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Undergraduate Students' Perceptions of Generative Artificial Intelligence on Writing Skills and Academic Integrity: A Study of Selected Tertiary institution in Osun State

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Abstract

Artificial Intelligence is revolutionising various industries, including education sector, by transforming the way students learn and engage with information in a tertiary institutions. This study examined undergraduate students' perceptions of generative Artificial Intelligence on writing skills and academic integrity: A Study of undergraduate students. The study adopted Technology Acceptance Model to justify the usefulness and ease of use of AI tools in academic learning. This study adopted survey method, undergraduate Students in Osun state as the study populationwith use of questionnaire as data collection instrument. 388 sample size was drawn using simple random probability sampling technique among students of Osun state University, Osun State.

The findings showed that 46.5% of respondents said AI moderately improves writing productivity, implying students might not entirely rely on AI; 44.0% of respondents especially utilise AI tools for assignments; 57.6% of respondents said they were just "a bit familiar" with the policies of the institution on artificial intelligence; and 40.3% of respondents regularly use them for academic writing. It was concluded that Osun State undergraduate students viewed generative artificial intelligence as a tool for improving creativity and writing abilities. However, concerns arise about its impact on academic integrity, such as potential plagiarism and the blurring of lines between original and copied work. The study recommended that tertiary institutions create guidelines for generative AI applications and incorporate them into the curriculum to teach students about ethical usage and avoid academic cheating.

Keywords: Undergraduate Students, Perceptions, Generative Artificial Intelligence, Writing Skills, Academic Integrity

Introduction

Artificial Intelligence (AI) is revolutionising the landscape of education, offering new opportunities to enhance teaching and learning processes across various subjects (Kehinde-Awoyele & Adeowu, 2024).Generative AI is a subset of artificial intelligence dedicated to developing systems that can gen-

erate human-like outputs across several mediums, including images, text, audio, and videos (Feuerriegel, et al 2024). Generative AI generates human-like content through artificial neural networks, natural language creation, and machine and deep learning (Anantrasirichai & Bull, 2022). Generative AI can be utilised across several domains, including creative design, entertainment content development, education, marketing, and others.

One notable application of generative AI is generative AI writing tools. Generative AI writing tools are software applications that utilise artificial intelligence to produce written text. Users input questions into these software systems, which subsequently generate many types of content, including essays, research articles, narratives, presentations, poems, translations, and technical documentation (Khalil, 2023).

Generative AI writing tools provide several services for university students that include translation, writing assistance, creating creative text, automated interaction, support for language learning, feedback about writing, and the automatic summarization of text (Huang, 2023; George, 2023; Fitria, 2023, Nikolopoulou, 2024). The provided services of generative AI writing tools might offer several benefits for students, e.g., enhancing learning experiences (Pesovski, et al 2024), customizing education to individual needs (Baidoo-Anu, 2023), fostering better collaboration and communication among students and between educators and students (Nikolopoulou, 2024), improving access and equity (Baidoo-Anu, 2023), increasing efficiency and productivity, supporting critical thinking and analysis (Yilmaz & Yilmaz, 2023, and boosting creativity and innovation (Dai, et al 2023).

Notwithstanding its potential, generative AI poses significant threats to students' academic integrity and performance. Concerns have been expressed over the inadequate examination of supplies. The reliance on generative AI technologies for writing sometimes goes unrecognised, especially in the contexts of pitching and integrating contemporary content. As students increasingly utilise generative AI technology, faculty members express concerns regarding the deterioration of students' cognitive abilities and research capabilities. Excessive dependence on generative AI engenders a financial and technological disparity among students due to educational expenses and the ongoing perception of digital literacy. The wide use of generative AI technologies has also raised trust concerns over possible bias and discriminatory names in the standards it follows since educational grading regulations remain unknown (Pellerin, M. Pellerin, M., & Ogandaga, M. Rethinking Academic Integrity and Plagiarism for a New AI Era.). There is also plausibility of copyright infringement. The possible unintentional inclusion of ideas from previous works undermines academic integrity as the

significance of on-point, practical, and ethical quote attribution fades. Just as significant as ethical article reception, master data truly supports socially relevant communication as scholars, practitioners, and citizens. Although students worry about price detection and think using free assets violates the underlying virtue, the gateway or strategy to cheat education or stay on the summer salary honeymoon remains unknown. It is against this background, this paper examines *undergraduate students' perceptions of generative* Artificial Intelligence *on writing skills and academic integrity:* A study of students of undergraduate students in Osun state.

