

AVAILABILITY OF ARTIFICIAL INTELLIGENCE DIGITAL TOOLS FOR THE TEACHING AND LEARNING OF THE ENGLISH LANGUAGE IN SELECTED SCHOOLS IN OGUN STATE

ALIUYETUNDE OLATOKUNBO Ph.D

Department of English, Federal College of Education,
Abeokuta Ogun State
yettycute24@yahoo.com07065879050

Abstract:

This paper examined the awareness and availability of Artificial Intelligence digital tools used for the teaching and learning of English Language in secondary schools in Odeda Local Government Ogun state, Nigeria. The study adopted a descriptive survey research design in which research questions were formulated. A descriptive survey design and a quantitative method were adopted for the study. A sample of 20 schools (primary and secondary) were randomly selected from the total population of 100 schools located in Odeda Local Government area, making one third of the entire population. A sample size of five (5) teachers each were randomly selected from the 20 schools. A total of population of one hundred (100) teachers were randomly selected as respondents for this study. The instrument for data collection was a structured questionnaire titled "Availability and Awareness of AI digital tools" (AADT). The questionnaire was administered to a sample size of one hundred (100) randomly selected English language teachers across 20 schools. The result revealed that English teachers in Odeda Local government are aware of the digital tools used in teaching and learning of the English Language such as computer, computer, internet facility, mobile phone, projector, tape recorder, photocopier, Laptop and the Language Laboratory however, the digital tools are not available for use. The result of the findings also revealed that the teachers in Odeda Local Government do not have access to the AI tools needed for the teaching and learning of the English language. Consequently, the study recommends among other things that the government should provide necessary AI digital tools that can facilitate the teaching and learning of English Language in secondary schools. The government should also incorporate the use of AI tools into the primary and secondary school curriculum.

Keywords: Artificial Intelligence (AI), Digital Tools, Teaching, Learning, Secondary Education and Secondary School

Introduction:

The world today, Artificial Intelligence (AI) has become popular in several fields especially in education. Its impact has also generated several debates especially concerning its use in the teaching and learning. The integration of AI in Language teaching through the use of Several AI powered tools has assisted learners in gaining knowledge and developing skills. However, despite the emerging popularity of the use of AI a globally digitalized world, and the incredible potentials presented by AI digital tools, some Nigerian schools do not have adequate access to these AI digital tools. They still depend on the old system of teaching which ultimately may have a negative effect on the learners in a digitalized world.

Literature Review

Over the years, AI tools have been quite useful in the teaching and learning of the English Language. It has been efficient in teaching the languages skills such as speaking, reading and writing skills. Liu & Hung (2016) discovered a significant improvement in learners' speaking skills specifically in pronunciation by reducing the flatness of pitch and into nation patterns as a result of the use of AI tools. Also, Dizon and Tang (2020) in the research discovered that AI improved learners' vocabulary Acquisition and promoted meaningful interactions through the

