Evaluating Students' Access To and Use of Artificial Intelligence-Based Tool in Enhancing Attitude Towards English Vocabulary Learning in University of Calabar, Nigeria

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Abstract

In this modern age, proficiency in English vocabulary is essential for academic success, global communication, and career advancement. However, many university students struggle with vocabulary acquisition due to a lack of engagement, personalized learning, and effective practice methods. Traditional teaching approaches often fail to cater to diverse learning needs, making it necessary to explore innovative solutions. Literature tells that technological-based tools aids students' learning and produces better results. The research aims to ascertain the influence of students' access to, and use of ChatGPT artificial intelligence-based tool on their attitude towards English Vocabulary learning in University of Calabar, Nigeria. Two research questions guided the study while two hypotheses were formulated and tested at 0.05 level of significance. The study adopted descriptive survey research design and the population of the study consist of 343 English Language students of 200 level from Arts Education Department of the University of Calabar. Purposive and census sampling techniques were used to select the sample for the study. A well validated 'Students' Access to, and Use of Artificial Intelligence-based Tool Questionnaire (SAUAITQ) and Students' Attitude Towards English Vocabulary Learning Questionnaire (SATEVLQ) were used to collect the required data. Simple Linear Regression was the statistical tools used for analysis of data collected. The result of the analysis revealed that there is a significant influence of students' access to, and use of artificial intelligence-based tool on their attitude towards English Vocabulary learning. Sequel to the findings of this study, it was recommended, among others that University language departments should integrate AI-based vocabulary learning tools into their curriculum. AI-powered applications (example, ChatGPT), can enhance students' engagement and motivation by providing adaptive learning experiences tailored to their proficiency levels and learning styles.

Keywords: Students' access to AI-based tool, Students' use of AI -based tool, Students' attitude, English Vocabulary Learning

Introduction

In the modern age, proficiency in English vocabulary is essential for academic success, global communication, and career advancement. However, many university students struggle with

vocabulary acquisition due to a lack of engagement, personalized learning, and effective practice methods. Traditional teaching approaches often fail to cater to diverse learning needs, making it necessary to explore innovative solutions. Technological-based tools offer a promising avenue for enhancing students' attitudes toward vocabulary learning. These tools provide adaptive learning experiences, interactive exercises, and real-time feedback, making vocabulary acquisition more engaging and efficient. Integrating technological-driven solutions in university education can revolutionize language learning, fostering motivation, retention, and long-term proficiency.

This modern age of technological development and the current increase in scientific knowledge around the world, much demand is placed on the acquisition of skills through technology in motivating and improving learners' interest in learning of' English (Afiene et al, 2023). One of the technological tools that aid the teaching and learning of English Language is the Artificial Intelligence (AI). AI refers to computer systems capable of performing complex tasks that historically only a human could do, such as reasoning, making decisions, or solving problems (Coursera, 2024). Artificial Intelligence has significantly transformed language learning by providing personalized, efficient, and engaging educational experiences. AI-powered platforms utilize technologies such as Natural Language Processing (NLP) and machine learning algorithms to tailor instruction to individual learners' needs.

For instance, AI-driven applications assess a learner's proficiency and adapt lessons accordingly, enhancing the overall learning process (Zucchet, 2023). The author further notes that artificial Intelligence (AI) is not science fiction (sci-fi) anymore. In fact, AI has already reshaped various facets of our lives, and one area where its transformative potential shines is in language learning**.** A notable example is Duolingo's integration of AI features like "Video Call," which allows users to engage in interactive conversations with AI characters, and "Adventures," offering immersive, scenario-based language practice. These innovations aim to make language learning more engaging and effective (Seitz, 2024). Thus, AI's role in language learning encompasses personalized instruction, real-time feedback, and the creation of immersive learning environments,

all of which contribute to more effective and accessible language education. One of the artificial intelligence-based tools that aid students' learning is ChatGPT.

ChatGPT is an advanced AI language model developed by OpenAI, has been increasingly utilized as a tool to enhance English vocabulary learning among university students. Its interactive capabilities allow for personalized and engaging learning experiences, which can positively influence students' attitudes toward vocabulary acquisition. Recent studies have demonstrated the effectiveness of ChatGPT in this context. For instance, Mugableh (2024) explores the impact of ChatGPT-generated exercises on Saudi EFL students' vocabulary development. The study revealed that participants who engaged with ChatGPT exercises outperformed those in the control group in terms of vocabulary size and the strength of word families, indicating the model's efficacy in enhancing vocabulary knowledge.

