to Lagos State University of Technology (LASUSTECH), a significant portion of the students remains enrolled under the polytechnic system. For this study,

the Isolo campus was specifically selected due to its higher concentration of LASPOTECH students compared to the other campuses, where both polytechnic and university students are present. Data from the academic planning unit revealed that the population of LASPOTECH students is estimated to be 15,000. Based on this, the researcher used the Taro Yamane formula to determine the sample size. Operating at a confidence level of 95% and a 5% margin of error, the Taro Yamane formula was used to arrive at a sample size of 390 respondents.

Two sampling techniques were employed in this study. Firstly, the researcher utilized purposive sampling by selecting students specifically from the Department of Mass Communication and the Department of Office Technology. The rationale behind the selection of these departments was based on the researcher's established contact with personnel within these departments, which facilitated easy and seamless data collection. This network allowed for more efficient communication and coordination, ensuring a smooth distribution and higher response rates of the questionnaires. Also, convenience sampling was employed as the questionnaires were administered online via Google Forms and distributed through the students' departmental WhatsApp groups. This method allowed for the rapid and convenient collection of data from a readily accessible group of respondents.

Furthermore, ethical considerations were strictly adhered to throughout the study. The researcher, with the aid of lecturers in the selected departments, addressed the respondents to assure them of the confidentiality and anonymity of their responses. They were also informed that their participation was entirely voluntary in order to ensure that the students felt comfortable and secure in providing their honest opinions.

RESULTS

The following analysis is derived from data gathered through an online survey conducted among undergraduates at Lagos State Polytechnic. Out of a sample size of 390 respondents, the researcher was able to obtain a total of 375 responses.

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Table 1: To what extent are undergraduates at Lagos State Polytechnic aware of ChatGPT as a learning tool?

Items	Responses	Frequency	Percentage (%)
Have you heard about ChatGPT as a tool for learning?	Yes	309	82.4%
	No	66	17.6%
	Total	**375**	**100%**
I have seen or read about the use of ChatGPT by other students or in educational materials.	Strongly Agree	118	31.5%
	Agree	185	49.3%
	Neutral	47	12.5%
	Disagree	20	5.3%
	Strongly Disagree	5	1.3%
	Total	**375**	**100%**
I know where to access and use ChatGPT for my learning needs.	Strongly Agree	101	26.9%
	Agree	166	44.3%
	Neutral	53	14.1%
	Disagree	46	12.3%
	Strongly Disagree	9	2.4%
	Total	**375**	**100%**
I am aware of the potential benefits of using ChatGPT as a learning tool.	Strongly Agree	116	30.9%
	Agree	193	51.5%
	Neutral	30	8%
	Disagree	31	8.3%
	Strongly Disagree	5	1.3%
	Total	**375**	**100%**

Source: Survey, 2024

The data in table 1 indicated a high level of awareness of ChatGPT as a learning tool among undergraduates at Lagos State Polytechnic, with the vast majority having heard about it and many familiar with its use by peers or in educational materials. The table also revealed that a significant portion of the respondents not only know where to access ChatGPT for their learning needs. Furthermore, it was discovered that majority of the respondents sampled for this study recognize the potential benefits of Chat GPT as a learning tool.

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Table 2: How do undergraduates at Lagos State Polytechnic perceive ChatGPT as a learning tool?

Items	Responses	Frequency	Percentage (%)
ChatGPT provides a personalized learning experience that caters to my individual needs.	Strongly Agree	101	26.9%
	Agree	194	51.7%
	Neutral	65	17.3%
	Disagree	9	2.4%
	Strongly Disagree	6	1.6%
	Total	**375**	**100%**
ChatGPT is helpful in assisting me with academic writing tasks.	Strongly Agree	114	30.4%
	Agree	187	49.9%
	Neutral	53	14.1%
	Disagree	18	4.8%
	Strongly Disagree	3	0.8%
	Total	**375**	**100%**
Using ChatGPT helps me gain a deeper comprehension and retention of complex concepts.	Strongly Agree	96	25.6%
	Agree	198	52.8%
	Neutral	56	14.9%
	Disagree	19	5.1%
	Strongly Disagree	6	1.6%
	Total	**375**	**100%**
ChatGPT offers a flexible learning environment that fits my schedule.	Strongly Agree	86	22.9%
	Agree	193	51.5%
	Neutral	63	16.8%
	Disagree	28	7.5%
	Strongly Disagree	5	1.3%
	Total	**375**	**100%**

Source: Survey, 2024

The data in Table 2 reflects a positive perception of ChatGPT as a learning tool among undergraduates at Lagos State Polytechnic. The data from table two revealed that a majority of respondents believe that ChatGPT provides a personalized learning experience that caters to their learning needs. Also, a large portion of respondents sampled for this study disclosed that ChatGPT assists them with academic writing tasks. Many students also disclosed that ChatGPT aids in their comprehension and retention of complex concepts. Furthermore, a large number of students affirmed that ChatGPT offers a flexible learning environment that fits their schedules. These

perceptions suggest that ChatGPT is well-regarded as a valuable educational resource among respondents sampled in this study.