Use of Alexa, a personal voice assistant, there by improving learners' language skills and provided interesting, enjoyable learning. Digital tools used for improving speaking skills included using AI for speech recognition, adaptive learning, automatic speech analysis and voice assistance. Kazu and Kuvvetli (2023) in their study discovered that AI was useful in recording and reacting to learners pronouncing words, resulting in longer retention of the vocabulary and significant benefits in learning consonant and vowel sounds. In teaching writing skills AI has also proven useful in the aspect of grammar and vocabulary. The use of AI digital tools was proven useful in teaching writing skills. Previous researches (Lo2023; Dizon and Gayed 2021; Nazarietal. 2021; Chonet al. 2021) have contributed to literature on the use of AI in teaching writing skills. In their study, the neural machine translation programs resulted in learners' vocabulary improvement when specialized or unambiguous expressions were involved. The use of AI grammar checkers such as the AI-Powered tool "Grammarly" assisted tertiary learners in writing essays there by reducing grammatical errors compared with learners who did not use it. Other grammar checkers, writing assistants, translation tools and pattern checkers were used to support writing skills. Chonet al. (2021) revealed in his study with South Korean college learners that the use of machine translation as a reference tool for second-language (L2) writing. It was discovered that using Google Translate helped less-skilled learners to display a level of writing proficiency that was not significantly different from that of skilled learners. It also discovered that machine translation aided learners to produce essays with a greater number of lower-frequency, more complex words and higher- quality syntax. In teaching reading skills , AI tools was also useful in vocabulary development. Zenget al. (2015) discovered that AI tools such as games offered learners the opportunity to learn vocabulary learning in reading beyond what a textbook or classroom can provide, by contextualizing oftend econtextualised vocabulary. The game known as "World of Warcraft "uses AI to provide that context through the inclusion of AI characters (i.e . those not operated by a human) and path finding navigation algorithms that make the environment dynamic and engaging. Studies have also revealed the usefulness of AI in English teaching pedagogy. According to Leeetal. (2023) and Kim (2022), AI has provided a personalized learning approach. They reported that the AI-powered pedagogical approach fostered learners' self-autonomous learning experiences. Despite the various global impact of AI tools in teaching the English Language, it was also reported to have challenges such as technology breakdown, limited capabilities, fear and standardized languages and ideologies (Thompsonetal. 2018; Rowe 2022; Viktorivnaetal. 2022). However, the challenges and risks of AI systems in English Language Teaching (ELT) were not as well reported as its benefits in the research. The global expansion and use of AI in teaching the English Language has made it important for teachers to be aware of its use for the benefit of both teachers and learners. According to Crompton and Bruke (2022) English language learning is likely to be the most common discipline for AI use in education hence, this makes it imperative for English language teachers to be aware of the importance in adopting AI digital tools in teaching the English Language. According to Crompton and Bruke (2022) English language teacher education and training must include a focus on AI literacy. They observed that Teachers also need to develop their learners' AI literacy so that they can understand the limitations and risks of AI and discuss the ethical issues around its use. In the same way, Practitioners should care fully consider how models are chosen, as AI may carry messages about language use and exclude certain groups /varieties of English. An important benefit of AI is that it provides a conversational partner. AI also provides language practice outside class and it all eviate learner anxiety about speaking.

Availability of Artificial Intelligence Digital Tools

According to Onasanya, Ayelaagbe & Laleye, (2012), there has been a limited access to educational opportunities and resources in Nigeria. Other challenges faced in

teaching and learning are large class size, poor implementation of planned curriculum, inadequate funding, poor management, lack of interest in endeavor of learning, low number of qualified teachers and

Low literacy and basic education skills. However, this is not the same in many developed countries of the world. The inability to access digital tools has made teaching cumbersome and it has also led to the poor performance of students in examination. The quality of teaching delivery depends on the advancement and use of effective digital tools. In Nigeria, teachers believe that Artificial Intelligence will be a new driving force for the development of intelligent library and better ideas on information in order to meet up with the current global trends (Makanjuola-Agbola & Idakwoji, 2023). Despite the efforts made to incorporate AI into teaching and learning in Nigeria; its successful implementation depends on the awareness and attitude of the teachers towards its use. Teachers' awareness and perceptions of AI utilization have only been investigated by only few scholars. The lack of awareness on the use of AI digital tools reveals that teachers do not have the exposure and experience regarding the utilization of AI in the classroom. According to Adebayo (2023) in Nigeria, the government is making efforts to incorporate Information and Communication Technology into education, but the degree of adoption of AI in secondary schools is unknown. Nigeria is faced with challenges such as: limited internet connectivity, lack of modern educational facilities, and insufficient professional development opportunities for teachers. Kadiri (2012) stated that Digital tools play an increasingly remarkable role in the way secondary school students communicate, learn and live. Silvio (2023) asserted that artificial intelligence (AI) in education assists in personalizing instruction and expanding students' access to course materials, experiential learning and making connections between classroom instruction and real-world problems and challenges. AI also enables student's active participation in the learning process where learning is tailored to each learner's specific requirements. AI also provides learning systems that track student progress and provide feedback to promote advancement, (David, 2018 & Silvio, 2023). However, there seems to be lack of awareness of most of these AI digital tools for teaching English Language in Odeda Local Government area of Ogun state as most of the school teachers do not engage learners in using some of the AI digital learning tools that may enable a comprehensive teaching and learning of the English Language. This paper investigates the awareness and availability of AI digital tools in some selected secondary schools in Odeda Local government.