Similarly, Algraini (2024) investigates Saudi female English as Foreign Language (EFL) learners' perceptions of ChatGPT's role in vocabulary improvement. The findings indicated that students valued ChatGPT's ability to provide accurate definitions, explanations, and contextual examples, which facilitated their vocabulary building. However, some concerns were noted, such as repetitive word suggestions and occasional inaccuracies, suggesting areas for further refinement. These studies suggest that integrating ChatGPT into vocabulary learning can foster a more positive attitude among university students by providing interactive and personalized learning experiences. As AI technology continues to evolve, its role in language education is likely to expand, offering innovative approaches to vocabulary acquisition. This implies that the adoption of ChatGPT artificial intelligence-based tool is a welcome development due to its advantages in the field of education in facilitating the learning of English Language and vocabulary in particular.

English language plays a vital role in Nigeria, serving as a political and social element in building, unifying, and maintaining the Nigerian state, as well as an essential component of national development (Mishina & Iskandar, 2019). English Language is an important subject in schools and the society at large. In Nigeria, University students are required to acquire proper knowledge of

English Language to help them to function well. English vocabulary is one of the English language competences consisting of a system of language which must be comprehended and mastered by English language students. Vocabulary knowledge is fundamental to effective communication, as it enables learners to understand and convey meaning accurately. Without a solid grasp of vocabulary, students may struggle with listening, speaking, reading, and writing tasks. Research underscores the importance of vocabulary in language learning. For instance, Masykur (2017) highlights that vocabulary is essential in learning a new language because learners' acquisition of new vocabulary is crucial for their language learning process. Similarly, Xiao et al. (2017) assert that vocabulary forms the foundation for any language, noting that communication cannot proceed effectively without good proficiency in vocabulary. The authors argue that while people can communicate to some extent without grammar, nothing can be conveyed without vocabulary. This implies that vocabulary plays a vital role in communication, as students' good vocabulary mastery helps them become competent in English. It also means that the mastering of English vocabulary is essential for students aiming to achieve proficiency in the language, as it underpins all other language skills and facilitates effective communication.

Students' attitudes play a pivotal role in the acquisition of English vocabulary at the university level. A positive disposition towards vocabulary learning can significantly enhance a student's ability to comprehend and use new terms effectively. Conversely, negative attitudes may impede vocabulary development, affecting overall language proficiency. Research indicates that students' attitudes towards vocabulary learning encompass cognitive, affective, and behavioral components. A study by Wolaita Sodo University and Hawassa University in 2022 examined the relationship between these attitudinal aspects and students' English vocabulary knowledge in Ethiopia. The findings revealed a strong positive correlation between students' attitudes and their vocabulary breadth, depth, and fluency. Specifically, a favorable attitude towards vocabulary learning predicted up to 77.44% of the variance in vocabulary breadth, 26.32% in depth, and 35.76% in fluency (Kassa, Arficho, & Mulatu, 2022). This implies that, fostering positive attitudes towards vocabulary

learning is essential for university students' language development. Thus, students' access to, and use of ChatGPT artificial intelligence-based tool seems to have bearings with their attitude towards English Vocabulary learning.

Students' access to artificial intelligence-based tool is one of the variables that seem to have influence on their attitude towards English Vocabulary learning in Universities. Students' access to the ChatGPT artificial intelligence-based tool refers to their ability to utilize ChatGPT for educational purposes, including researching, generating ideas, drafting assignments, enhancing writing skills, receiving tutoring, and engaging in interactive learning experiences. This access can be influenced by factors such as internet availability, institutional policies, digital literacy, and the ethical use of AI in academic settings. AI-based translation tools and online dictionaries provide students with instant access to a wealth of information about new words, including definitions, pronunciations, example sentences, and related terms.

These resources can empower students to take control of their learning and explore vocabulary independently. Additionally, AI-powered writing assistants can provide real-time feedback on vocabulary usage, helping students improve their writing skills and build confidence in their ability to communicate effectively. Chen et al (2020) note that AI-driven writing tools have the potential to significantly improve students' vocabulary usage and overall writing quality." The increased access to resources and support can reduce students' anxiety about vocabulary learning and foster a sense of self-efficacy.

Empirical studies have examined the impact of students' access to ChatGPT artificial intelligence-based tool on attitude towards English Vocabulary learning at different educational levels and dimensions. For instance, a study by Aldowsari and Aljebreen (2024) investigated the impact of a ChatGPT-based application on Saudi high school students' vocabulary learning. The quasi-experimental research involved 57 female students divided into experimental and control groups. Findings revealed that the experimental group, which utilized the ChatGPT application, showed statistically significant improvements in vocabulary acquisition compared to the control group.

