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PRACTICAL WAYS OF IMPROVING SECONDARY SCHOOL STUDENTS' ACHIEVEMENT IN COMPOSITION WRITING USING ARTIFICIAL INTELLIGENCE

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Abstract
This paper discussed practical ways in which artificial intelligence can be used to improve secondary school students' achievement in English composition. It reviewed the concept of artificial intelligence, the concept of composition writing, and artificial intelligence and English composition. The paper concluded that artificial intelligence is a veritable tool for enhancing secondary school students' English composition writing ability in the technology-driven world. Based on the conclusion, the paper made practical suggestions which include that: teachers of English should adopt innovative instructional packages like AI programmes to teach composition writing to students; curriculum designers should work in collaboration with English Language textbook writers to incorporate AI into the secondary school's composition writing programmes; school administrators such as the principals should encourage English Language teachers' application of AI packages in composition writing lessons; the Federal and State Ministries of Education should organise seminars and workshops for the retraining of English Language teachers in secondary schools on the use of artificial intelligence as instructional strategy; relevant stakeholders in education should see to the sufficient funding of secondary school education for technological advancement; Government should collaborate with telecommunication companies to provide high-speed internet to enable students utilize AI tools; and Government should make provision for adequate power supply in schools.

Keywords: *artificial intelligence, composition writing, achievement, secondary school students.*

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Introduction

Writing is an indispensable language skill that learners at all levels need to master for academic and career success. However, findings have revealed that students achieve poorly in composition writing. For example, Gobena and Bekele (2021) reported that many students cannot differentiate between topic sentence and supporting sentences or concluding sentence, they have no idea of ways to develop paragraphs, they cannot write well-punctuated sentences, their paragraphs lack unity and clarity, and their ideas are poorly organized. In addition, Patty (2024) highlights grammatical and mechanical mistakes, and cohesion and coherence in their writing. Thus, the poor performance of students in English could be connected to their inability to write effectively, which translates into their abysmal low performance in internal and external examinations.

According to WAEC Chief Examiner's report for 2023 the candidates had: poor expression as a result of lack of appropriate vocabulary to convey ideas, faulty analogy and concord, wrong use of tenses, poor use of conjunction, prepositions and articles; poor use of punctuation marks; spelling errors; poor paragraphing resulting in illogical and unbalanced presentation of ideas; inability to construct simple and meaningful sentences; poor knowledge of the basic rules of grammar and the rudiments of writing; poor organisation of thoughts; inability to construct simple and correct sentences;and use of text message abbreviation such as "u" for "you" and "d" for "the". Consequently, the West African School Certificate Examination (WASSCE) recorded 65% failure rate in 2019 and a paltry 48.61% pass rate in 2020, with the current report showing that a total of 503,275 candidates who sat for the exam failed English Language (Premium Times, 2019; Osayande, 2020; Omisakin, 2024).

After an investigation of the causes of students' poor achievement in writing, Muodumogu and Yisa (2013) identified teachers' usage of inappropriate teaching methods as a major factor, stating that appropriate English writing strategies are often overlooked. However, it is worthy of note that the efforts directed at improving students sentence construction in recent past years have not yielded the desired results as the problem has persisted. This calls for a better alternative solution to the prevailing problem of poor English composition writing of students. Can artificial intelligence help? This is the question addressed in this paper.

Concept of Artificial Intelligence

Artificial intelligence (AI) is a wide-ranging branch of computer science concerned with building smart machines capable of performing tasks that typically require human intelligence. While AI is an interdisciplinary science with multiple approaches, advancements in machine learning and deep learning, in particular, are creating a paradigm shift in virtually every industry. Artificial intelligence allows machines to model, or even improve upon, the capabilities of the human mind. Schroer (2024) defines artificial intelligence as computer systems that can perform tasks commonly associated with human cognitive functions — such as interpreting speech, playing games and identifying patterns. In the same vein, Coursera Incorporated (2023) defines artificial intelligence (AI) as computer systems capable of performing complex tasks that historically only a human could do, such as reasoning, making decisions, or solving problems. In this context, AI is seen an umbrella term that encompasses a wide variety of technologies, including machine learning, deep learning, and natural language processing (NLP).

Typically, AI systems learn how to do so by processing massive amounts of data and looking for patterns to model in their own decision-making. Schroer (2024) states that in many cases, humans will supervise an AI's learning process, reinforcing good decisions and discouraging bad ones; but that some AI systems are designed to learn without supervision; for instance, by playing a game over and over until they eventually figure out the rules and how to win.