AI tools utilized in English Language Teaching and Learning

Edmett, et al. (2023) described 'AI (artificial intelligence) as technologies that mimic human behavior to conduct tasks normally done by people'. They identified some AI-powered tools and the specific tasks which are ascribed to the AI tools. The tools identified are; Language Apps, Language generation AI, chatbox, text to speech tools, speech recognition, automated grading, data and learning analytics, virtual augmented reality. According to Idham, Rauf and Rajab (2024) Artificial intelligence (AI) are very useful in English language learning and teaching. AI applications that continue to emerge create opportunities for teachers, lecturers and students to gain unlimited knowledge. Apart from that, AI can also help solve difficulties in learning languages instantly. Artificial Intelligence may play the function of a tutor. Students can talk about issues they've run in to or suggestions they have for finishing the task. Language learning involves a deliberate effort to comprehend and master a new language, often through formal education or structured teaching, such as second language acquisition methods. Learning a language offers numerous benefits, including enhanced brain and cognitive development, improved memory, creativity, and academic progress (Zhang, 2021).

1. **Machine Translation:** Machine translation (MT) is an automated system that facilitates seamless translation between languages due to the need for cross-lingual communication in our increasingly globalized world. Traditional manual translation methods are resource-intensive and costly, making MT a practical solution to enhance efficiency. In language education, machine translation technology integrat

ecstatic learning approaches into interactive systems that foster productive human-machine collaboration Ur laub& Dessein, (2022). These dynamic systems offer learners valuable opportunities and prompt language educators to recognize the

Positive impact of MT tools in their classrooms. Machine translation's capacity helps to generate tens of millions of translations daily and swiftly adapt tone w terminology is a capability that surpasses the reach of individual learners (Raheem,2020). Studies on MT, such as Google Translate, reveal its effectiveness in facilitating the acquisition of word meanings, comprehension of complex sentence structures, sentence construction, spelling accuracy, and pronunciation, making it a valuable resource for students in various language-learning activities (Shahriar,2023;Wirantaka&Fijanah,2021).

2.

Speech Technology: Speech technology is a collection of computing capabilities that enable electronic devices to recognize, analyze, and comprehend spoken words or audio inputs. Typically, this entails processing and comparing digital sound data to a reference pattern library. Speech recognition, including Automatic Speech Recognition (ASR) and speech synthesis, known as Text-to-

Speech (TTS), are two uses of this technology. ASR, a crucial component of speech technology, specializes in converting spoken words into text by dissecting audio into discrete sounds, transforming them into a digital format, and employing algorithms to determine the most probable corresponding textual representation, enabling computers to understand spoken language. Conversely, Speech Synthesis, specifically TTS, functions in the opposite direction, translating text into audible spoken words. Virtual assistants like Alexa utilize TTS with trigger word detection and Natural Language Processing (NLP) to comprehend user intent and respond with synthesized speech. This integrated process forms the basis for interactive conversational interactions. Furthermore, Makashova (2021) highlights that TTS and ASR tasks serve essential purposes beyond communication, including assisting individuals with disabilities, such as visually impaired individuals, through accessibility technology. Speech technology finds practical applications in various educational contexts, such as pronunciation training, communication skills development, vocabulary assessment, and listening comprehension skill enhancement (Krasnova & Bulgakova, 2014).

3.

Chatbots and Virtual Assistants: Huang et al. (2021) described a chatbot as a software program that facilitates natural language conversations with users. Leveraging AI capabilities, chatbots strive to emulate human dialogues and act as automated conversational agents, available to assist users through natural language interactions in various contexts. As Esselet et al. (2022) denoted, these virtual assistants are engineered to comprehend user needs through AI methods and respond using natural language. As AI advances, chatbots have found applications across diverse domains, including educational support. Their versatility enables them to undertake various tasks, from answering questions to offering directions.

4. AI-Generated Content (AIGC): AI-

generated content (AIGC) replicates human writing and thinking, offering a versatile solution for content generation. AIGC products, bolstered by the advancements in large model algorithms, are becoming increasingly promising tools that enhance our daily lives. These content generators come in various forms, capable of creating entire pieces such as articles and quizzes or facilitating creative brainstorming through human-like interactions in chat (Wu et al., 2023). The growing relevance of AI-generated content makes it essential to understand its optimal utilization. AI can produce language-

based materials like exercises, quizzes, and short stories tailored to specific proficiency levels in language learning. A prime example is Quizizz AI, a platform designed to expedite quiz creation, effortlessly adapting to individual needs. With Quizizz AI as a personalized teaching assistant, quizzes can be crafted in under a minute, effectively enhancing language learning. Students benefit from the engaging and meaningful activities provided by Quizizz, leading to improved reading skills. Furthermore, Quizizz demonstrates its positive impact on grammar comprehension, as a significant increase in test scores among students is evident.

5.