Statement of the Problem

Since the introduction of information and communications technology (ICT) in education, academic misconduct has been an escalating issue. A deterioration in academic integrity was noted in the twenty-first century (Eckstein, 2003). Survey data from the Centre for Academic Integrity revealed that around 70 percent of undergraduate students engage in academic dishonesty during their college education (Centre for Academic Integrity, quoted in Melgoza and Smith, 2008, p. 209). Additional evidence indicates a prevalent culture of academic dishonesty among students in schools and universities globally (Chapman and Lupton, 2004; Lee and Wen, 2007; Gallant, 2008). Kellogg (2002) stated that nearly 90 percent of students indicate that their peers frequently or often engage in plagiarism, among all forms of academic dishonesty. Gallant (2008) asserted that the objective of academic integrity is to emphasise the expectation that truth, academic freedom, courage, quality, and the essence of open intellectual inquiry shall direct the academic endeavours of students and teachers.

Academic dishonesty is a significant concern for all constituents on college campuses. When students engage in plagiarism or cheating, they undermine their personal integrity and the institution's reputation. Significantly, computer technology, particularly the Internet, may impact the specific nature of plagiarism, such as the unauthorised replication of one or two sentences without proper attribution (McCabe et al., 2001).

Whitley (1998) reported that several factors influenced the likelihood students will engage in academically dishonest behavior. For example, age and self reported cheating behavior are negatively correlated, and when individuals reported higher competence in a particular task, they were less likely to cheat. A campus wide honor code also reduced the amount of cheating. It is on this regard, this paper examines *undergraduatestudents' perceptions of generative* Artificial Intelligence *on writing skills and academic integrity:* A study of students of undergraduate students in Osun state.

Objectives of the study

1. To examine undergraduate students' perceptions of the impact of generative artificial intelligence on their writing skills.
2. To examine the role of generative artificial intelligence in shaping undergraduate students' understanding and practice of academic integrity.
3. To assess the extent to which undergraduate students employ generative artificial intelligence tools for academic writing tasks.

Research Questions

1. What are the undergraduate students' perceptions of the impact of generative artificial intelligence on their writing skills?
2. What are the roles of generative artificial intelligence in shaping undergraduate students' understanding and practice of academic integrity?
3. To what extent undergraduate students employ generative artificial intelligence tools for academic writing tasks?

Literature Reviews

Generative AI /Chatbots

Generative AI (GenAI) is a fascinating area of Artificial Intelligence that focusses on developing models capable of producing new content, including images, text, and music, characterised by a degree of human-like creativity and diversity. GenAI's human-like outputs enable end-users to create content for instructional reasons as well (García-Peñalvo, 2023). Generative AI can produce course content and pedagogical strategies customised to learners' data and behavioural patterns, providing personalised learning experiences by adjusting course difficulty and content according to learners' progress and performance, thereby improving their effectiveness and efficiency in the learning process (Huang, 2021).

Chatbots are computer programs that use artificial intelligence (AI) and natural language processing (NLP) to interpret user questions and automate responses to them, simulating human conversation (Adamopoulou & Moussiades, 2020). Familiar home generative AI chatbots--that are not often recognized to be AI are Apple's Siri, Amazon's Alexa, and Google Assistant. Generative AI techniques are specifically designed to create completely new assets or drastically improve current ones.

Furthermore, Generative AI can offer educators efficient, accurate, and impartial assessment services by automating the grading of homework (González-Calatayud et al., 2021). Other studies have shown the potential of Generative AI to be employed as a feedback source in education (Banihashem et al., 2024; Steiss et al., 2024).

Artificial Intelligence/Generative AI in Learning

Artificial intelligence (AI) tools have been effectively utilised across different fields, with education emerging as one of the most recent applications (Lopez & Garcia, 2023). Diverse tools can facilitate education-specific activities and processes, including the automatic generating of questions, skill development trainers, and artistic output, among others.