Additionally, students expressed positive attitudes toward the application's use in their learning process. Similarly, Phosa (2024) examines the attitudes and behaviors of Thai EFL students toward using ChatGPT in English language learning. The study involved 48 third-year undergraduate students who reported that ChatGPT was easy to use and convenient. They agreed that the tool helped improve their writing, reading, and listening skills, though they were less confident about its impact on speaking skills. The students also indicated that ChatGPT boosted their interest and motivation in learning English, leading them to invest more time and effort into improving their proficiency.

Furthermore, Phuong (2024) explored the attitudes, habits, and perceptions of IT students regarding the use of ChatGPT in English language learning. The research highlighted that students found ChatGPT beneficial for enhancing their language skills and appreciated its role in providing immediate feedback and explanations, which facilitated a better understanding of vocabulary and language usage. These studies suggest that access to AI-based tools like ChatGPT can positively influence students' attitudes toward English vocabulary learning by providing interactive, personalized, and engaging learning experiences. However, it is essential for educators to provide clear guidelines on the ethical use of such tools to ensure that students develop genuine language proficiency and do not become overly reliant on AI assistance.

Jomaa, Attamimi and Al-Mahri (2024) carried out a study on the effect of age, gender, and level of study in utilising Artificial Intelligence (AI) in Vocabulary Learning by EFL Omani Students. The main aim of the study was to investigate accessibility of artificial intelligence (AI) tools among students and their attitudes towards using these tools for English vocabulary learning in Oman. The research employed a mixed-methods design, combining quantitative and qualitative approaches to gather comprehensive data. The study involved 236 English as a Foreign Language (EFL) students from various educational backgrounds in Oman. This diverse sample allowed for a broad understanding of how different demographics interact with AI tools. For the quantitative data, a structured questionnaire was administered to assess the frequency of AI tool usage and students'

attitudes towards these tools. While for the qualitative data, semi-structured interviews were conducted with a subset of participants to gain deeper insights into their experiences and attitudes towards AI tools in vocabulary learning. Data were analyzed using SPSS software, focusing on descriptive statistics to summarize the usage patterns and attitudes towards AI tools. Thematic analysis was employed to identify common themes in the interview responses, providing context to the quantitative findings.

On accessibility, the study found that students predominantly used Google Translate (44%) as their primary AI tool, followed by dictionary applications (32%) and ChatGPT (22%). This indicates a high level of accessibility to AI tools among students. On attitudes, the overall mean score for the effectiveness of AI tools in vocabulary learning was high (3.67), suggesting that students generally view these tools positively. However, the lowest mean score (3.45) was associated with trust in the new vocabulary suggested by AI tools, indicating some skepticism among users. The most common strategies employed by students included translating the meaning of new words and learning new vocabulary, while strategies related to grammar and writing skills were less frequently reported.

On the demographic factors**:** Interestingly, the study revealed that age, gender, and level of study did not significantly affect the use of AI tools for vocabulary learning, suggesting a uniformity in accessibility and attitudes across different student demographics.

This study concluded by highlighting the significant role of AI tools in enhancing vocabulary learning among EFL students, demonstrating both high accessibility and generally positive attitudes towards their use. However, it also points to areas for improvement, particularly in building trust in AI-generated vocabulary suggestions. The relevance of this study to the present study lies in the fact that both studies focused on the influence of students' access to artificial intelligence-based tool and their attitude towards English Vocabulary learning in schools. Differences exist in the location where both studies were carried out; whereas the reviewed study was carried out in Oman, the present study was carried in Nigeria.

On the other hand, students' use of artificial intelligence-based tool is another component that seems to have bearings with students' attitude towards English Vocabulary learning in Universities. The utilization of AI-based tools in language learning within universities has become increasingly significant, offering various benefits that enhance the educational experience for students. AI tools, such as intelligent tutoring systems and language learning applications, provide personalized learning experiences tailored to individual student needs. This customization helps students learn at their own pace and focus on areas where they require more practice, thereby improving their overall language proficiency (Qiao & Zhao, 2023). The interactive nature of AI-driven platforms fosters greater student engagement. For instance, students using AI tools often report higher motivation levels and a more enjoyable learning experience, which can lead to improved academic outcomes (Wang & Li, 2024). AI technologies encourage students to take charge of their learning processes. By providing resources and feedback, these tools empower learners to engage in self-regulated learning, which is crucial for mastering a new language (Wei, 2023).