Google Translate: According to Ganeesh and Rani (2023) The primary use of Google Translate in teaching and learning English is for translation purposes. It is an online translator. It can be used by students to translate words, phrases, sentences, and paragraphs from Indonesian to English or English to Indonesian that are frequently used in translation exercises between Indonesian and English. We can use Google Translate to verify the spelling of words that appear incorrectly. It is quite helpful for verifying spelling in English. One useful tool for learning how to pronounce words in foreign languages is Google Translate. It can be used by students who wish to learn English for free, particularly how to pronounce words.

6.

Chatbot: Chatbots have the potential to enhance individuals' conversational abilities by promoting fluency and confidence in using English in daily contexts. One more noteworthy benefit is the instant feedback they provide, which instantly addresses mistakes in grammar, vocabulary, and pronunciation. Error identification and rectification can be done more efficiently thanks to this quick correction technique. By presenting new terms in context and providing practice exercises for reinforcement, it contributes to vocabulary growth. Certain chatbots surpass language proficiency by integrating cultural elements into discussions, assisting students in comprehending cultural subtleties and backgrounds. Chatbots are useful tools for measuring learners' progress and observing how they change over time. They can provide significant insights into areas that may need more attention due to their assessment and progress tracking features.

7.

Machine Vision (MV): Thomas and Gambari (2021) identified Machine Vision, also known as computer vision, as a major technology of Artificial Intelligence that enables software to recognize patterns, make predictions, and apply newly discovered patterns to situations that were not included or covered by their initial design. It enables visual perception like human recognition of image characteristics with high speed, high precision, and high accuracy, it uses a camera and computer to perform the functions of recognition, tracking, measurement of objects and image processing. Machine vision technology has been widely adopted in video surveillance, automated facial recognition, and biometric face-scanning surveillance, autonomous driving, medical image analysis, and archaeology (Chen, 2019). It can be utilized in education for taking attendance records, monitoring facial expressions of students and facial detection of a confused learner. Automated Facial Recognition (FR) integrated with machine vision has been used for attendance marking in class. The use of the FR system for attendance marking allows teachers and students to use class time more effectively and saves lecturers' time by eliminating the need to cross-check the attendance. Examples of AI that can perform these features include Automated facial recognition and Gradescope.

8.

Expert System (ES): Nwigbo and Madhu (2016) described an expert system as a knowledge base of human expertise for problem-solving and making decisions exactly as a human expert would have done. In education, expert systems' applications are embedded into the Intelligent Tutoring System (ITS) which acts as a professional tutor to provide personalized learning to students considering the students' prior knowledge and ability. Artificial Intelligence career coaches are embedded with expert systems to provide individualized advice to students based on their history, experience, skills, combined with career requirements to satisfy students' need to further their study (Khare et al., 2018).

9.

Natural Language Processing (NLP): Natural language processing is a technology of Artificial Intelligence mainly concerned with the imitation of human natural language and communication methods. The Natural language processing offers ways of communicating with an

ntelligent system using natural languages such as English, French, Swahili, and Chinese in either written or spoken form. It is integrated into machines to enable the machines to perform useful activities that require natural human language, and is integrated into talking calculators to

provide oral dictation of punched numbers or signs. It also allows more users in different countries to have access to either spoken or written information in different languages; and persons with visual impairments, hearing difficulties, dexterity and motor difficulties can initiate and manage conversations with others independently. Natural language processing is integrated into commonly used services such as Google Translate and chatbots (Kolodny, 2017). It helps learners with spelling and grammatical corrections and also offers automatic online translation for works with multiple languages. Examples of Educational AIs under this branch include: Presentation translator, Grammarly, Twitter Bot, Speeko.

10.

Deep Learning (DL): Deep Learning, also known as deep neural network, is a technology for implementing Machine Learning. It is primarily used in pattern recognition and classification applications supported by large datasets (Chen, 2019). It allows virtual assistants to detect and understand speech, images, sound and videos. Deep learning has increased the efficiency of online learning, as adapted educational software are used in online platforms which make it easy to meet individual needs of students; thus, fostering personalised learning and offering an opportunity for learners to get extra assistance from tutors.

11.