Generative AI (GenAI) is a compelling domain of Artificial Intelligence (AI) dedicated to creating models that can generate original content, such as images, prose, and music, exhibiting a semblance of human-like creativity and diversity. GenAI's human-like outputs enable end users to generate content for educational and entertainment purposes. García-Peñalvo, (2023) by means of course content and instructional strategies tailored to learners' data and behavioural patterns, GenAI can provide personalised learning experiences by means of course difficulty and content adjustment, so improving their efficacy and efficiency in the learning process (Huang, 2021).

By means of automation of assignment grading, GenAI can also provide teachers with quick, accurate, objective assessment tools (González-Calatayud et al., 2021). Further studies have shown how Gen AI could be a feedback system in education (Banihashem et al., 2024; Steiss et al., 2024).

Supporters of GenAI commend its capacity to promote education through personalised and flexible environments, as well as its potential to boost information retention (Kadaruddin, 2023). However, there are worries over the ethical implications of GenAI, as well as potential adverse impacts on scientific integrity, evaluation methods, and the higher-order cognitive abilities of pupils (Farrokhnia et al., 2023). Educators and learners have frequently contested the validity and reliability of the generated materials (Wach et al., 2023). Both learners and educators possess limited understanding of how to assess the reliability of the information encountered during their training. Additionally, there are apprehensions regarding the deployment of GenAI in relation to ethical norms and behavioural regulations across various contexts (Jones & Wynn, 2023; Kurni et al., 2023). Furthermore, there is a scarcity of robust empirical evidence concerning whether GenAI enhances inspiration, augments creative thinking, or promotes collaboration (Putjorn & Putjorn, 2023), or alternatively, whether GenAI undermines students' critical thinking

and academic integrity (Farrokhnia et al., 2023).

The extent and methodology of GenAI's utilisation in educational contexts to enhance students' higher-order skills, including argumentation, critical thinking, and reasoningfundamental educational goals as noted by Valeroharo et al. (2022), Noroozi et al. (2012, 2018), and Bayat et al. (2022) remain ambiguous. The analysis of these discrepancies suggests that the integration of GenAI in education poses a complex challenge. The learning sciences community encounters significant challenges in comprehending how to optimally utilise GenAI to enhance students' educational outcomes and self-regulation of their learning processes.

Despite breakthroughs in the theory and concept of GenAI, the discipline lacks a unified perspective on the present developments in this transformative technology. The rapid advancement of GenAI in education and the swift proliferation of technologies such as ChatGPT, Gemini, and CoPilot offer numerous opportunities to enhance student learning through collaborative learning, computational thinking, educational psychology, and learning analytics. In light of these factors, it is essential to examine the optimal application of AI technologies in education to improve existing methodologies (Noroozi, et al, 2024).

Generative AI and Academic Integrity

Zawacki-Richter et al., (2019) Artificial Intelligence (AI) has gained significant attention in recent years, but it has been viewed as a potential threat to academic integrity by Higher Education Institutions (HEIs). This is due to the potential to exacerbate traditional forms of academic misconduct, such as plagiarism and plagiarism, and the credibility of AI-generated texts. The use of AI for text production assumes that the output is from a machine, algorithm, or software based on Large Language Models (LLMs), which can lead to academic misconduct. AI-generated texts require labeling, but the algorithms and LLMs are not transparent or comprehensible, making it difficult to verify(Yeo, 2023). This poses a challenge for educators and editors tasked with ensuring text quality and adherence to scientific ethical norms. Ethical concerns, such as inappropriate management of accountability, data privacy, and bias, also pose a threat to academic integrity(Lim et al., 2023).

Generative AI applications frequently operate as inaccessible "black boxes," with the datasets, text creation algorithms, and inherent biases within the texts staying concealed (UNESCO, 2023). This complicates the complete eradication of copyright infringements and plagiarism inside the academic sphere. Despite the sophistication of advanced generative AI applications

such as ChatGPT in producing credible academic essays, the risk of content derived from fabricated information persists (Alkaissi & McFarlane, 2023).

Consequently, AI's role in scientific writing is viewed with scepticism due to its potential to undermine academic integrity. Higher Education Institutions often follow established standards, sometimes utilising inconsistent logic: AI-generated texts can be evaluated for "plagiarism" (implying authorship), while simultaneously being classified as non-original (contradicting claims of individual authorship). Given the advantages and challenges associated with GenAI, it is essential to assess the scope and the individuals eligible to assert authorship and intellectual property rights over AI-generated texts, along with the implications this may have for the concept of academic integrity (Koppl & Groblinger, 2024).

