PROMOTING PEDAGOGICAL EXCELLENCE: THE GAINS OF ARTIFICIAL IN TELLIGENCE (AI) IN THE INSTRUCTION OF ENGLISH LANGUAGE IN NIGERI AN SECONDARY SCHOOLS.

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Abstract *T*
he integration of Artificial Intelligence (AI) into education has revolutionized traditional teachi ng methodologies, particularly in English language instruction at the secondary school level in Nigeria. This paper discusses the benefits of AI in promoting pedagogical excellence in English language education. AI-driven tools such as chatbots, virtual tutors, automated grading system s, and adaptive learning platforms enhance personalized instruction, improve student engagem ent, and optimize lesson delivery. These technologies enable teachers to assess students' profic iency levels, provide immediate feedback, and tailor learning materials to suit individual needs thereby fostering a more student-centered learning environment. Additionally, AI facilitates la nguage acquisition through speech recognition software, grammar correction applications, an d interactive simulations, which help students develop their listening, speaking, reading, and w riting skills. AI-powered analytics also assist educators in identifying learning gaps and predic ting student performance trends, allowing for data-driven decision-making and targeted interv entions. Moreover, AI reduces teachers' administrative workload, enabling them to focus on cr eative and interactive teaching strategies that enhance student comprehension and motivation. Despite these gains, this paper identifies challenges such as digital literacy gaps, infrastructur al limitations, and ethical concerns regarding AI dependency, which must be addressed to maxi mize its potential. This paper, therefore, recommends the need for professional development pr ograms that equip teachers with AI competencies to integrate technology effectively into Englis h language instruction. By leveraging AI, secondary school educators can enhance pedagogica l efficiency, foster critical thinking, and prepare students for a technologically driven global so ciety through artificial intelligence.

Keywords: *Artificial intelligence, Pedagogical excellence, English language, S econdary schools, personalized learning, Professional development.*

Introduction

Th
e Fourth Industrial Revolution (4IR), also known as Industry 4.0, represents the rapid technolog ical progress of the 21st century. This era is marked by increased connectivity, automation, soph isticated manufacturing techniques, and advancements in machine learning. These innovations have led to significant technological breakthroughs that necessitate societal adaptation to enhan

ce efficiency in various tasks (Chiu, Xia, and Chai 2023; Wang and Lin 2018). Recently, Artific ial Intelligence (AI) has become intricately woven into almost every aspect of human activity. AI-driven technologies are now widespread across multiple industries, including transportation healthcare, communication, science, education, finance, entertainment, retail, customer service and manufacturing, highlighting their vast potential to elevate human endeavour and enrich bot h personal and professional experiences. Artificial Intelligence (AI) technology is founde d on the concept of developing machines capable of executing tasks that typically necessitate h uman cognitive abilities. This is achieved by replicating human intelligence and learning from past mistakes. These machines possess the capacity to analyze, process, and leverage data, whic h allows them to incrementally improve their performance levels (Wei, 2023). Ultimately, this enables them to carry out these tasks with enhanced efficiency and precision.