Robotics: Robotics entails the science and technology of designing, constructing, operating, manufacturing and application of robots. The Robot Institute of America in 1979 defines a robot as a reprogrammable, multifunctional manipulator designed to move materials, parts, tools, or specialised devices through various programmed motions for the performance of a variety of tasks. Robots are built with the ability to sense their environment in ways that are similar to the way that humans sense their surroundings. They are used to provide asynchronous lessons to students who are absent from school. This improves students' engagement and motivation, and ultimately leads to better academic outcomes. Some educational AIs that perform like robots are Padlet and smartboards.

12.

Machine learning (ML): This is the most advanced area of Artificial Intelligence. It refers to the designing, training, and deploying of models to applications, processes, and other machines by providing algorithms, Application Programming Interfaces (APIs), development and training toolkits, data, and computing power. Goksel and Bozkurt (2019) added that Machine Learning is a system in which existing data is used for future predictions. Content providers use Machine Learning to determine what course material works best in each study area. With Machine Learning, lecturers make use of feedback and scoring systems to help grade assignments, guard against plagiarism, and assess students' progress. Machine Learning is integrated into Natural Language Processing to provide text-to-speech applications, language-to-language translation applications. Machine Learning has changed the way information is searched for by automating related suggestions to users and making recommendations for information to search with just a click.

Methodology

This study examined the availability and the level of teachers' awareness and perception on the utilization of artificial intelligence and digital tools for teaching and learning of English Language in Odeda Local Government area of Ogun State. The aim of the study is to examine the teachers' awareness and the availability of AI digital tools used in the teaching and learning of the English Language in both the primary and secondary schools in Odeda Local Government area of Ogun State. Hence, it employed descriptive research design. A descriptive survey design and a quantitative method was adopted for the study. A sample of 20 schools were randomly selected from the total population of 100 schools located in Odeda Local Government making one third of the entire population. A sample size of five (5) teachers each were randomly selected from the 20 schools. A total of population of 100 teachers were randomly selected as respondents were for this study. The instrument for data collection was a structured ques

tionnaire titled "Availability

and Awareness of AI digital tools" (AADT). The questionnaire was administered to a sample size of one hundred (100) randomly selected English language teachers across 20 schools. The data collected were analyzed using descriptive statistical analysis of simple percentage of frequency. Simple percentage will be adopted for analysis while the result will be displayed in tables and charts.

TABLE 1: Data analysis on the Awareness and Availability of Digital Tools (AADT)

DIGITAL TOOLS IN THE SCHOOL	FAMILIAR	NOT FAMILIAR	AVAILABLE	NOT AVAILABLE
1 COMPUTER	100%	0%	20%	90%
2 INTERNET	100%	0%	10%	0%
3 MOBILE PHONE	100%	0%	90%	0%
4 PROJECTOR	100%	0%	1%	80%
5 TAPEREORDER	100%	20%	2%	70%
6 PHOTOCOPIER	100%	40%	3%	0%
7 GRAPHIC BOARD	80%	0%	0%	0%
8 DIGITAL CAMERA	0%	0%	%	90%
9 SCANNER	100%	0%	10%	0%
10 LAPTOP	100%		40%	
11 LANGUAGE LABORATORY	100%		0%	

From table 1, 100% of the respondents are aware of the digital tools such as computer, internet facility, mobile phone, projector, tapereorder, photocopier, Laptop and the Language Laboratory needed for teaching the English Language. 80% and 60% of the respondents are also aware of the use of digital tools such as graphic board and digital camera. This implies that the teachers in Odeda Local Government are aware of the use and significance of the language learning digital tools. However, despite the awareness of these digital tools, some of them are not available for use. For example, 60%, 70%, 80% and 90% of the respondents do not have access to Laptop, computer, photocopier, graphic board, scanner, tapereorder, projector and internet facility is unavailable. All the respondents do not have access to the language laboratory and digital cameras and projector. This reveals that despite the fact that respondents are aware of the digital tools needed for teaching the English Language, availability of the digital tools are limited.

TABLE 2 : Data Analysis on the awareness of AI Tools (AAIT) used in the teaching and Learning of English language in Odeda Local Government

AI TOOLS	FAMILIAR	NOT FAMILIAR
1 LANGUAGE LEARNING APPS	2%	%
2 LANGUAGE GENERATION AI	17%	83%
3 CHATBOX TOOLS	70%	30%
4 TEXT-TO-SPEECH TOOLS	45%	55%
5 SPEECH RECOGNITION SOFTWARE	90%	10%
6 AUTOMATED GRADING TOOLS	10%	90%
7 DATA & LEARNING ANALYTICS	10%	0%
8 VIRTUAL AUGMENTED REALITY	0%	5%
9 ROBOTICS	15%	85%
10 NATURAL LANGUAGE PROCESSING TECHNOLOGY	%	%

