STUDENTS' PERCEPTION OF THE INTEGRATION OF AI-DRIVEN TOOLS INTO THE TEACHING AND LEARNING OF ENGLISH WRITING SKILLS AT THE UNIVERSITY OF NIGERIA, NSUKKA

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Abstract
In today's fast-evolving digital landscape, the teaching and learning of English writing skills, just like other areas, face both challenges and opportunities. Traditional methods often struggle to keep pace with the diverse needs of learners, creating gaps in accessibility, engagement and feedback. However, cutting-edge technology and innovation such as AI-driven tools are said to offer transformative solutions to bridge these gaps and thereby, may reshape how students develop their writing proficiency. The study sought to explore the students' perception of the integration of AI-driven tools in the teaching and learning of English writing skills in tertiary institutions in Nigeria. Two research questions guided the study. Descriptive survey research design was used for this study. The population of this study comprised the entire English education undergraduate students of the University of Nigeria, Nsukka. The sample for this study was one hundred and two (102) undergraduate students selected randomly. Structured questionnaire which was validated by three experts was used as instrument for data collection. The instrument was administered by the researchers through Google form. Mean scores and standard deviation were used for data analysis. The findings showed that AI-driven tools improve students' grammar, vocabulary and coherence in writing. It was concluded that while AI-driven tools provide valuable assistance in teaching and learning of English writing skills, it is imperative to use them judiciously, ensuring that they complement rather than replace the fundamental processes of learning and writing. In line with the findings of the study, it was recommended that English Language Education experts should leverage the benefits of AI-driven tools such as giving individualized instruction and prompt feedback to augment traditional approach to enhance the teaching and learning of English writing skills.

Key Words: English language writing skill, AI-driven tools, teaching and learning

Introduction
English writing skills play a crucial role in overall language proficiency and literacy development. Writing is not only a means of communication but also a tool for critical thinking, self-expression, and academic success. Strong writing skills enhance vocabulary, grammar and comprehension, contributing to better reading and speaking abilities. Additionally, in a globalized world where digital communication is dominant, proficiency in writing is essential for professional and personal growth. By mastering writing skills, individuals can effectively articulate ideas, engage in academic discourse, and participate in a knowledge-driven society. The essence of integration of AI into educational practices is to transform traditional learning methods in a fast-changing world. As regards writing, AI-driven tools are known for offering personalized feedback, error correction, and stylistic suggestions, thereby facilitating the development of writing skills. This article provides an empirical analysis of tertiary students' view on the AI-driven tools, their benefits and possible disadvantages for their use in teaching and learning of English writing skills.

English language enables unity in communication among people of diverse ethnic groups, nationalities and regions. English is an important language for staying connected and informed in today's digital age (Dutta, 2019). This harmony is serviced by the teaching and learning of the different skills of the language including writing skills which enables individuals to adapt, grow, connect to and collaborate with others while overcoming cultural barriers and boundaries. Writing proficiently in English language is particularly needed for self-expression and empowerment across the globe.Writing is an important aspect of language development. Writing is a medium of human communication that represents language and emotion with signs and symbols (Fareed, Ashraf & Bilal, 2016). It is crucial for conveying beliefs, opinions, and attitudes. For language learners, writing allows them to use the language creatively and extend what they have already learned (ELbashir, 2023). In addition, Vacalares, Clarin, Lapid, Malaki, Plaza and Barcena (2023) described writing as a productive skill that enables writers to articulate their original viewpoints and ideas through written forms. The above definitions show that writing is a symbol of speech and an important aspect of language development that allows one to communicate creatively.

