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Empowering Omani EFL Learners Through AI-Based Vocabulary Instruction: Reimagining Next Generation

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Abstract

This study emphasizes the role of Artificial Intelligence (AI) in aiding Omani students in the General Foundation Program to learn English as a Foreign Language (EFL). Despite the growing use of AI tools like ChatGPT, Google Translate, and Grammarly, there is limited research in Oman on learners' attitudes and the implications of AI for vocabulary instruction. A mixed-methods research design was used, and the sample comprised 151 respondents studying in the Sultanate of Oman. SPSS version 29 was used to analyze the quantitative data. The qualitative data revealed that EFL Omani students relied heavily on ChatGPT (49.7%) as the most widely used AI tool, followed by Google Translate (21.2%), Gemini AI (17.9%), Grammarly (6.6%). In addition, the trust in AI (frequency: 60), followed by cross-checking the meaning with other reliable resources (frequency: 67), learner autonomy (frequency: 67), and academic honesty (frequency: 64), but learning grammar, enhancing writing and reading skills had the lowest frequency. The quantitative data indicate an overall mean score of 3.67, suggesting a high frequency of AI tool use for vocabulary learning. The lowest mean score, 3.45, corresponds to the students' trust in the new vocabulary suggested by AI tools. In contrast, the effectiveness of AI tools received the highest mean score of 3.92. Additionally, it was found that AI tools, learners' attitudes and challenges, learning strategies, digital literacy, and how factors such as gender and academic level affect AI-assisted vocabulary learning in EFL Omani students were examined for vocabulary acquisition.

Keywords:- Artificial Intelligence, Vocabulary learning, AI tools, Learning strategies, Digital efficacy

I. INTRODUCTION

In the 21st century, the use of digital devices has become a way of life, with smartphones, tablets, and laptops now essential tools for learning vocabulary and communication. The advent of such pervasive technology has led to its widespread into every aspect of life, including education. One field in which digital tools and relevant teaching methods used is language education (Sule, 2024). Studies have proven that the surge in the use of digital resources in language studies is mainly due to their ability to enhance learning outcomes (Zhang & Zou, 2022). Although there are many well-known advantages of digital tools, such as the wide availability of language-learning apps, audio, video, and gaming resources, these can often serve as distractions in class and hinder learning. Concentration is broken when notifications pop up, and there is always the danger of becoming too engrossed in irrelevant content. Research also suggests that multitasking on phones or other digital devices can impede our memory and ability to understand concepts. A particular study indicated that people who have the habit of completing different tasks at once often found it difficult to concentrate on one and ended up losing focus since multitasking needs split attention (Asuako et al., 2025; Ophir et al., 2009; Mancone et al., 2024; Fischer & Plessow, 2015). Keeping newly aquired vocabulary and understanding grammatical structures for the long term is the major challenge for language learners. Sandua (2024) notes that learners who frequently check notifications and scroll through social media often experience decreased productivity and increased cognitive load. This can be a matter of grave concern for language learners, as their functional memory may be too occupied by multitasking, thereby obstructing the transfer of newly acquired words from short-term to long-term memory (Sweller et al., 2011). Thus, while digital tools can be of great assistance in learning languages,

they might also actively interfere with our ability to remember and store information in the long run. Therefore, sharing the concept of adopting a minimalistic approach to life (Newport, 2019), which emphasizes the importance of reducing problematic technology use and overuse of digital devices, digital minimalism in language learning and vocabulary acquisition raises the question of whether minimalistic use of digital devices and learning platforms can contribute to better learning and acquisition. Hence, Vocabulary is crucial for mastering any language and is the foundation for effective communication. Many Omani EFL learners struggle to acquire and retain English vocabulary due to limited exposure and reliance on rote learning. Recent advancements in AI, such as translation apps and chatbots, offer new opportunities to enhance vocabulary learning. These tools offer real-time feedback, contextual examples, and gamified reinforcement, which traditional methods often lack. This proposal builds on research from Oman showing that students use AI tools for vocabulary learning and generally view them positively. The study aims to explore how AI is transforming vocabulary learning practices among Omani EFL learners and how these changes can inspire innovative teaching methods.