Research indicates that students utilizing AI-assisted language learning tools show significant improvements in various language skills, including speaking, vocabulary, and grammar. For example, studies have demonstrated that AI tools can enhance speaking proficiency by offering real-time feedback and practice opportunities (Qiao & Zhao, 2023; Wei, 2023). AI tools can also support collaborative learning environments, where students interact with both peers and AI systems. This interaction can lead to deeper understanding and retention of language concepts, as students engage in discussions and collaborative tasks (Wei, 2023). The positive emotional experiences associated with using AI tools can significantly influence students' willingness to engage in autonomous learning. Positive emotions derived from successful interactions with AI can enhance students' motivation and satisfaction with their learning journey (Wang & Li, 2024). Thus, the integration of AI-based tools in university language learning not only enhances educational outcomes but also fosters a more engaging and supportive learning environment for students.

Qiao and Zhao (2023) carried out a study on artificial intelligence-based language learning: illuminating the impact on speaking skills and self-regulation in Chinese EFL context. The main purpose of the study was to investigate the effectiveness of artificial intelligence-based instruction in improving second language (L2) speaking skills and speaking self-regulation in a natural setting. The research was conducted with 93 Chinese English as a foreign language (EFL) students, randomly assigned to either an experimental group receiving AI-based instruction or a control group receiving traditional instruction. The AI-based instruction leveraged the video call interactions, incorporating natural language processing technology, interactive exercises, personalized feedback, and speech recognition technology. Pre- and post-tests were conducted to assess second language speaking skills and self-regulation abilities.

The results of the study demonstrated that the experimental group, which received AI-based instruction, exhibited significantly greater improvement in second language speaking skills compared to the control group. Moreover, participants in the experimental group reported higher levels of self-regulation. The relevance of this study to the present study lies in the fact that both studies focused on the influence of students' use of artificial intelligence-based tool in improving learning. However, the differences exist in the location where both studies were carried out; whereas the reviewed study was carried out in China, the present study was carried in Nigeria.

Statement of the problem

The researchers have observed the lukewarm attitude of students towards English vocabulary development learning in University of Calabar, Cross River State and other tertiary institutions in the country at-large. This negative attitude towards vocabulary learning is not unconnected with the dwindling level of performance in the English Language overtime. Precisely, in 2021/2022 Session it has been observed that only 31.81% of second year English Language students from the Arts Education Department, University of Calabar, scored between A-C in some selected courses, while the remaining 68.19% of students scored between D-F (see Table 1). This discouraging performance has left parents, learners, lecturers and the general public to keep asking questions as

to the rationale behind the inconsistency, even as English language is a lingua franca of science, technology, and international discourse and plays a pivotal role in shaping students' ability to succeed in an increasingly interconnected world.

It is worrisome to note that some students' negative attitude towards English Vocabulary learning as observed by the researchers is characterized with lack of engagement, poor retention and application, avoidance of reading, low motivation and effort, frequent complaints and weak performance in assessments. This ugly situation may be attributed to the lack of technological tools usage - ChatGPT artificial intelligence-based tool in enhancing their attitude towards English Vocabulary learning. Thus, it is imperative to broaden the learning of English Language and Vocabulary in particular to include ChatGPT artificial intelligence-based tool especially at this modern era. The Federal Government is said to have made tremendous efforts to improve students' learning outcomes by providing ICT facilities that would create conducive environment and aid learning. Yet attitude of students towards English Vocabulary learning have been inconsistent.

This study aims to address several gaps in the existing literature on the influence of students' access to, and use of ChatGPT artificial intelligence-based tool in enhancing attitude towards English Vocabulary learning in University of Calabar, Nigeria. Despite the extensive research conducted by previous authors and scholars, such as Aldowsari and Aljebreen (2024), Kassa, Arficho, and Mulatu (2022) and Chen et al, (2020); there remain notable gaps that this study aims to fill, particularly within the University of Calabar, Calabar, Nigeria. There are still significant areas that remain underexplored or insufficiently understood. The integration of technology in education has spurred extensive research globally, particularly on artificial intelligence-based tool such as ChatGPT. Previous studies have delved into various aspects of artificial intelligence-based tool's efficacy, such as its impact on students' academic performance, age, gender, level of study, habits, and perceptions (Jomaa, Attamimi & Al-Mahri, 2024; Phuong, 2024).