Writing is a skill that must be taught effectively by a teacher. Mupa and Chinooneka (2015) stated that effective teachers are knowledgeable about the content, communicate well, prepare and manage instruction, promote learning, monitor students' understanding and help students grow so they can learn independently. The implication is that learning may not take place if these characteristics are not sufficiently exhibited during instruction, leaving the learners to struggle to master the content. In teaching and learning of writing skills, Moses and Mohamad (2019) noted some of the challenges that are faced by learners in developing good writing skills as lack of vocabulary, poor knowledge of tenses, winding constructions due to illogical thinking, wrong use of prepositions and poor spelling. Producing a good piece of work requires learners to be knowledgeable in many areas. Students must learn punctuation, grammar, vocabulary, spelling and sentence structure to write well (Vacalares et al, 2023). Poor spelling of words occurs probably because of lack of correspondence between the pronunciation and spelling of words coupled with the first language interference experienced by second language learners. Additionally, the right facilities for learning are not always made available for teaching and learning to thrive especially in developing countries like Nigeria. It is usual in public schools, especially tertiary institutions, to find that available facilities cannot support student enrolment, which results in having teachers manage large classes (Ajani & Akinyele, 2014). During writing instructions in such schools, the enabling environment and required attention per learner to achieve the desired writing goals are very poor, thereby frustrating the efforts of the teacher (Mupa & Chinooneka, 2015; Vacalares et al, 2023). Teachers lag in providing individualized support, track and monitor students' progress and provides feedback on assessments. The feedback particularly acts as an invaluable source of information, illuminating learners' strengths and weaknesses in writing, thereby facilitating their improvement. Apart from the much needed natural flow of interactions among learners, the teacher/lecturer and peers, the traditional methods of teaching, to say the least, often struggle to keep pace with the diverse needs of learners, creating gaps in accessibility of the teacher, engagement of learners and effectiveness of instructions (Wen & Walters, 2023). This is where the revitalizing role of technology comes into play.

In an era defined by rapid technological advancements and societal shifts, the need to bridge gaps of access to resources or opportunities, has never been more critical than now.

Innovation and cutting-edge technology serve as powerful tools in addressing disparities in learning, fostering inclusivity and tracking learners' progress. On the extreme, there are assistive technologies which can aid writers with physical and educational disabilities in both editing and revising their compositions (Peterson-Karlan, Hourcade & Parette, 2008). By embracing technology and innovation, teachers and learners can break down barriers, enhance efficiency and create a future where everyone has equal access to the benefits of modern progress. Sandolo (2010) observed that technology has affected both what is written and how it is written because it has made it easier to compose and revise. Blattner and Fiori (2017) posited that students need digital tools to learn, understand and express their thoughts in writing, as it aids them in reaching a wider audience. The use of a word processor for instance, makes writing an enjoyable task for most students. Without technological interventions, many students view writing as a long and tedious task when the only tools they have are paper and pencil. When using technology, it makes the students more engaged in their work because instead of doing the traditional edits and revisions, they can insert and delete with a press of a button. The advancement of computing and information processing techniques has sped up the progress and applications of artificial intelligence (AI), which aims to enable computers to perform tasks via simulating intelligent human behaviours, such as making inference, analysis and decision making (Duan, Edwards & Dwivedi, 2019; Topol, 2019). Artificial intelligence is the ability of a computer program to learn and think. Everything that involves a program doing something that people would typically think would require the intelligence of a human is considered artificial intelligence (Mitchell, 2019; Limna, Jakwatanatham, Siripipattanakul, Kaewpuang & Sriboonruang, 2022). While the traditional classroom education model continues to be one-size-fits-all, AI-driven learning systems are designed to maximize learning efficiency by giving students access to various learning materials and experiences based on their specific learning needs (Owoc, Sawicka & Weichbroth, 2019). To this, Hwang (2014) added that one of the crucial objectives of AI in education is the provision of personalized learning guidance or supports to individual students based on their learning status, preferences, or personal characteristics. Likewise, Hwang, Xie, Wah, and Gasevic (2020) asserted that AI application might play the role of a tutor who observes students' learning processes, analyze their learning performance and provide instant assistance to them based on their needs. AI is a developed intelligent tutoring system that enables students to learn, practice and interact with peers or teachers but also provides hints, guidance and support to individuals based on their status or needs.