In the last ten years, artificial intelligence has introduce d novel instructional and educational tools that are progressively being integrated into diverse e ducational contexts, including those focused on language education (Huang, Zou, Cheng, Chen, and Xie 2023; Jiang 2022). These cutting-edge educational resources, referred to as AI-p owered instruments, possess the potential to significantly transform the language learning exper ience, thereby presenting substantial opportunities for both educators and students in the linguis tic domain (Bakare and Jatto, 2023; Schmidt and Strasser, 2022; Xu, Dugdale, Wei, and Mi, 20 23). For example, as highlighted by Schmidt and Strasser (2022), AI-powered tools assist langu age instructors in continuously evaluating their students' development while acquiring a more c omprehensive understanding of their individual strengths and weaknesses. When language edu cators are cognizant of their students' abilities and areas for improvement, they can customize th eir teaching strategies to effectively address the academic needs and aspirations of their learners (Hong 2023; Huang, Hew, and Fryer 2022). Moreover, as stated by Bakare & Jatto (2023), tools driven by artificial intelligence offer language learners an extensive range of effective and conte mporary resources that enhance their educational results. The swift a dvancement of technology in transforming conventional approaches to language education (Qu reshi, Khaskheli, Qureshi, Raza, and Yousufi 2023). Notably, Artificial Intelligence (AI) has e merged as a significant force with profound effects on English Language Instruction (ELI) (Hua ng et al., 2023). AI technologies present a valuable opportunity to improve various facets of teac hing and learning, including personalized instruction, adaptive learning, and instant feedback (Kem, 2022). These capabilities facilitate a more c ustomized and responsive language learning experience, addressing the specific needs and pace of each learner. The incorporation of AI into ELI represents a fundamental shift in educational p ractices, paving the way for innovative methods that enhance personalization, efficiency, and ef fectiveness in education. AI can create tailored learning pathways, pinpoint areas needing impr ovement, and deliver focused practice to aid learners in mastering the language more proficientl y (Shadiev and Yang 2020). AI comprises technologies such as machine learning, natural langu age processing, and intelligent tutoring systems, which have the potential to transform English Language Instruction (ELI). These tools can analyze extensive datasets, recognize patterns, and adapt content for individual students. (Arthurs and Margaret 2019). AI platforms provide perso nalized learning experiences that align with students' proficiency levels, learning styles, and are as for improvement (Stracke, Tlili, Burgos, Mason, Denden, Altinay, and Nascimbeni 2022). T hrough the use of AI linguistic abilities, they devised targeted strategies to address specific lear ning gaps (Kim, Cha, and Kim 2019). Additionally, AI-powered chatbots and virtual tuto rs create interactive and engaging environments for students to enhance their language skills, pr omoting active participation and self-directed learning.

Literature Review

The incorporation of digital technologies and artificial intelligence (AI) in the realm of education has become a focal point of interest in recent years, especially concerning English Language Instruction (ELI). This paper examines the present landscape of English language instruction in Nigerian secondary schools, the function of digital tools within educational contexts, and the utilization of AI in the facilitation of language teaching and learning and the theoretical framework underpinning these innovations. One language that has stood the test of the unification of man over many years is the English language. The English language happens to be a global language that is spoken in all nations of the world. It is a widely used means of communication, either as the major language or as a means of official communication (second language) in others. Aside from being referred to as a language of global unification, the language has also enjoyed usage in business, education, interactional purposes, and so on (Akintunde and Angulu 2015).

The teaching of the English language in Nigeria encounters several obstacles, such as class sizes, limited resources, and a diverse linguistic landscape (Okebukola 2024 & Banjo 2017). Conventional pedagogical techniques, typically defined by rote learning and grammar-focused translation strategies, have demonstrated restricted efficacy in developing communicative competence and critical thinking abilities (Richards and Rodgers 2014). It is clear that there is a pressing need for innovative and contextually relevant teaching methods to effectively meet these challenges.

The integration of Artificial Intelligence (AI) into English Language Instruction (ELI) represents a significant transformation in educational methodology. This integration facilitates novel opportunities for innovation, thereby enhancing personalization, efficiency, and overall effectiveness of educational experiences. AI has the capacity to deliver tailored learning trajectories, pinpoint areas requiring enhancement, and furnish targeted practice, thereby assisting learners in achieving greater proficiency in the language (Shadiev et al., 2020). The domain of AI includes technologies such as machine learning, natural language processing, and intelligent tutoring systems (Kuddus, 2022), all of which possess the potential to fundamentally alter the landscape of English language instruction. Artificial Intelligence (AI) platforms facilitate customized learning experiences that correspond to students' proficiency levels, learning preferences, and areas requiring enhancement (Stracke, Griffiths, Pappa, and Becirovici 2025). By employing AI-driven language assessment instruments, educators can acquire in-depth insights into students' linguistic capabilities and formulate targeted interventions to address specific learning deficiencies. The integration of AI in English Language Instruction (ELI) has experienced substantial development characterized by significant milestones and challenges. Initially, the notion of integrating AI into educational frameworks was nascent. However, over time, it has matured into an essential element of contemporary pedagogical approaches. The emergence of AI-powered tools and platforms in ELI has fundamentally transformed traditional instructional methodologies (Debase 2024). Additionally, AI facilitates language acquisition through speech recognition software, grammar correction applications, and interactive simulations, which help students develop their listening, speaking, reading, and writing skills. AI-powered analytics also assist educators in identifying learning gaps and predicting student performance trends, allowing for data-driven decision-making and targeted interventions.