Table2 revealed that there spondents are not familiar with some AI TOOLS such as Language learn in gaps (88%), natural language process in technology (85%), Robotics (95%), virtual augmented reality (100%), data and learning analytics (100%), auto mated grading tools (90%), text to speech (55%) and Language generation AI (83%). However, results revealed that respondents are aware of speech recognition software (90%) and Chat box tools (70%). The most popular AI powered tools recognized by respondents are the speech recognition software (90%) followed by the chat box tools (70%) while the least recognized AI powered tools are virtual augmented reality tools (100%) and the data and learning analytics tools(100%).

TABLE3: Data analysis on the availability of the AI Tools (AVAIT) used for the teaching and learning of the English Language

	AITOOLS	AVAILABLE4	NOT AVAILABLE6
1	LANGUAGE LEARNING APPS 2	0%	0%
	LANGUAGE GENRATION AI	20%	80%
3	CHAT BOX	70%	30%
4	TEXT-TO-SPEECH TOOLS	40%	60%
5	SPEECH RECOGNITIONSOFT WARE	90%	10%
6	AUTOMATED GRADING TOOLS 7	10%	90%1
	DATA & LEARNING ANALYTICS	0%0	00%1
8	VIRTUAL AUGMENTED REALITY 9	%0%	00%1
	ROBOTICS	10%	00%9
10	NATURAL LANGUAGE PROCESSING TECHNOLOGY		0%

Table3 presented there sult on the availability of AI powered tools needed for the teaching and learning of the English Language. From the data, it was revealed that the AI tools needed for the teaching and learning of the English language are not available. Respondents revealed that speech recognition tools (90%) and Chat box tools (70%) have the high estrate of availability for use while virtual augmented reality (0%) and Robotic tools (0%) are not available at all. Other AI tools not available are Natural Language Processing technology (90%), automated grading tools (90%) and language generation AI (80%). Two of the AI tools with (40%) availability are language learning apps and text to speech tools.

Discussion of Findings

From the data analysed, it was discovered that English teachers in Odeda Local government are aware of the digital tools used in teaching and learning of the English Language such as computer, computer, internet facility, mobilephone, projector, taperecorder, photocopier, Laptop and the Language Laboratory however, the digital tools are not available for use. There sult of the findings also correlates with Madu (2025). He stated that despite the significance of the use of digital tools in improving learning in this 21 Century, they are still far from there a chin most schools. In the same vein, AI tools are not readily available for use. There sult of the findings revealed that the teachers in Odeda Local Government do not have access to the AI tools needed for the teaching and learning of the English language. From the findings 90% of the teachers are not familiar with the AI tools used for the teaching and learning of English language as a result of lack of the necessary digital tools needed for the its use such as laptop, computer and internet facility. The unavailability of the AI and digital tools is quite worri some because these tools are necessary for the development of the educational system in Nigeria. Also, the lack of the necessary AI and digital tools will affect the performance of learners in the English language both locally and globally as every nation strives to meet up with the global education trend. Edmett, etal. (2023) highlighted the uses of AI tools such as creating materials and helping

Learners practice using English (personalized learning), Creating less on plans, correcting learners 'English, grading or assessing learners also for administrative purposes in schools. Hence, it is necessary that teachers are not just aware of these benefits, but adequate provision should be made on the availability these AI and digital tools for use among teachers in Odeda Local Government area of Ogun State.

Recommendations

The following were recommended:

1. The government should incorporate the use of AI tools into the primary and secondary school curriculum
2. The government should provide artificial intelligence software for use in the classroom
3. The government should provide adequate digital tools such as computer, internet facility, mobile phone, projector, taperecorder, photocopier, Laptop and the Language Laboratory in order to facilitate the use of AI in teaching and learning process
4. Government should organize training, seminars and we binars in order to create awareness on the use and functions of the necessary AI tools needed for the teaching and learning of English Language.