II. BACKGROUND

Language learning has become a global phenomenon thanks to advancements in technology. AI-driven applications have greatly enhanced learner engagement, independence, and the ability to track progress on a personalized level. Higher education institutions, especially in Foundation Programs, are increasingly utilizing AI tools such as Google Translate, ChatGPT, and Duolingo informally for vocabulary acquisition. This widespread use should provide reassurance to educators and policymakers about the significance and acceptance of AI among students, underscoring the need to understand its effects. There is still a lack of empirical research on this topic. the educational value, learning outcomes, and equitable access of these tools. Many studies indicate that while Omani students predominantly use AI tools for translation and vocabulary understanding, they also face challenges with trust and accuracy.

III. LITERATURE REVIEW

Advanced technologies have made the language teaching and learning process much more attractive, interesting, engaging, and varied. Based on multiple studies on technology and education, adopting current technologies can increase students' learning motivation and interactive behavior in the classroom (Alwahoub et al., 2020). Several studies have found that mobile learning has facilitated learning of foreign languages compared with the traditional method (Jomaa & Kamal, 2023). Additionally, Wang, Teng, and Chen (2015) found that students' engagement in learning English increases when technological applications are used. It was observed that learning vocabulary through these applications is associated with high confidence among most students. However, variables such as students' age, affective filter, and language threshold need to be considered when integrating technology into language instruction (Yu & Trainin, 2022). In acquiring or learning any language, obtaining sufficient vocabulary plays a fundamental role in mastering a language that is particularly significant for university students, since the depth of academic vocabulary knowledge learned by students has a rational indication of academic success, as it could subsequently enhance understanding of more specialized academic texts and lectures[23]. Moreover, Elder and Von Randow (2008) state, "The size of a student's lexicon functions as an effective predictor of academic success" (p. 177). In other studies, vocabulary size is considered the best indicator of overall academic achievement (Cloate, 2016). Thanks to advanced technology, particularly AI tools, learning foreign languages has become conceptually easier. In their study of using AI tools for language learning, they found that ChatGPT has a positive impact on writing skills, thereby encouraging students, especially in online classes and interactive language-learning experiences, but has limited effects on speaking, grammar, and vocabulary. Additionally, ChatGPT was found to expand students' understanding of diverse cultures and enhance their creative and thinking skills during classroom activities (Karataş et al., 2024). Another study (Rusmiyanto et al., 2023) found that AI tools have the potential to enhance English communication skills significantly. These findings emphasize the pedagogical implications, including personalized learning experiences and learner autonomy. In the context of Saudi Arabia, it was revealed that using a chatbot, a new technology, could positively enhance ESP learners' ESP vocabulary (Qasem et al., 2023). In his study on ChatGPT in teaching English, Al Khresheh[30] illustrated that pedagogically incorporating ChatGPT can provide students with real-time, adaptive feedback, thereby allowing for instant modifications and explanations. In another study, Alharbi and Khalil (2023) found that 80.6% of respondents, students, had a positive attitude toward using AI tools effectively to learn English vocabulary. Similarly, Sumakul et al. (2022) found that students had a positive stance toward the use of AI tools in the classroom. (Oktadela et al., 2023) added that the Chatbot application led to greater happiness and enthusiasm among students in their English language development. This experience has led to an increase in their English vocabulary through conversing with the chatbot application. Consequently, employing these AI tools can serve varied purposes; for instance, Alsadoon (2021) enumerated that, for vocabulary learning, translation ranked highest, followed by the dictionary. Compared with another study (Hendrawaty et al., 2024), ChatGPT was the most common alternative used by foreign learners to learn vocabulary, followed by Quizzes, Duolingo, and Kahoot. This result clearly shows that students learn vocabulary better when it is associated with fun, entertainment, and something they choose to watch rather than something imposed on them. (Keerthiwansha, 2018) also showed that Memrise has the potential to positively influence vocabulary learning, with themes such as mobile app preferences, technical considerations, autonomy, motivation, and gamification. In their study, Leong, Pataranutaporn, Danry, Perteneder, Mao, and Maes (2024) showed that generative AI-driven context personalization could positively influence learning motivation.