The general idea of deploying AI-driven tools in the teaching and learning of writing skills is to facilitate scaffolding and feedback, according to learners' language proficiency and to allow the second language writer to negotiate meaning within their zone of proximal development. Vygotsky (1978) conceptualized Zone of Proximal development as a distance between the actual level of students' development and the potential level of development. Actual level of development is where a learner can solve the task without any assistance while a learner needs assistance and guidance to solve a task in the potential level of development. This "zone" is the area of exploration for which the learner is somewhat cognitively prepared, but requires help and social interaction using cultural tools to fully develop. Additionally, using AI-driven tools in the teaching and learning of writing skills could make learning engaging for all learners irrespective of differences in status, need and pace. Krashen's input hypothesis (1985) posited that language learners make progress in their knowledge of the language when they comprehend language input which is slightly above their current knowledge level. Students receive input from

AI-driven tools at an i+1 level, where i is learner's current stage of language learning and +1 is the next stage of language learning (Krashen, 1985). So, AI-driven tools provide insight into the learner's next stage of language learning because the generated ideas and revisions (inputs of AI-driven tools) address what the user/learner asked for or composed on their own.

There is a range of AI-driven tools that can help in developing writing skills. These computer programs and apps help learners to create legible text, organize their thoughts, make word choices, spell words correctly, and catch some of the errors they make while writing. Most of them offer several tools that help with writing, such as: dictation (speech-to-text), Text-to-speech (TTS) Typing echo, which uses TTS to read aloud as students type, providing immediate feedback; word prediction which predicts what learners are trying to type (even if it is misspelled) and lists suggested words; Spellcheck to suggest correct spelling even if students spell words phonetically (Peterson-Karlan, Hourcade & Parette, 2008; Bailey & Lee, 2020; Baidoo-Anu & Ansah, 2023). For this study, AI-driven tools that can perform most of the above listed functions such as ChatGPT and Grammarly are considered. ChatGPT is a generative language model, developed by OpenAI, which facilitates interactive writing assistance. Engagement with ChatGPT, where users modify AI-generated content, leads to improvements in lexical sophistication, syntactic complexity, and text cohesion and facilitates writing revisions (Baidoo-Anu & Ansah, 2023). ChatGPT was trained on a large corpus of text data and fine-tuned on a specific task of generating conversational responses, which allow it to generate human-like responses to user queries (Cotton, Cotton & Shipway, 2024). ChatGPT is a versatile AI language model capable of assisting in various tasks, including text generation, translation and data analysis.

On the other hand, Grammarly is an Automatic Writing Evaluation (AWE) program in second language (L2) writing which can assist both low and high-performing students with writing accuracy and save instructors valuable time. Grammarly is a widely recognized AI-driven writing assistant that reviews spelling, grammar and tone, while also identifying potential instances of plagiarism. It creates simple awareness of the location of mistakes which leads students to revise compositions for better writing outcomes (Bailey & Lee, 2020). While feedback from the teacher can be late or non-existent, the effectiveness of Grammarly lies in its ability to provide real-time feedback, aiding users in refining their writing skills. These AI-driven tools provide immediate feedback and suggestions, promoting active learning and self-correction among students as studies such as (Owoc, Sawicka & Weichbroth, 2019; Bailey & Lee, 2020; Hwang, Xie, Wah, & Gasevic, 2020; Baidoo-Anu & Ansah, 2023) reported. However, little is known about the possibility of their integration into the teaching and learning of writing skills in the context of Nigerian tertiary institutions. The problem of this study therefore, was students' perception of the integration of AI-driven tools in the teaching and learning of English writing skills in tertiary institutions in Nigeria.

Research Questions
The following questions guided the study:
1. What are benefits of the use of AI-driven tools in the teaching and learning of English writing skills in Nigerian tertiary institutions?
2. What are the disadvantages of the integration of AI-driven tools in the teaching and learning of English writing skills in Nigerian tertiary institutions?

Methods

The design of the study was descriptive survey research design. Descriptive survey entails gathering of information about prevailing conditions, situations, practices, beliefs, processes, relationships or trends for the purpose of description and interpretation (Salaria, 2012). The population of this study comprised the English Education undergraduate students of the Department of Arts Education at the University of Nigeria, Nsukka. The sample for this study was one hundred and two (102) undergraduate students who were randomly selected. The choice of English Education undergraduate students was informed by the fact that as education students, they have background knowledge of pedagogy. They have also been traditionally taught writing skills at earlier levels of education and they have access to and can appreciate the difference made by technology. The instrument for data collection was structured questionnaire titled Integration of Technology in the Teaching and Learning of English Writing Skills in Tertiary institutions (QITTLEWST). It has three (3) demographic information and (19) items Likert scale questionnaire of Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD). The instrument was validated by three experts. The internal consistency of 0.76 was obtained using Chronbach Alpha which according to Nworgu (2015), is adequate for the study. The questionnaire was administered by the researchers through Google form. Mean scores and standard deviation were used for data analysis. Decision points were based on real limit numbers which include: 3.50 - 4.00 translates to SA, 2.50 - 3.49 is for A, 1.50 - 3.49 for D while 0.50 - 1.49 is for SD.