Theoretical Framework

The Technology Acceptance Model (TAM)

Technology Acceptance Model, developed by Davis (1989), is one of the most influential research models in studies of the determinants of information systems and information technology acceptance to predict intention to use and acceptance of information systems and information technology by individuals (Shih-Chih, 2011). In the Technology Acceptance Model, there are two determinants including perceived ease of use and perceived usefulness. Perceived usefulness is the degree to which an individual believes that using a particular information system or information technology would enhance his or her job or life performance. Perceived ease of use is the degree to which a person believes that using a particular information system or information technology would be free of effort (Shih-Chih, 2011).

Theory of Mind (TAM) justify the usefulness and ease of use of AI tools. Students who believe AI can enhance their writing quality are more likely to adopt them. However, concerns about academic integrity, such as plagiarism and originality, may influence their perceptions. The ease of use dimension is crucial for understanding how students interact with AI tools. TAM also predicts students' attitudes and intentions towards AI, highlighting the importance of ethical considerations. Misuse of AI tools could undermine the originality of students' work.

Methodology

This study adopted survey method with use of structural questionnaire as data collection instrument. The study population were students of Osun state

University, Osogbo, Ejigbo, Okuku, Ifetedo, Ipetu-Ijesa and Ikire campuses with approximately 12,000 population according to university official portal (https://www.uniosun.edu.ng/).The sample size for this study was calculated in order to ascertain to a high degree that it is representative. The sample size was determined using Taro Yamane formulae with 0.05 margin error and it gives approximately 388.

This study adopted simple random probability sampling technique gives the entire population equal chance of being selected, 64 respondents were selected from Osun State University Osogbo, Ejigbo, Okuku, Ifetedo, Ipetu-Ijesa and Ikire campuses each the remaining 4 respondents were chosen using convenience technique.

Data Analysis

Table 1: Demographic Characteristics of Respondents

Opinion	Response	N	Percentage
Level	100 level	43	11.2
	200 level	78	20.0
	300 level	204	52.6
	400 level	40	10.3
	500 level	23	5.9
	Total	**388**	**100.0**
Gender	Female	237	61.1
	Male	151	38.9
	Total	**388**	**100.0**

Source: Filed survey, 2025

Table 1 shows that majority of respondents (n=204, 52.6%) were in 300 Level, while majority of the respondents (n=237, 61.1%) were female. This implies that majority of the respondents were between in 300 level and female.

Table 2: Distribution of respondents on the undergraduate students' perceptions of the impact of generative artificial intelligence on their writing skills

Opinion	Response	N	Percentage
Believe on generative AI improves writing skills	Strongly Agree	105	27.1
	Agree	234	60.4
	Neutral	39	10.1
	Strongly Disagree	03	0.7
	Disagree	07	1.7
	Total	**388**	**100.0**
How does generative AI influence your creativity in writing	Enhances creativity	314	80.9
	Limits creativity	62	16.0
	No significant impact	12	3.1
	Total	**388**	**100.0**
Generative AI helps you write more efficiently	Significantly	171	44.1
	Moderately	181	46.5
	Not really	36	9.4
	Total	**388**	100.0

Source: Filed survey, 2025

Table 2 shows that majority of respondents (n=234, 60.4%) agree generative AI improves writing skills and (n=314, 80.9%) believe generative AIenhances creativity,while majority of the respondents (n=181, 46.5%) believe generative AI helps to write more efficientmoderately. This implies that majority of the respondents agreed generative AI improves writing skills, generative AI enhances creativity, and generative AI moderately helps to writing efficiency.