Furthermore, artificial intelligence has been seen as the simulation of human intelligence processes by machines, especially computer systems (Laskowski & Tucci, 2024). In general, AI systems work by ingesting large amounts of labeled training data, analyzing the data for correlations and patterns, and using these patterns to make predictions about future states. In this way, a chatbot that is fed examples of text can

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learn to generate lifelike exchanges with people, or an image recognition tool can learn to identify and describe objects in images by reviewing millions of examples. New, rapidly improving generative AI techniques can create realistic text, images, music and other media.

AI is important for its potential to change how we live, work and play. It has been effectively used in business to automate tasks done by humans, including customer service work, lead generation, fraud detection and quality control. In a number of areas, AI can perform tasks much better than humans. Particularly when it comes to repetitive, detail-oriented tasks, such as analyzing large numbers of legal documents to ensure relevant fields are filled in properly, AI tools often complete jobs quickly and with relatively few errors. Because of the massive data sets, it can process, AI can also give enterprises insights into their operations they might not have been aware of. The rapidly expanding population of generative AI tools will be important in fields ranging from education and marketing to product design (Laskowski & Tucci, 2024).

It goes without saying that AI is rapidly evolving and has the potential to bring significant advancements to various industries. In the realm of education, AI holds great promise in transforming the learning experience for students. Shulman (2024) observes that AI has the potential to revolutionise the way students learn by providing personalised and interactive experiences. With AI tools, students can have their virtual tutors offering customised guidance and support. These tools can analyse students' strengths and weaknesses, adapt the learning materials accordingly, and provide targeted feedback to enhance their understanding of the subject matter. This personalized approach enhances student engagement, boosts motivation, and maximizes learning potential.

Guerra (2023) explains further that AI can provide intelligent tutoring systems that offer personalized guidance and support to students. These systems utilize natural language processing and machine learning algorithms to engage in real-time conversations with students, answering their questions, providing explanations, and offering targeted feedback. Guerra adds that intelligent tutoring systems empower students to seek assistance whenever needed, enhancing their understanding of complex concepts and promoting self-directed learning.

However, it cannot be glossed over that AI has some disadvantages despite its enormous benefits. One of the most significant concerns surrounding AI in education, Ugwu (2024) observes, is the potential loss of human connection. Traditional classrooms foster deep interpersonal relationships between students and teachers, providing emotional support and personalized guidance. On the other hand, AI-driven learning experiences lacks the empathetic and compassionate touch that human instructors offer, potentially affecting students' emotional well-being and engagement. Ugwu further notes that emotional intelligence plays a pivotal role in education, nurturing social skills, and empathy. However, AI lacks emotional intelligence and cannot fully comprehend and respond to students' emotions as human teachers can. This deficiency might hinder the development of students' emotional intelligence and interpersonal abilities.

According to Duggal (2024), AI requires a lot of time and resources and can cost a huge deal of money because it needs to operate on the latest hardware and software to stay updated and meet the latest requirements, thus making it quite costly. This implies that the use of advanced AI technologies in education may create a new digital divide. As not all students have access to these technologies, some may be disadvantaged. This could lead to a gap between those who are able to take advantage of the benefits of AI and those who are left behind.

Another big disadvantage of AI is its inability to think outside the box. Duggal (2024) notes that AI is capable of learning over time with pre-fed data and past experiences, but cannot be creative in its approach. Besides, while AI can enhance learning experiences, over reliance on technology may hinder students' critical thinking and problem-solving skills. Relying too heavily on AI-driven solutions might reduce students' ability to think creatively and independently. It is worthy of note that those who use electronic calculators as opposed to grandfathers who conducted calculations mentally experienced this (Ugwu, 2023). Worse still, an over-reliance on AI tools may lead to a decline in quality and richness of

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educational content, with the risk of perpetuating inaccuracies or biases present in the training data of the AI model (Open Learning, 2024).

Although AI has itsdisadvantages, the potentials can be maximised under adequate measures. To begin with, teachers' primary role should not be to attempt to predict the future and prepare students for a narrowly defined outcome but to prepare them for any and all possible futures. This preparation involves fostering a deep understanding of themselves and the world around them. AI and technology should be tools for enhancing this understanding, not a major focus of their education. Moreover, to navigate the challenges posed by AI in education, it is suggested that focus must remain on developing robust, flexible educational practices that can withstand the uncertainties of future technological developments (Lodge, 2024).