Table 1 : Performance of second year students of English Language in Arts Education Department - Unical in some selected courses for 2021/2022 Session

SN	Course code	Course title	A	B	C	D	E	F	A-C %	D-F %
1	ELS 202	English Syntax and Lexis I	5	8	30	33	23	21	35.83%	64.17%
2	ELS 221	English Morphology	16	18	45	23	23	33	50%	50%
3	ELS 222	English as Second Language	1	4	21	26	45	37	19.4%	80.6%
4	ELS 271	Varieties of English	2	4	20	19	29	44	22.03%	77.97%
AVERAGE =									31.81%	68.19%

Methodology

The study area is the University of Calabar, which is located in Calabar Metropolis, the capital of Cross River State of Nigeria. Calabar Metropolis is located between latitude 4°30' and 5°05' north of the equator and longitude of 8°15' and 8°25' east of meridian. It has a total land area of 331,551 sq.km. The climate of Calabar is the semi-equatorial type which has rainfall throughout some months of the year, though the intensity is greatly reduced in the drier months from December to February. The mean annual rainfall is about 3000mm and ranks very high among other coastal locations in Nigeria.

The population of the study consist of 343 English Language students of 200 level from Arts Education Department of the University of Calabar, 2023/2024 session. The study adopted descriptive survey research. Purposive and census sampling techniques were used for the selection of the entire 343 English Language students as sample for the study. The researchers developed two instruments for the study from the knowledge of literature and was used to collect the required data. The instruments are Students' Access to, and Use of Artificial Intelligence-based Tool Questionnaire (SAUAITQ) and Students' Attitude towards English Vocabulary Learning Questionnaire (SATEVLQ). The first instrument, SAUAITQ had two sections: A and B. Section A elicited information on sex and age of the respondents. Section B elicited information of the

independent variables, (students' access to, and use of artificial intelligence-based tool); each of the scales has five items, with the response option of 4-point Likert- scale of strongly agree (SA), agree (A), disagree (D) and strongly disagree (SD).

The second instrument SATEVLQ was to measure students' attitude towards English Vocabulary learning. SATEVLQ was designed to find out students' feelings, and values in English Vocabulary Learning. It was constructed using a four-point Likert scale of Strongly Agree (SA), Agree (A), Disagree (D) Strongly Disagree (SD) coded 4, 3, 2, and 1; with twenty (25) items. The instruments were scrutinized and validated by experts by Language Education and Measurement and Evaluation experts respectively from the Faculty of Education, University of Calabar. The reliability of the instrument was established using Cronbach alpha reliability which yielded a reliability coefficient of .77 and .81 respectively. Simple Linear Regression was used to analyze data for all the hypotheses; at 0.5 level of significance.

Aim and objectives of the study

The aim of this study was to examine students' access to, and use of ChatGPT artificial intelligence-based tool in enhancing attitude towards English Vocabulary learning in University of Calabar, Nigeria. Specifically, the study investigated the influence of:

1. students' access to artificial intelligence-based tool in enhancing their attitude towards English Vocabulary learning in University of Calabar, Nigeria.
2. students' use of artificial intelligence-based tool in enhancing their attitude towards English Vocabulary learning in University of Calabar, Nigeria.

Research question

1. How do students' access to artificial intelligence-based tool influence their attitude towards English Vocabulary Learning?

2. How do students' use of artificial intelligence-based tool influence their attitude towards English Vocabulary learning?

Research Hypotheses

1. There is no significant influence of students' access to artificial intelligence-based tool on their attitude towards English Vocabulary learning.
2. There is no significant influence of students' use of artificial intelligence-based tool on their attitude towards English Vocabulary learning.

Results and Discussion

Hypothesis one

There is no significant influence of students' access to artificial intelligence-based tool on their attitude towards English Vocabulary Learning.

To test this hypothesis, simple linear regression was applied with students' access to artificial intelligence-based tool as the independent variable and attitude towards English Vocabulary learning as the dependent variable. The F-ratio test was used to test for the significance of the overall prediction model, r-ratio was used to established the relationship while t-test was used to test for the significance of the contribution of the regression constant and coefficient (which represents the predictive power of the independent variable) in the prediction model. The results are given in Table 2.

Table 2: Simple linear regression showing the influence of students' access to artificial intelligence-based tool on their attitude towards English Vocabulary learning

Model	R	R. square	Adjusted R. Square	Std error of the estimate	
1	.567[a]	.322	.320	11.69732	
Model	Sum of square	Df	Mean square	F	p-value
Regression	22137.632	1	22137.632	161.793	.000[b]
Residual	46658.082	341	136.827		
Total	68795.714	342			
Variables	Unstandardized regression weight B	Standardized regression weight	Beta weight	T	p-value

(Constant)	116.901	3.592		32.541	.000
Access	-2.914	.229	-.567	-12.720	.000

* Significant at p<.05

The results on Table 2 show that the R-value of .567 was obtained which shows a positive moderate relationship between students' access to artificial intelligence-based tool and their attitude towards English Vocabulary learning. The r value produced an R-squared value and adjusted R-square of 0.322 and 0.320 respectively. This indicates that students' access to artificial intelligence-based tool accounted for 32.0%, which is a low determinant of their attitude towards English Vocabulary Learning. The p-value (.000) associated with the computed F-value (161.793) was less than .05. As a result, the null hypothesis was rejected. This means that students' access to artificial intelligence-based tool significantly influence their attitude towards English Vocabulary learning with both the regression constant (116.901) and coefficient (2.914) contributing significantly in the prediction model (t= 32.541 & 12.720 respectively, p=.000 & .000 < .05).