As Artificial Intelligence (AI) progressively transforms the realm of language education, it is crucial for educators and policymakers to grasp its historical background, ongoing developments, and the challenges faced in English Language Instruction (ELI). AI-driven adaptive learning systems have surfaced as groundbreaking resources designed to enrich the educational experience. These systems provide customized learning paths that cater to the specific needs and preferences of each student (Rane, Choudhary, and Rane 2023). The capabilities of adaptive learning systems are significant, as they can enhance language acquisition by offering personalized assistance and support the individual learner's ski

lls and educational journey (Geo 2023). Consequently, these systems signify a major leap forwa rd in (ELI) methodology, promoting increased engagement, motivation, and achievement amon g language learners. This underscores the transformative power of AI in redefining language ins truction and emphasizes the necessity for ongoing research and innovation in this area.

Obstacles and constraints of AI in teaching English in Nigerian secondary schools Techno logical Obstacles despite recent advancements, Internet connectivity continues to pose a signifi cant challenge, with many regions in the country experiencing low levels of access, particularly when comparing urban and rural areas. Additionally, the expensive nature of data and unreliabl e electricity engage with AI-driven educational platforms. The lack of sufficient technological resources like computers and stable Internet connections, in numerous Nigerian schools also ha mpers the incorporation of AI tools into educational environments (Ojo and Adeyemi 2018). T ackling these challenges is crucial for the successful deployment of AI in English Language Inst ruction (ELI) throughout Nigeria. **Training and Professional De velopment** There is a significant challenge regarding the necessity for training education in AI t ools and digital literacy. A considerable number of teachers in Nigeria do not possess the essent ial skills and knowledge to effectively integrate AI-driven resources into their instructional met hods (Ibrahim and Yusuf 2021). To fully leverage the advantage of AI in English Language Inst ruction (ELI). It is crucial for educators to engage in comprehensive training and professional d evelopment that emphasizes AI tools and digital pedagogy. This training should encompass pra ctical strategies for selecting and using AI-powered platforms, creating AI-enhanced lessons pl ans, and analyzing student data produced by AI systems. By equipping teachers with the necess ary digital skills, we can enhance their teaching effectively.

The influence of Artificial Intelligence (AI) on the English Language Instruction in Nigeri an Secondary Schools. Artificial intelligence has significantly transformed and facilitated the teaching of different aspects of the English language in secondary schools across Nigeria. Typically, challenging topics that could complicate the teaching process have been made more accessible through AI.

Vocabulary Development A I-enabled resources can create tailored learning experiences, making the process of acquiring v ocabulary both more enjoyable and efficient (Lai, 2018). Interactive AI tools, including chatbots and language learning applications, can elevate student enthusiasm and involvement i n vocabulary studies. AI has the capability to adjust vocabulary teaching methods to fit the uniq ue needs, skills, and learning preferences of each student, leading to improved educational outc omes. AI-based chatbots can facilitate conversational practice, providing students with contextual vocabulary learning opportunities. Platforms like Duolingo, Babbel, and Quizlet utilize AI to deliver personalized vocabulary lessons, interactive activities, and family experien ces. The DALL-E AI platform employs AI-generated visuals to support vocabulary learning, m aking the educational experience more engaging and visually stimulating. In summary, AI hold s the promise to transform vocabulary development in English language instruction for seconda ry schools, presenting numerous advantages and effective tools to enhance student learning. Th e integration of AI in English language instruction can greatly influence the teaching of register, presenting numerous advantages and opportunities for enhancement. Register denotes the varia tions in language utilized across different social contexts, encompassing formal, informal, tec hnical, or professional environments; educating students about register equips them with the sk ills to appropriately navigate language use in diverse situations. AI tools can deliver immediate, customized feedback (Chapelle 2003) regarding students' application of register, helping them in pinpointing areas that require attention. AI can assist educators in gathering authentic resourc es, such as videos, podcasts, and news articles, to exemplify various registers and expose learne

rs to real-world language applications. Artificial Intelligence (AI) powered tools can expose stu dents to informal language, provide access to formal language resources, and enhance creativity and self-expression. (Biber 2019).