Table 3: Distribution of respondents on the roles of generative artificial intelligence in shaping undergraduate students' understanding and practice of academic integrity

Options	Response	N	Percentage
Believe using generative AI for academic writing violates academic integrity	Yes	198	51.0
	No	154	39.6
	Unsure	36	9.4
	Total	**388**	**100.0**
How familiar are you with your institution's policies on using generative AI	Very familiar	116	29.9
	A bit familiar	224	57.6
	Not familiar at all	48	12.5
	Total	**388**	**100.0**
Generative AI creates a gap between original work and plagiarism	Yes	219	56.3
	No	92	23.6
	Maybe	78	20.1
	Total	**388**	100.0

Source: Filed survey, 2025

Table 3 shows that majority of respondents (n=198, 51.0%) Believe using generative AI for academic writing violates academic integrity and (n=224, 57.6%) were a bit familiarwith institution's policies on using generative AI,while majority of the respondents (n=219, 56.3%) Generative AI creates a gap between original work and plagiarism. This sum up that respondents believe using generative AI for academic writing violates academic integrity, respondents were a bit familiarwith institution's policies on using generative AI and generative AI creates a gap between original work and plagiarism.

Table 4: Distribution of respondents on extent undergraduate students employ generative artificial intelligence tools for academic writing tasks

Options	Response	N	Percentage
How often do you use generative AI tools for academic writing	Always	80	20.5
	Often	119	30.6
	Sometimes	156	40.3
	Rarely	31	8.0
	Never	3	0.7
	Total	**388**	**100.0**
Which academic writing tasks do you use generative AI	Brainstorming ideas	79	20.4
	Assignment	171	44.0
	Editing and proofreading	55	14.2
	Generating citations/ references	23	5.9
	Others	21	5.3
	All of the above	40	10.2
	Total	**388**	**100.0**
What motivates you to use generative AI for academic writing	Saves time	112	28.8
	Improves quality of work	210	54.2
	Lack of confidence in writing skills	34	8.7
	Peer influence	8	2.1
	Others	24	6.3
	Total	**388**	100.0

Source: Filed survey, 2025

Table 4 shows that majority of respondents (n=156, 40.3%) often use generative AI tools for academic writing and (n=171, 44.0%) use generative

AIin writing Assignmentwhile majority of the respondents (n=210, 54.2%) generative AI Improves quality of workfor academic writing. This sum up that respondents often use generative AI tools for academic writing, majority use generative AIin writing Assignment and generative AI Improves quality of workfor academic writing.

Discussion

According to the findings, generative artificial intelligence (AI) helps students in Osun State university write better and increase their creativity. Only 46.5% of respondents, however, say AI moderately improves writing productivity, implying students might not entirely rely on AI to simplify their writing processes this was in consonance with a study conducted by Chan and Hu (2023) it was discovered that students believed that generative AI technologies were useful in facilitating personalized learning, writing and brainstorming assistance, and research and analysis capabilities.While 56.3% of respondents say utilising AI for academic writing generates a gap between original work and plagiarism, a sizable fraction of respondents believe using AI for academic writing violates academic integrity, this finding negate with Putjorn & Putjorn, (2023) and Farrokhnia et al., (2023), stated there is a scarcity of robust empirical evidence concerning whether GenAI enhances inspiration, augments creative thinking, or promotes collaboration or alternatively, whether GenAI undermines students' critical thinking and academic integrity. The study also revealed that 57.6% of respondents said they were just "a bit familiar" with the policies of the institution on artificial intelligence, therefore suggesting a lack of clear knowledge or communication on appropriate use, this was in Gasaymeh, et al. (2024) findings, which stated students show a moderate familiarity with generative AI writing tools, indicating a foundational but with positive perception which underscores the importance of the continued integration, education, and refinement of AI tools in academic. According to the findings, 44.0% of respondents especially utilise AI tools for assignments; 40.3% of respondents regularly use them for academic writing. But depending so much on artificial intelligence begs issues regarding students' ability for autonomous writing and the possible long-term effects on the academic development, this finding was supported by study conducted by Sánchez (2023)which was stated that many of the participants reporting that they did not consider AI suitable for educational tasks.

Conclusion and Recommendations

In relation to the findings, Osun State university undergraduate students generally view generative Artificial Intelligence as a useful tool for improving their creativity and writing ability. Its effect on academic integrity, however, raises questions since many students see the possibility for plagiarism and the blurring of lines separating original work from copy. Although generative artificial intelligence is being applied more and more for academic writing projects, institutional direction and more awareness are needed to guarantee its ethical and successful use. It is recommends that tertiary education should create and share explicit guidelines on the application of generative artificial intelligence in scholarly activities. Generative AI technologies can be included into the curriculum to teach students how to utilise them ethically and successfully, therefore helping them to grasp the limits between permissible support and academic dishonesty.

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