Table 3: To what extent do undergraduates at Lagos State Polytechnic adopt ChatGPT as a learning tool?

Items	Responses	Frequency	Percentage (%)
I use ChatGPT regularly to assist with my studies.	Strongly Agree	72	19.2%
	Agree	163	43.5%
	Neutral	81	21.6%
	Disagree	51	13.6%
	Strongly Disagree	8	2.1%
	Total	**375**	**100%**
To what extent do you incorporate ChatGPT into your daily learning routine.	Very Large Extent	47	12.5%
	Large Extent	94	25.1%
	Moderate Extent	180	48%
	No Extent	54	14.4%
	Total	**375**	**100%**
ChatGPT is one of the primary tools I use for academic research and assignments.	Strongly Agree	73	19.5%
	Agree	192	51.2%
	Neutral	72	19.2%
	Disagree	30	8%
	Strongly Disagree	8	2.1%
	Total	**375**	**100%**
I use ChatGPT to help me understand difficult subjects.	Strongly Agree	87	23.2%
	Agree	194	51.7%
	Neutral	54	14.4%
	Disagree	29	7.7%
	Strongly Disagree	11	2.9%
	Total	**375**	**100%**

Source: Survey, 2024

The data in table 3 revealed that majority of students sampled for this study agreed that they regularly use ChatGPT to assist with their studies. A large number of students also opined that they incorporate ChatGPT into their daily learning routine to a moderate extent. From the table it was discovered that many respondents affirmed that they use ChatGPT for academic research and

assignments. It was also discovered that a large number of students sampled find ChatGPT helpful in understanding difficult subjects.

Table 4: What are the factors responsible for the adoption of ChatGPT as a learning tool among undergraduates at Lagos State Polytechnic?

Items	Responses	Frequency	Percentage (%)
Perceived usefulness is a significant factor in my adoption of ChatGPT as a learning tool.	Strongly Agree	74	19.7%
	Agree	210	56%
	Neutral	61	16.3%
	Disagree	26	6.9%
	Strongly Disagree	4	1.1%
	Total	**375**	**100%**
I use ChatGPT because it is easy to navigate and understand	Strongly Agree	97	25.9%
	Agree	202	53.9%
	Neutral	48	12.8%
	Disagree	20	5.3%
	Strongly Disagree	8	2.1%
	Total	**375**	**100%**
I use ChatGPT because it enhances my research skills and abilities	Strongly Agree	91	24.3%
	Agree	198	52.8%
	Neutral	61	16.3%
	Disagree	18	4.8%
	Strongly Disagree	7	1.8%
	Total	**375**	**100%**
The instant responses provided by ChatGPT are very helpful and influence my decision to use it.	Strongly Agree	101	26.9%
	Agree	198	52.8%
	Neutral	57	15.2%
	Disagree	15	4%
	Strongly Disagree	4	1.1%
	Total	**375**	**100%**

Source: Survey, 2024

The data in table 4 revealed that a large proportion of students sampled for this study attribute their adoption of ChatGPT to its perceived usefulness, ease of navigation, and ability to enhance their research skills. Results from table 4 also showed that the instant responses provided by ChatGPT also play a significant role in enhancing adoption among a large number of respondents sampled for this study.

International Journal of Education, Learning and Development
Vol. 12, No.9, pp.134-154, 2024
Print ISSN: 2054-6297(Print)
Online ISSN: 2054-6300 (Online)
Website: https://www.eajournals.org/
Publication of the European Centre for Research Training and Development-UK

DISCUSSION OF FINDINGS

Research Objective One: Discover the extent at which undergraduates in Lagos State Polytechnic are aware of ChatGPT as a learning tool

The first research objective in this study was to discover the extent at which undergraduates in Lagos State are aware of ChatGPT as a learning tool. Findings from this study revealed that there is a high level of awareness of ChatGPT as a learning tool among undergraduates at Lagos State Polytechnic. Results also showed that a significant portion of the respondents know where to access ChatGPT for their learning needs. Furthermore, findings revealed that a large number of students sampled for this study recognizes the potential benefits of Chat GPT as a learning tool. These findings are in consonance with the assertion of Chan and Hu (2023) who noted that university students are aware and express a favourable attitude towards technologies like ChatGPT due to its assistance academic writing tasks. The findings from this study also align with the empirical findings of Oladokun et al. (2024) who discovered that students in Nigerian tertiary institutions are becoming aware of ChatGPT as a learning tool.