IV. PROBLEM STATEMENT

Educators knew that learners could achieve independent vocabulary learning through AI tools, but they should understand learners' perceptions of their effectiveness. Numerous students rely on AI for translation rather than cultivating a deeper understanding of vocabulary and its context. So, educators often lack structured guidance on how to incorporate AI

tools meaningfully into their classroom instruction. Hence, this study aims to display the gap by examining learners' patterns of AI tool use, their attitudes towards these tools, and their learning strategies and digital efficacy.

V. PURPOSE OF THE STUDY

The primary purpose of this study is to explore the utilization and perceived effectiveness of AI tools in English vocabulary learning among Omani EFL students. It aims to:

- Identify the most common AI tools and strategies used for vocabulary learning.
- Examine learners' attitudes toward the effectiveness, trustworthiness, and usability of AI tools.
- Determine whether demographic factors (age, gender, level of study) influence AI-assisted vocabulary learning.
- Provide recommendations for integrating AI-supported vocabulary learning into the EFL curriculum.

VI. RESEARCH OBJECTIVES

- To identify the most commonly employed AI tools.
- To analyze learners' attitudes toward the usefulness and reliability.
- To examine the impact of gender, and level of study.
- To identify learning strategies employed using AI Tools.
- To examine the digital literacy and learner autonomy.

VII. RESEARCH QUESTIONS

- Which AI tools and purpose most commonly employed by Omani EFL students to learn English vocabulary?
- To what extent does digital literacy support Omani EFL students' vocabulary learning using AI tools?
- What are the attitudes and reliabilities of Omani EFL students toward AI?
- What learning strategies and learner autonomy utilized?
- Do demographic factors influence AI tool use and perception

VIII. THEORETICAL FRAMEWORK

This paper employed Technology Acceptence Model (TAM) as its theoretical framework. TAM was originally developed by Davis (1989) to explain acceptance or rejection of technologies by users. The users' adoption and intention to use technologies are determinedby their perceived usefulness and ease of use. TAM has been applied effectively in various EFL studies Liu and Ma (2024).

IX. METHODOLOGY

9.1. Research Design: Quantitative and qualitative mixed methods.

A mixed-methods design employed, integrating both quantitative and qualitative approaches. The quantitative component involved structured questionnaires using a 5-point Likert scale to measure frequency of AI use, perceived effectiveness, and learner attitudes.

9.2. Participants

A total of 151 English as a Foreign Language (EFL) students of the English foundation program in the Sultanate of Oman joined the study (M ≈ 18–19 years). The study analyzed questionnaire responses from 151 Omani EFL students regarding their use of Artificial Intelligence (AI) tools for English vocabulary learning. The survey included demographic questions, Likert-scale items related to attitudes, trust, perceived effectiveness, digital literacy, learning strategies, and learner autonomy. The ratio of participants were as follows: Female: 94 (62.3%) and male: 53 (35.1%).