Results

Research Question 1: What are the benefits of the use of AI-driven tools in the teaching and learning of English writing skills in Nigerian tertiary institutions?

Table 1: Benefits of the use of AI-Driven Tools in Teaching and Learning of English Writing Skills

S/N	Items	SD	$\bar{x}$	Decision
1.	AI-driven writing tools (e.g., Grammarly, ChatGPT) improve students' grammar, vocabulary and coherence in writing.	0.49	3.38	A
2.	AI- driven writing tools can enhance personalized learning and feedback for students.	0.60	3.33	A
3.	AI-driven writing tools help students overcome challenges of poor grammar and spelling.	0.60	3.36	A
4.	AI-driven writing tools help students overcome challenges of lack of coherence and organization.	0.67	3.15	A
5.	AI-driven writing tools help students overcome the challenge of limited vocabulary.	0.63	3.27	A
6.	AI-driven writing tools help students overcome the challenge of difficulty in self-editing and revision.	0.60	3.33	A
7.	AI-driven writing tools reduce students' dependency on lecturers for feedback on their writing?	0.66	3.24	A
8.	AI-driven writing tools encourages creativity in writing.	0.81	2.97	A
	Cluster Mean ($\bar{x}$)	**0.14**	**3.25**	**A**

Table 1 shows the responses of the respondents on the benefits of the use of AI-driven tools in English writing. All items unanimously agree that AI-driven tools are of immense benefit to the teaching and learning of English writing skills. The items yielded a grand mean of 3.52 which translates to Agree, that AI-driven tools are indeed beneficial in teaching and learning of writing skills. The table further shows that the standard deviations (SD) of all items are within the range of 0.49 to 0.81 and are positive and less than the normal deviates of 1.96, thereby indicating that respondents were not too far from the mean and from one another in their responses.

Research Question 2: What are the disadvantages of the integration of AI-driven tools in the teaching and learning of English writing skills in Nigerian tertiary institutions?

Table 2: Disadvantages of the use of AI-Driven Tools in Teaching and Learning of English Writing Skills

S/N	Items	SD	$\bar{x}$	Decision
9.	Do you think the integration of AI-driven writing tools in teaching English writing skills can lead to students' over-reliance on technology rather than improving their writing skills?	0.61	3.24	A
10.	AI-driven writing tools can reduce students' ability to think critically and independently when writing.	0.71	3.15	A
11.	The use of AI-driven writing tools increases plagiarism and academic dishonesty.	0.73	3.18	A
12.	The use of AI-driven writing tools brings about reduction in students' ability to edit and proofread manually.	0.63	3.09	A
13.	The use of AI-driven writing tools weakens creativity and originality in writing.	0.86	2.88	A
14.	Students are likely to misuse AI-driven writing tools to complete assignments and essays without engaging in real learning?	0.75	3.24	A
15.	AI-generated writing can negatively impact students' ability to develop strong research and analytical skills?	0.71	3.00	A
16.	Use of AI-driven writing tools poses difficulty in assessing students' true abilities.	0.75	3.06	A
17.	AI-driven writing tools adequately teach students the reasoning behind corrections, and not only provide quick fixes.	0.85	2.82	A
18.	AI-driven writing tools can reduce students' engagement with lecturers and peer feedback in improving their writing skills?	0.88	2.70	A
19.	Use of AI-driven writing tools in the long run may result to loss of confidence in personal writing ability of students.	0.79	3.06	A
	Cluster Mean ($\bar{x}$)	**0.18**	**3.04**	**A**

Table 2 shows the respondents' responses on the disadvantages of the use of AI-driven tools in teaching and learning of English writing skills. The results reveal that the mean scores of all the items are rated Agree which indicates that although the use of AI-driven tools may help students in developing English writing skills, it is potential for some disadvantages on the learners. Based on the analysis of the table, the cluster mean of 3.04 which is interpreted as High Extent buttresses this position. The table also shows that the standard deviations (SD) of all items are within the ranges from 0.61 to 0.88 and are positive and less than the normal deviates of 1.96, thereby showing that respondents were not too far from the mean and from one another in their responses.