References

- Edmett,A.,Ichaporia,N.,Crompton,H.,&Crichton,R.(2023).ArtificialintelligenceandEngli
shlanguageteaching:Preparingforthefuture.BritishCouncil.<https://doi.org/10.57884/78EA-3C69>
- Chen,H.(2019). Success factors impacting Artificial Intelligence adoption perspective from the telecom industry in China, Doctor of Philosophy Dissertation, submitted to Old Dominion University. DOI:10.25777/a8q8-gm13. Retrieve don 30th September 2019 from https://digitalcommons.odu.edu/businessadministration_etds/102.
- Chon,Y.V.,Shin,D.&Kim,G.E.(2021). Comparing L2 learners 'writing against parallel machine translated texts: Raters' assessment, linguistic complexity and errors. System,96,102408. <https://doi.org/10.1016/j.system.2020.102408>
- Crompton,H.&Burke,D.(2023). Artificial intelligence in higher education: The state of the field. International Journal of Educational Technology in Higher Education, 20,22(2023).<https://doi.org/10.1186/s41239-023-00392-8>
- DavidC (2018).Philosophy of Artificial Intelligence.1 stedition. ISBN978-87-403-2582-9
- Dizon,G.&Gayed, J.M.(2021). Examining the impact of Grammarly on the quality of mobile L2 writing. JALT CALL Journal, 17(2), 74–92. <https://doi.org/10.29140/jaltcall.v17n2.336>
- Dizon,G.&Tang,D.(2020). Intelligent personal assistants for auto no mous second language learning: An investigation of Alexa. JALTCALL Journal,16(2),107–120.<https://doi.org/10.29140/jaltcall.v16n2.273>
- Menson,A.,Johnson,E.E.,&Baah,P.K.(2022). The Impact of a Virtual Teaching Assistant (chatbot) on Students' Learning in Ghanaian Higher Education. International Journal of Educational Technology in Higher Education, 19(1),1–19. <https://doi.org/10.1186/S41239-022-00362-6/TABLES/7>
- Goksel, N.,&Bozkurt, A.(2019). Artificial Intelligence in education: Current in sights and futureperspectives.
- Huang,X.,Zou,D.,Cheng,G.,&Xie,H.(2021).ASystematicReviewofARandVREnhanced

- Language Learning. Sustainability 2021, Vol. 13, Page 4639, 13(9), 4639. <https://doi.org/10.3390/SU13094639>
- Kadiri, G.C., (2012). The role of Information and Communication Technology in language teaching and learning in university education. In: The Journal of liberal studies (JLS) University of Nsukka. Retrieved from [https://jlonline.com/ar_cle-content-15\(1\)](https://jlonline.com/ar_cle-content-15(1))
- Idham, A. Rauf, W. Rajab, A. (2024). Navigating the transformative impact of Artificial Intelligence on English Language Teaching: Exploring challenges and opportunities. Jurnal Edukasi Saintifik. Vol 4(1) 8-14
- Khare, K., Stewart, B., & Khare, A. (2018). Artificial Intelligence and the student experience: An institutional perspective, IAFOR Journal of Education 6(3), 63-78. Retrieved from <https://files.eri.ed.gov/fulltext/EJ1198691.pdf> on 25th March 2020.
- Kazu, I. Y. & Kuvvetli, M. (2023). The influence of pronunciation education via artificial intelligence technology on vocabulary acquisition in learning English. International Journal of Psychology and Educational Studies, 10(2), 480–493. <https://dx.doi.org/10.52380/ijpes.2023.10.2.1044>
- Krasnova, E., & Bulgakova, E. (2014). The Use of Speech Technology in Computer Assisted Language Learning Systems. Speech and Computer, 459–466. https://doi.org/10.1007/978-3-319-11581-8_57
- Kolodny, L. (2017). Voice it lets people with speech impairments use voice-controlled technology. Retrieved on 23rd April 2019 from: <https://techcrunch.com/2017/06/01/voice-it-lets-people-with-speech-impairments-use-voice-controlled/>
- Kim, N.-Y. (2022). AI-integrated mobile-assisted language learning: Is it an effective way of preparing for the TOEIC test in classroom environments? English Teaching, 77(3), 79–102. <https://doi.org/10.15858/engtea.77.3.202209.79>
- Lee, D., Kim, H.-H. & Sung, S.-H. (2023). Development research on an AI English learning support system to facilitate learner-generated context-based learning. Educational Technology Research and Development, 71, 629–666. <https://doi.org/10.1007/s11423-022-10172-2>
- Liu, S.-C. & Hung, P.-Y. (2016). Teaching pronunciation with computer-assisted pronunciation instruction in a technological university. Universal Journal of Educational Research, 4(9), 1939–1943. <https://doi.org/10.13189/ujer.2016.040902>
- Lo, S. (2023). Neural machine translation in EFL classrooms: Learners' vocabulary improvement, immediate vocabulary retention and delayed vocabulary retention. Computer Assisted Language Learning, <https://doi.org/10.1080/09588221.2023.2207603>
- Nazari, N., Shabbir, M. S. & Setiawan, R. (2021). Application of artificial intelligence-powered digital writing assistance in higher education: Randomized controlled trial 7(5), e07014. <https://doi.org/10.1016/j.heliyon.2021.e07014>
- Nwigbo, S., & Madhu, B. K. (2016). Expert System: A catalyst in educational development in Nigeria, Journal of Mobile Computing & Application, 3(2), 08-11. DOI: 10.9790/0050-03020811.
- Madu, K. (2025). The availability of Digital Tools for Teaching and Learning in Artificial Intelligence era in Secondary Schools in Nsukka Education Zone of Enugu State. AMAMIHE: Journal of Applied Philosophy, Vol. 23, No. 1, 2025 ISSN Print: 1597–