Hypothesis two

There is no significant influence of students' use of artificial intelligence-based tool on their attitude towards English Vocabulary learning.

To test this hypothesis, simple linear regression was applied with students' use of artificial intelligence-based tool as the independent variable and attitude towards English Vocabulary learning as the dependent variable. The F-ratio test was used to test for the significance of the overall prediction model, r-ratio was used to established the relationship while t-test was used to test for the significance of the contribution of the regression constant and coefficient (which represents the predictive power of the independent variable) in the prediction model. The results are given on Table 3.

* Significant at p<.05

The results on Table 3 show that the R-value of .675 was obtained which shows a positive moderate relationship between students' use of artificial intelligence-based tool and their attitude towards English Vocabulary learning. The r value produced an R-squared value and adjusted R-square of

0.455 and 0.453 respectively. This indicates that students' use of artificial intelligence-based tool accounted for 45.3%, which is a low determinant of their attitude towards English Vocabulary learning. The p-value (.000) associated with the computed F-value (284.636) was less than .05. As a result, the null hypothesis was rejected. This means that students' use of artificial intelligence-based tool significantly influence their attitude towards English Vocabulary learning with both the regression constant (129.700) and coefficient (3.872) contributing significantly in the prediction model (t= 37.363& 16.871respectively, p=.000 & .000 < .05).

Table 3: Simple linear regression showing the influence of students' use of artificial intelligence-based tool on their attitude towards English Vocabulary learning

Model	R	R. square	Adjusted R. Square	Std error of the estimate	
1	.675[a]	.455	.453	10.48624	
Model	Sum of square	Df	Mean square	F	p-value
Regression	31298.910	1	31298.910	284.636	.000[b]
Residual	37496.805	341	109.961		
Total	68795.714	342			
Variables	Unstandardized regression weight B	Standardized regression weight	Beta weight	T	p-value
(Constant)	129.700	3.471		37.363	.000
Utilization	-3.872	.229	-.675	-16.871	.000

The implication of the result on Table 2 indicates a significant influence of students' access to AI-based tools on their attitude towards English vocabulary learning can have several important implications for educators, policymakers, and educational technology developers. The positive influence suggests that AI-based tools can make vocabulary learning more engaging, interactive, and enjoyable for students. Educators should integrate these tools into the curriculum to foster a more stimulating learning environment. Since attitude plays a crucial role in language acquisition, a more positive attitude towards vocabulary learning may lead to better retention and application of new words in writing and speaking. Schools should consider investing in AI-enhanced learning platforms. The finding is in line with Chen et al (2020) who found that AI-driven writing tools have the potential to significantly improve students' vocabulary usage and overall writing quality.

The increased access to resources and support can reduce students' anxiety about vocabulary learning and foster a sense of self-efficacy. The finding is agreement with Phuong (2024) who found that access to AI-based tools like ChatGPT can positively influence students' attitudes toward English vocabulary learning by providing interactive, personalized, and engaging learning experiences. The finding also agreed with the study of Jomaa, Attamimi and Al-Mahri (2024) who found that that students predominantly used Google Translate (44%) as their primary AI tool, followed by dictionary applications (32%) and ChatGPT (22%) indicating a high level of accessibility to AI tools among students.

This implies that AI tools can engage students in conversations, making the learning process more dynamic and responsive to their needs. These tools can tailor content to suit individual learning styles and levels, allowing students to learn at their own pace and focus on areas where they need improvement. This also implies that the use of AI can make vocabulary learning more enjoyable and stimulating, potentially increasing students' motivation and interest in the subject. Overall, the statement implies that integrating AI tools into vocabulary learning can lead to more positive attitudes and better outcomes for students.