In addition, a thoughtful and strategic approach could be adopted to addressthe potential challenges of AI in education and maximise its benefits. To this end, Open Learning (2024) highlights some best practices to consider when integrating AI technologies into education to include clearly defining the objectives and expected outcomes, such as improving learner engagement or reducing time spent on course creation; selecting reputable AI technology providers or partners with a track record of success in education, who share your commitment to quality and ethical use; choosing AI tools that allow for human intervention and reviewing or refining generated content to fit the curriculum, teaching style, and learner needs; offering training sessions for educators to familiarise them with the AI tools and how to integrate them effectively, as ongoing support is essential to ensure educators can make use of AI's capabilities confidently; and addressing ethical concerns associated with AI use in education, which includes: establishing guidelines for responsible AI deployment, educating students about the ethical implications of AI and its impact on society, and encouraging critical thinking and discussions about responsible AI use, bias mitigation, and potential consequences.

Concept of Composition Writing

Over the years, scholars have made attempts to describe the nature of the writing process. Cer (2019) defines writing as a skill that generates the symbols and signs required to express emotions and thoughts. This implies that writing involves high-level processing, in which emotions and thoughts are transferred, revised, organized, and evaluated and the well-ordered performance of emotions, thoughts, views, and dreams in a dynamic and eye-catching way. Writing is also a means of communication between people who are separated by distance, as it provides a platform for them to share ideas about things that are of collective interest to them. Unlike while speaking, there are little chances of misunderstanding in this form of communication. This is because words are carefully selected and can be consciously edited by the sender to suit the receiver before the message is sent (Akoko, 2024). The act of writing itself can have knowledge-transforming effects, as it enables humans to externalize their thoughts in a form that can be more easily reflected upon and potentially reworked. While not all languages have writing systems, those that do can enhance the capabilities of spoken language by allowing the creation of durable, stored forms of communication.

The act of composing ideas associated with the nature of composition writing is what poses problems to students in a second language situation such as the English language in the Nigerian context. This is especially so that the process involves thinking to invent the ideas, thinking about how to express them into good writing, and arranging the ideas into statements and paragraphs clearly (Nunan in Sahardin, Hanum & Gani, 2017). Thus, Camps (2019) suggests that when writing is taught, the teacher should be conscious enough that students may engage in different steps from what they were taught; there are those commonly used, shared and prescribed. In other words, students may plan as part of their prewriting process by drawing upon images in the generation of ideas, despite being told to strictly follow certain steps, such as brainstorming and outlining.

Different authors have identified different types of composition with different numbers. For example, Ojo (2017) identify as many as seven which include narrative essay, descriptive essay,

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argumentative essay, cause and effect, classification, definitions, and comparison and contrast. However, WAEC (2018) puts the number covering a wide variety of writing skills at four which are narrative, descriptive, expository and argumentative. It is, indeed, these four that constitute the forms of composition in the secondary school syllable; they are the only ones taught and examined.

Narrative composition tells a story to make a point, and the narrator or writer presents the story as a connected sequence of events, usually in order of occurrence. Descriptive composition vividly presents the different attributes or characteristics of a particular person, object, place or event. It is a verbal portrait of a person, place or thing. Also called debate, argumentation is the type of composition in which an opinion is presented on a subject with a view to persuading the reader to agree with the writer's point of view. There is a topic of controversy and the writer takes sides. He supports one side of the argument and opposes the other. Lastly, exposition is from the word, "expose", which means to reveal or make known what was previously hidden or less known to the readers. It means expounding or explaining. That is because it mainly deals with processes and relationships; it explains how something is made, how it is used, and how it may change (Enighe, 2017;Anyebe, 2019; Predushchenko, 2020).

According to WAEC (2018), the merit of each of the four forms of composition is judged in terms of the writer's success in achieving the purpose, be it to entertain, instruct, admonish or persuade. The judgment is based, in varying degrees, on factors such as: adequacy of treatment of subject matter; originality of approach; appropriateness of language; clarity of exposition or narration or argument; balance; and mechanical accuracy.

The importance of writing to students cannot be overstated. It has been observed that if students cannot express themselves coherently in writing, they are most likely to be unable to communicate well with lecturers, employers, colleagues and the outside world. The reason is that professional communication is done in writing, including academic and business proposals, term papers, research reports and job applications (Akoko, 2014).Besides, writing serves as a means for recording ideas and experiences for future references. Science would not have existed if the researchers had not recorded each experiment in an equitable composed format. This is because scientific, logical and technological achievement cannot be verbally communicated; they must be presented in a composed format, such as in scientific journals, logical diaries and experimental and theoretical papers (Sharna, 2019). This justifies Gomwalk in Anyebe (2019) who asserts that writing is a powerful and indispensable tool for gathering, preserving and disseminating information across cultures and nations with accuracy and certainty, adding that the art is useful in refining and extending knowledge. It is indeed on the basis of this crucial relevance of the writing to education and society that this paper considers students' achievement in the skill of prime importance.