Structure

A study conducted by Johnson (2019) highlights the profound influence of artificial intelligence on the teaching and learning of English, particularly regarding grammatical elemen ts such as pronouns, verbs, and clauses. The research indicates that AI-driven language models can process extensive text data to detect patterns in the application of grammatical components, offering both educators and learners valuable insights into their correct usage in various context s. For example, AI can facilitate the teaching of verb tenses by supplying examples and exercis es tailored to specific verb forms, including present, past, and future tenses, thereby aiding stud ents in grasping the subtleties of verb application and enhancing their proficiency in constructin g sentences accurately. Furthermore, AI can aid students in comprehending the structure and fu nction of diverse types of clauses, such as independent and dependent clauses, by providing rele vant examples and exercises that emphasize clause formation and application. An AI-powered l anguage model, for example, can generate sentences that illustrate different clause types, such as 'I went to the store because I needed milk,' thereby aiding students in understanding the funct ional roles of clauses within sentences and improving their capacity to construct complex sente nces. In addition, these AI models can evaluate a student's written work, identifying instances o f incorrect pronoun usage or inappropriate verb application. This capability enables educators t o deliver focused feedback and support, ultimately helping students in enhancing their language proficiency.

Speech

Research conducted by Lee (2021) highlights the considerable influence of artificial intelligenc e on English language education at the secondary school level, especially regarding pronunciati on and sound articulation. The findings indicate that AI-driven language models are capable of processing extensive audio datasets to uncover patterns and trends in sound usage and intonatio n. This capability offers educators and learners essential insights into the effective application o f these elements in various contexts. For instance, AI can facilitate pronunciation instruction by supplying targeted examples and exercises that emphasize particular sounds and intonation. An AI language model can produce audio samples of words and phrases that illustrate different sou nds and intonations, such as the "th" in "think" or the "r" in "red," aiding students in grasping th e subtleties of pronunciation and enhancing their ability to articulate these sounds accurately. A dditionally, AI can assist learners in comprehending the role of various sounds and intonations i n different scenarios, whether in spoken dialogue or written communication. For example, an A I model can create audio examples of sentences with varying sounds and intonations, like "I'm going to the stores" compared to "I am going to the store," illustrating how these variations can alter sentence meaning. Furthermore, AI can evaluate students' pronunciati on to pinpoint specific challenges they may face with certain sounds or intonation patterns. By a nalyzing a student's speech, an AI language model can detect mispronunciations or inappropria te intonations, enabling teachers to offer focused feedback and support to enhance students' pro nunciation abilities.

Conclusion

The paper titled "Promoting Pedagogical Excellence: The Gains of Artificial Intelligence (AI) in the Instruction of English Language in Nigerian Secondary Schools" investigates the potential adva

ntages of incorporating AI into the teaching and learning of English in Nigerian secondary educ ational institutions. The incorporation of AI into English language instruction has the capacity t o revolutionize language learning by improving language acquisition, comprehension, and flue ncy. AI-driven tools facilitate a personalized and student-centered educational approach, enabli ng learners to progress at their individual pace. Furthermore, the integration of AI in En glish language education can significantly enhance the support available to educators by equipp ing them with innovative pedagogical resources and tools. AI technology also has the potential t o increase accessibility and convenience for students engaging in language learning. The article emphasizes the necessity for pedagogical innovation within English language instruction and p roposes that the fusion of AI with forward-thinking pedagogical strategies could engender a tra nsformative learning experience.

Recommendations I
n order to optimally utilize the potential of Artificial Intelligence (AI) for enhancing pedagogica l excellence in English language teaching within secondary schools in Nigeria, a series of recom mendations are presented:

- A lasting effect of AI technologies, tailoring them to cater to the varied requirements of different student groups, should be considered.
- Equally, research could delve into the efficacy of AI-based learning resources across va rious educational environments, pinpointing optimal strategies for their deployment.
- Furthermore, investigation might consider novel methods for teacher training and profe ssional development, looking into ways to enhance support for education in integrating AI technologies.
- Lastly, it is crucial to pursue deeper exploration into the ethical aspects of AI in educatio n, especially regarding data privacy and security, to guarantee the responsible and sustai nable application of AI in English Language Instruction (ELI).

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