Research Objective Two: **To assess how undergraduates in Lagos State Polytechnic perceive ChatGPT as a learning tool.**

The second research objective was hinged on assessing the perception of undergraduates in Lagos State Polytechnic on ChatGPT as a learning tool. Results showed that a large number of respondents believe that ChatGPT assists in academic writing and provides a personalized learning experience that caters to their learning needs. This finding is in congruence with the view expressed by Owens (2023) who suggested that ChatGPT aids students in academic writing, supports personalized learning and recognizes that education works best when it's tailored to each student's needs. The study's findings in line with this objective also revealed that ChatGPT aids comprehension and retention of complex concepts amongst undergraduates in Lagos State polytechnic. This revelation corroborates the view expressed by Malik et al. (2023), who asserts that GenAI such as ChatGPT can be of great value to students as it enhances creativity in writing and facilitates deeper comprehension and retention of complex concepts. The study also revealed a wide acknowledgement by respondents that ChatGPT offers a flexible learning environment that fits their schedules. This finding is in tandem with the position of Rudolph et al. (2023) who noted that ChatGPT removes the limits of traditional learning times by allowing students to get help anytime, whether they are studying at home or in other settings.

Research Objective Three: Investigate the extent at which undergraduates in Lagos State Polytechnic adopt ChatGPT as a learning tool

The third research objective was to investigate the extent of adoption of ChatGPT as a learning tool among undergraduates at Lagos State Polytechnic. The study revealed a widespread adoption of ChatGPT as a learning tool among respondents sampled in this study. Majority of students

sampled for this study agreed that they regularly use ChatGPT to assist with their studies. Results also showed that a large number of students incorporate ChatGPT into their daily learning routine to a moderate extent. Findings from the study also showed that many respondents use ChatGPT for academic research, assignments, and as a tool in understanding difficult subjects. The findings from this study aligns with the presupposition of Mahmud et al. (2024) who stressed that ChatGPT supports students in understanding new concepts, completing assignments, and even providing virtual tutoring. The findings are also in tandem with the scholarly postulations of Heng (2023) and Kasneci et al. (2023) who opined that students use ChatGPT for various reasons such as; language learning, writing tasks and as a cognitive aid.

Research Objective Four: Identify the factors responsible for the adoption of ChatGPT as a learning tool among undergraduates in Lagos State Polytechnic

The fourth research objective was aimed identifying the factors responsible for the adoption of ChatGPT as a learning tool among undergraduates in Lagos State Polytechnic. Findings in this regard revealed that majority of the students use ChatGPT as a result of its perceived usefulness. The results also showed that other factors such as ease of navigation, ability to enhance research skills and instantaneous responses are widely acknowledged as a contributing factor for the adoption of ChatGPT among undergraduates in Lagos State Polytechnic. These findings align with the view of Kasneci et al. (2023) who connotes that ChatGPT can significantly contribute to developing students' research skills by offering information, recommending resources, introducing new concepts, and exposing students to unfamiliar research areas. The findings are also in tandem with the perspective of Heng (2023) who disclosed that ChatGPT is a powerful tool that helps students get instant answers and resources, making it easier to understand difficult subjects. Furthermore, the findings are in congruence with the core tenets of the Technology Acceptance Model which suggests that perceived usefulness and perceived ease of use are significant affection responsible for the adoption of an innovation.

CONCLUSION

Based on the data elicited from respondents sampled in this study, the researcher concludes that undergraduates at Lagos State Polytechnic are aware of ChatGPT and actively adopt it as a learning tool.

Implications of the Study

The implications of this study are as follows:

For Students

- Students should integrate ChatGPT into their study routines to enhance their academic performance.

- Students should take advantage of ChatGPT's personalized learning features to tailor their educational experiences according to their individual learning styles.
- Students should utilize ChatGPT for flexible study aids by accessing the tool anytime they need assistance. This flexibility can help balance academic responsibilities with other personal and extracurricular activities.
- Students should be mindful of responsible use of ChatGPT, ensuring they use the tool ethically and maintain academic integrity while benefiting from its support in their learning activities.

For Educators

- Educators should consider integrating AI tools like ChatGPT into their teaching strategies to enhance the learning experience and support students in academic tasks.
- Educators should adopt more personalized teaching approaches by understanding how students use ChatGPT for tailored learning.
- Educators should promote digital literacy by teaching students how to use AI tools like ChatGPT responsibly and critically. This includes guiding students on how to evaluate the reliability of information and use AI ethically in their academic work.
- Educators should monitor the use of AI tools to ensure they are being used appropriately and to address any issues related to academic integrity.

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