Artificial Intelligence and English Composition Instruction

The evolution and application of AI writing tools have marked a significant stride in the world of writing and literature. These advancements hold substantial potential in not only streamlining the writing process but also in improving the quality and efficiency of written output. It has been shown that AI writing tools can significantly enhance the efficiency and quality of writing tasks. AI-based tools, like GPT-3 and its successor GPT-4, have been leveraged to suggest the next word or paragraph in a text, aiding authors in creating human-like compositions. This process is facilitated by machine learning algorithms that predict text sequences based on the vast amount of data they have been trained on (Marzuki, Widiati, Rusdin Darwin & Indrawati, 2023).

Artificial intelligence is a useful system for developing students' ability in composition writing. According to Oktovan, Riyadi and Masriah, 2020), it aids students in translating their ideas into the structured form of an essay. This is because visual media serves as a learning medium with a profound impact on students' senses, aiding in their comprehension and memory retention of objects. Hence, students who combine visual and auditory learning typically demonstrate higher recall abilities compared to those who rely solely on auditory learning (Aripudin& Setyonegoro,

2020).

Furthermore, AI can help students quickly sort through large volumes of data to uncover relevant information, detect patterns, and generate meaningful insights. These interactive and fun learning experiences can provide students with an authentic and collaborative way to learn. AI can significantly impact students' educational journeys by increasing access to relevant courses, improving interaction with instructors, and assigning more time to concentrate on other aspects of their lives. Further, AI can be used to create personalized learning plans tailored to each student's individual needs. For example, AI-based adaptive learning systems can provide customized learning paths by adapting the difficulty level of the content and exercises to the individual's performance. Such personalized learning paths can enhance learning results, keeping users engaged and motivated. In addition, AI-powered technology can help educators, from grading assessments to delivering personalized guidance to students. Artificial Intelligence can also automate boring tasks such as grading assignments, allowing teachers to focus more on providing personalized feedback (Smith, 2023).

As in several other disciplines, AI is effective in the teaching and learning of English language and composition writing in particular. For the teaching of narrative composition, useful AI-powered storytelling tools include: StoryToolz, Narrative Science, Pixton, and StoryJumper. For the description instruction, the AI tools include: Describewriting, Writing Prompt Generator, WordHippo, and Visual Writing Prompt. The AI-driven tools that can used to enhance argumentative composition include: DebateArt, Arguman, ClaimFrame, and Critical Thinking Academy. And for exposition, some of the key AI-driven tools are: ProWrightAid, Grammerly, Hemingway Editor, and QuillBot. Other versatile AI tools for composition writing instruction are GenCraft and ChatGPT. While GenCraft excels more in narrative and descriptive compositions for generating creative plots and dialogues and for its ability to craft vivid descriptions and sensory details, ChatGPT is more relevant for argumentation and exposition for its ability to provide logical reasoning and evidence and its capacity to explain complex topics. Empirically, Pratama and Hastuti (2024) who examined the use of artificial intelligence to improve EFL students' writing skill have revealed that implementing Gencraft and ChatGPT media effectively enhanced students' writing skills.The effectiveness in the learning process was evident in the significant difference in the pre-test and post-test scores which showed that learning outcomes increased.

Conclusion

Composition writing has proven to be a hard nut to crack for students across all levels of education. This is because of the complex nature of the task as it involves a combined skill-set of ability to generate ideas, construct meaningful sentences, paragraph adequately, organize thoughts logically and punctuate sentences correctly. As difficult as the task is, however, it is not daunting in the face of innovative language instructional strategies like the use of artificial intelligence. Therefore, AI is considered in this paper as an intervention to the challenges of teaching and learning English composition in the contemporary Nigerian classroom.

Practical Suggestions

Based on the conclusion of this paper, the following are hereby suggested:

1. Teachers of English should adopt innovative instructional packages likeAI programmes to teach composition writing to students.
2. Curriculum designers should work in collaboration with English Language textbook writers to incorporate AI into the secondary school's composition writing programmes.
3. School administrators such as the principals should encourage English Language teachers' application of AI packages in composition writing lessons.
4. The Federal and State Ministries of Education should orgamise seminars and workshops for the retraining of English Language teachers on the use ofAI to improve students' composition writing achievement.
5. Government should ensure constant power supply to enable the use of technology-based instructional packages like TAI in schools.
6. Government should collaborate with

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telecommunication companies to provide high-speed internet to enable students utilize AI tools.

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