The implication of the result on Table 3 indicates a significant influence of students' use of artificial intelligence-based tool on their attitude towards English Vocabulary learning can have several important implications for educators, policymakers, and curriculum developers. The significant influence suggests that AI-based tools should be actively integrated into English language instruction. Educators can leverage AI-driven applications, such as ChatGPT and personalized vocabulary builders, to enhance students' engagement and motivation. Since AI tools positively influence students' attitudes, their use can help foster a more interactive and enjoyable learning experience. Gamification, personalized feedback, and adaptive difficulty levels provided by AI can encourage students to remain consistent in vocabulary learning.

The finding is in line with Qiao and Zhao (2023) who found a significant influence of students' use of artificial intelligence-based tool on L2 speaking skills. The finding is also in agreement with Qiao and Zhao (2023) who found that AI tools, such as intelligent tutoring systems and language learning applications, provide personalized learning experiences tailored to individual student needs. This customization helps students learn at their own pace and focus on areas where they require more practice, thereby improving their overall language proficiency. The finding also agreed with the findings of Wang and Li (2024) who found that students using AI tools often report higher motivation levels and a more enjoyable learning experience, which can lead to improved academic outcomes. This means, students who utilize AI tools are likely to feel more motivated in their studies.

This could be due to the interactive and engaging nature of AI technologies. The use of AI tools makes the learning process more enjoyable for students. This enjoyment can stem from personalized learning experiences, gamification, or instant feedback provided by AI. This also means that the combination of higher motivation and increased enjoyment may contribute to better academic performance. When students are more engaged and find learning enjoyable, they are likely to put in more effort, leading to improved understanding and retention of material. Overall, the statement suggests that integrating AI tools into education can foster a more positive and effective learning environment, ultimately benefiting students' academic success.

Pedagogical implications for vocabulary learning

- Instructors should incorporate AI-powered tools like ChatGPT into vocabulary instruction to foster a more engaging and interactive learning experience. These tools can provide instant feedback, context-based examples, and explanations, enhancing students' motivation and interest in vocabulary acquisition.
- AI-based tools allow for personalized learning, adapting to individual students' proficiency levels and learning paces. Teachers can leverage ChatGPT to provide differentiated

instruction, ensuring that students receive vocabulary exercises and examples that match their specific needs and abilities.

- The positive influence of ChatGPT on students' attitudes suggests that it can serve as a self-directed learning resource. Educators should encourage students to use AI tools outside the classroom for independent vocabulary practice, reinforcing their learning beyond structured lessons.
- ChatGPT provides real-world contextual examples of vocabulary usage, which can improve students' understanding of word meanings, collocations, and usage in different registers. Teachers can design activities where students engage with AI-generated sentences, dialogues, and explanations to deepen their comprehension.
- While AI tools are beneficial, students should be guided on ethical use, ensuring that they do not become overly reliant on ChatGPT for vocabulary tasks such as writing assignments. Teachers should foster responsible AI use by incorporating discussions on digital literacy and academic integrity.
- AI tools like ChatGPT can be used for gamified vocabulary learning activities, such as quizzes, role-playing dialogues, and interactive storytelling. Teachers can design AI-driven competitions or collaborative learning tasks to make vocabulary acquisition more engaging.

By integrating ChatGPT into English vocabulary instruction, educators can leverage its capabilities to enhance students' engagement, self-efficacy, and overall attitude toward vocabulary learning while maintaining a balanced, critical, and ethical approach to AI-assisted education.

Conclusion

Based on the findings of the study, students' access to and use of artificial intelligence (AI)-based tools significantly influence their attitude towards English vocabulary learning. This suggests that AI-powered learning resources enhance students' engagement, motivation, and overall perception of vocabulary acquisition. The interactive and adaptive nature of AI tools likely fosters a more personalized and efficient learning experience, leading to improved attitudes toward language

learning. These results underscore the importance of integrating AI technology into English vocabulary instruction to optimize students' learning experiences and outcomes.

Recommendations for policy directions

Based on the findings of this study, the researchers recommended among others that:

1. University language departments should integrate AI-based vocabulary learning tools into their curriculum. AI-powered applications (example, ChatGPT), can enhance students' engagement and motivation by providing adaptive learning experiences tailored to their proficiency levels and learning styles.
2. Universities should organize workshops and training sessions for both students and educators on the effective use of AI-based vocabulary learning tools. This will ensure that students maximize the benefits of these tools while educators learn how to incorporate them into teaching strategies to foster a more interactive and student-centered learning environment.
3. AI tools should be customized to cater to individual student learning needs by offering adaptive vocabulary exercises, personalized feedback, and gamified learning experiences to sustain a positive attitude toward vocabulary acquisition.
4. Schools and policymakers should invest in reliable internet access, digital devices, and AI-powered educational platforms to ensure students have seamless access to AI-driven vocabulary learning tools.
5. Educational stakeholders should regularly assess the impact of AI-based vocabulary tools on students' learning attitudes and outcomes. Feedback from students and teachers should be used to improve the effectiveness of AI-assisted vocabulary learning strategies.