Discussion

AI-driven tools are proven to be real edge-cutting technology and innovative way of supporting students in developing English writing skills. The use of AI-driven tools eases off the work load and almost impossible task of lecturers in reaching students individually as and when due. The results showed that AI-driven tools have the potentials of improving students' grammar, vocabulary and coherence in writing. They enhance personalized learning and prompt feedback for all students, help students overcome challenges of poor grammar, spelling, lack of coherence, limited vocabulary, difficulty in self-editing and even over dependence on lecturers for feedback on their writing. These results align with the findings of Strain-Moritz (2016) and Blattner and Fiori (2017) who noted that technologies have revolutionized the way students acquire various skills, including writing, that teachers find word processing among technologies helpful in correcting illegible handwriting and making learning more relevant to today's students. In the same vein, Nazari, Shabbir and Setiawan (2021) observed that AI tools can help students improve their English academic writing skills by providing formative feedback and assessment, promoting learning behaviour and increasing technology acceptance. The advent of technologies has enabled students to have access to vast resources than traditional classroom experience cannot afford. This has resulted in enhanced learning and has made the process of writing more engaging and interactive.

On the disadvantages of the use of AI-driven tools in teaching and learning of English writing skills, it is deducible that over dependence on AI-driven tools is bound to have harmful effect on the learner or learning in general. The result showed that such disadvantages as students' over-reliance on technology rather than improving their writing skills can reduce students' ability to think critically and independently, can increase plagiarism and academic dishonesty, reduce students' ability to edit and proofread manually, weaken creativity and originality in writing, make student to produce good writing without engage in real learning, pose difficulty in assessing students' true abilities and may in the long run, may result to loss of confidence in personal writing ability of students. These findings are in consonance with the worry expressed by Omar, Miah and Belmasrour (2014) and Blattner and Fiori (2017) that the prevalence of technology-based learning has resulted in an increased reliance on Internet applications to improve written output which takes away much of the learning process. Similarly, Iskender (2023) and Johinke, Cummings and DiLaurao (2023) reported from their findings that over-reliance on AI writing tools may diminish critical thinking skills and creativity. Overall, passive acceptance of AI-generated text without deliberate modification or personal inputs may result in decreased writing quality of individuals and rob learners of the knowledge they are expected to gain through the process.

Conclusion

AI-driven tools have made significant strides in supporting the development of English writing skills from error correction to content generation. By integrating AI-driven approaches into English writing instruction, lecturers can create dynamic, personalized and inclusive learning experiences that empower learners to communicate effectively in an increasingly interconnected world. While these technologies provide valuable assistance, it is imperative to use them judiciously, ensuring that they complement rather than replace the fundamental processes of learning and writing. For the fact that the research subjects (tertiary students) have been taught using only traditional approach at earlier levels, balancing learning with AI assistance with the traditional teaching methods at tertiary is crucial to ensure the holistic development of writing in a technology-driven world.

Recommendations

Based on the findings of this study, the following recommendations are made:

1. The Government and Administrators should make AI-driven tools available and accessible to Lecturers and Undergraduate students for the teaching and learning of English writing skills and other relevant contents at Nigerian tertiary institutions.

2. English Education Undergraduate students should be sensitized and encouraged by English Language Education experts and other education authorities, to utilize AI-driven tools especially in developing writing skills if need be as well as write on their own when necessary.

3. English Language Education experts should leverage the benefits of AI-driven tools such as giving individualized instruction and prompt feedback to augment traditional approach to enhance the teaching and learning of English writing skills.

4. English Language Education experts and parents should be encouraged to be more intentional in helping their students/wards to develop basic writing skills in primary and secondary levels of education since the use AI-driven tools best serves as embellishment and cannot fill the gap of wholesome language learning.

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