0779;ISSNOnline-3043-5269

- Makashova, L. (2021). Speech Synthesis and Recognition for A Low-Resource Language Connecting TTS and ASR for Mutual Benefit [University of Gothenberg]. <https://gupea.ub.gu.se/handle/2077/69692>
- Onasanya, S. A., Ayelaagbe, S. O., & Laleye, A. M. (2012). Mobile phones and adult education in Nigeria: Prospects and future challenges. *New Media and Mass Communication, International Institute for Science, Technology and Education*.
- Raheem, B. R. (2020). The Role of Machine Translation in Language Learning. *Academic Research International*, 7(4), 60–67.
- Rowe, L. W. (2022). Google Translate and biliterate composing: Second graders' use of digital translation tools to support bilingual writing. *TESOL Quarterly*, 56(3), 883–905. <https://dx.doi.org/10.1002/tesq.3143>
- Shahriar, A. (2023). The Effectiveness of Machine Translation Using "Google Translate" in English Language Learning in Bangladesh. *Pedagogy: Journal of English Language Teaching*, 11(1), 75. <https://doi.org/10.32332/joelt.v11i1.6355>
- Silvio, N. (2023). Artificial Intelligence and the Philosophy of Education
- Thomas, G., & Gambari, A. I. (2021). A review of artificial intelligent for teaching, assessment and research in Nigerian Universities. *Association for innovative technology integration in education (aitie)*, 2021)
- Thompson, A., Gallacher, A., & Howarth, M. (2018). Stimulating task interest: Human partner or chatbots? In P. Taalas, J. Jalkanen, L. Bradley & S. Thouësny (eds), *Future-proof CALL: Language learning as exploration and encounters – short papers from EUROCALL 2018* (pp. 302–306). Research-publishing.net. <https://doi.org/10.14705/rpnet.2018.26.854>
- Urlaub, P., & Dessein, E. (2022). Machine Translation and Foreign Language Education. *Frontiers Artificial Intelligence*, 5. <https://doi.org/10.3389/frai.2022.936111>
- Wirantaka, A., & Fijanah, M. S. (2021). Effective Use of Google Translate in Writing. *Proceedings of the International Conference on Sustainable Innovation Track Humanities Education and Social Sciences (ICSIHES 2021)*. <https://doi.org/10.2991/assehr.k.211227.003>
- Wu, J., Gan, W., Chen, Z., Wan, S., & Lin, H. (2023). AI-Generated Content (AIGC): A Survey. *ArXiv Preprint ArXiv:2304.06632*. <https://arxiv.org/abs/2304.06632v1>
- Viktorivna, K. L., Oleksandrovysh, V. A., Oleksandrivna, K. I., & Oleksandrivna, K. N. (2022). Artificial intelligence in language learning: What are we afraid of? *Arab World English Journal (AWEJ) Special Issue on CALL*, 8, 262–273. <https://dx.doi.org/10.24093/awej/call8.18>
- Zhang, C. (2021). The Advantages and Disadvantages of Learning a Second Language Early. *Proceedings of the 2021 International Conference on Social Development and Media Communication (SDMC 2021)*. <https://doi.org/10.2991/assehr.k.220105.008>
- Zheng, D., Bischoff, M., & Gilliland, B. (2015). Vocabulary learning in massively multiplayer online games: Context and action before words. *Educational Technology Research and Development*, 63, 771–790. <https://doi.org/10.1007/s11423-015-9387-4>