References

Afiene, G. A., Johnson, C., Danlami, L., & Matudi, P. (2023). Effects of teachers' use of interactive smart boards on learners' interest in learning English Grammatical Structure at the upper

basic level in Calabar South Local Government Area, Cross River State, Nigeria. *Dutse Journal of English, Literature and Linguistics (DJELL), 1*(2), 185 – 196.

Aldowsari, B. I., & Aljebreen, S. G. (2024). The Impact of Using a ChatGPT-based application to Enhance Saudi Students' EFL Vocabulary Learning. *International Journal of Language and Literary Studies*, *6*(4), 380–397. https://doi.org/10.36892/ijlls.v6i4.1955.

Algraini, F. N. (2024). Saudi Female EFL Learners' Perceptions of the Impact of ChatGPT on Vocabulary Improvement. *Theory and Practice in Language Studies*, *14*(8), 2563-2573.

Chen, L., Chen, P., & Lin, Z. (2020). Artificial intelligence in education: A review. *IEEE Access*, 8, 7525-7535.

Coursera. (2024). *What Is Artificial Intelligence? Definition, Uses, and Types*. Available at: https://www.coursera.org/articles/what-is-artificial-intelligence?utm.

Jomaa, N., Attamimi, R., & Al Mahri, M. (2024). Utilising Artificial Intelligence (AI) in Vocabulary Learning by EFL Omani Students: The Effect of Age, Gender, and Level of Study. *Forum for Linguistic Studies*, *6*(5), 171–186. https://doi.org/10.30564/fls.v6i5.6968.

Kassa, K., Arficho, Z., & Mulatu, M. (2022). Relationship Between Students' Attitude Towards Vocabulary Learning and Their English Vocabulary Knowledge. Theory and Practice in Language Studies, 12(10), 1953-1960. DOI: https://doi.org/10.17507/tpls.

Masykur, R. (2017). *Vocabulary as Part of Linguistic Competence in SMA English Textbooks in Indonesia*. *Academic Journal PERSPECTIVE: Language, Education and Literature*, *8*(1), 39-49.

Mishina, U. L. & Iskandar, I. (2019). The Role of English Language in Nigerian Development. *GNOSI: An Interdisciplinary Journal of Human Theory and Praxis*, *2*(2), 58 – 65.

Mugableh, A. I. (2024). The Impact of ChatGPT on the Development of Vocabulary Knowledge of Saudi EFL Students. *Arab World English Journal (AWEJ),* 2024, 265 - 281. DOI: https://dx.doi.org/10.24093/awej/ChatGPT.18.

Phosa, S. (2024). The study of EFL students' attitudes and behaviors toward using ChatGPT in English language learning. *Journal of English Language and Linguistics*, *4*(1), 55–68. https://doi.org/10.62819/jel.2024.656.

Phuong, H. P. X. (2024). Using ChatGPT in English Language Learning: A Study on I.T. Students' Attitudes, Habits, and Perceptions. *International Journal of TESOL & Education*, *4*(1), 55–68. https://doi.org/10.54855/ijte.24414.

Qiao, H., & Zhao, A. (2023). Artificial intelligence-based language learning: illuminating the impact on speaking skills and self-regulation in Chinese EFL context. *Frontiers in Psychology*, *2*(14), 1255594. doi: 10.3389/fpsyg.2023.1255594.

Seitz, P. (2024). Duolingo Adds AI Innovations To Language Learning App. https://www.investors.com/news/technology/duolingo-stock-ai-innovations-language-learning-app/?utm.

Wang, L., & Li, W. (2024). The Impact of AI Usage on University Students' Willingness for Autonomous Learning. *Behavioural Sciences (Basel),14*(10), 1-16. doi: 10.3390/bs14100956.

Wei, L. (2023). Artificial intelligence in language instruction: impact on English learning achievement, L2 motivation, and self-regulated learning. *Frontiers in Psychology*, 14, 1261955. doi: 10.3389/fpsyg.2023.1261955.

Xiao, L., Luo, X., & Xu, L. (2017). The Importance of Vocabulary in Language Learning and How to be Taught. *International Journal of Teaching and Education*, *5*(3), 29-33.

Zucchet, E. (2023). How artificial intelligence is revolutionizing language learning. https://www.berlitz.com/blog/artificial-intelligence-ai-language-learning?utm.