9.3. Research Ethical Approval

This study obtained approval from the Research Department before the data collection. In addition, to ensure ethical standards, the respondents were given clear instructions on the goals of the study before responding to the questionnaire and interviews. All collected data were securely stored and devoid of personal identification markers by assuring the respondents that their responses used strictly for research and academic purpose

9.4. Instruments

The study adapted questionnaires from Alharbi & Khalil (2023) and Jomaa et al. (2024), consisting of 33 Likert-scale questions. The questions were finalized after the validation of two professionals. For the Reliability Testing, Cronbach's Alpha was used to assess internal consistency (target $\alpha > 0.90$. An independent-samples t-test was conducted to examine whether gender influenced students' attitudes toward AI-assisted vocabulary learning. The gender and AI attitudes difference was 0.006. Since the p-value was less than 0.05, the result indicates a statistically significant difference in attitudes toward AI tools between male and female students. A one-way ANOVA was conducted to determine whether students' level of study influenced their attitudes toward AI-assisted vocabulary learning, with a p-value of 0.015.

9.5. Data Analysis and collection

For Quantitative Analysis, descriptive statistics (mean, SD, frequency), t-tests, and ANOVA using SPSS to determine the influence of demographic factors on AI use. For qualitative Analysis, Thematic coding of open-ended responses to identify

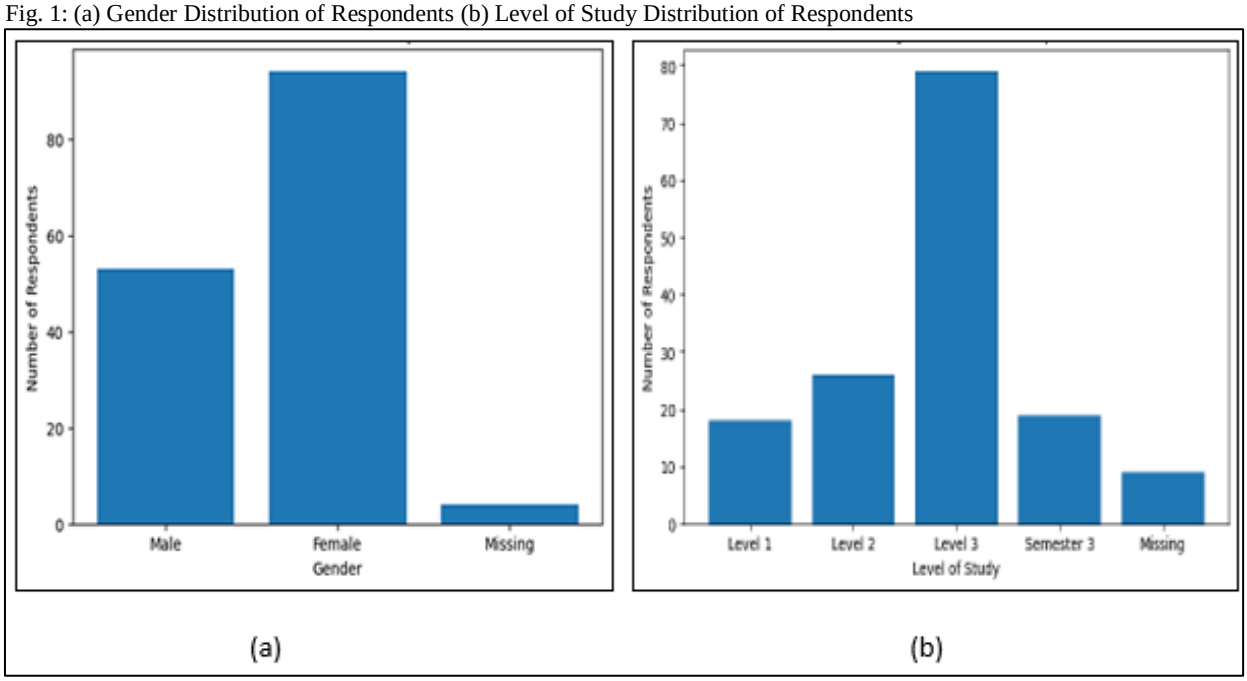
recurring patterns in tool preference, challenges, and learning outcomes, and Integration of quantitative and qualitative findings to enhance validity and interpretive depth.

The questionnaire included four parts: the first part contained questions on independent variables, such as gender, age, and level of study. Regarding age, participants were divided into two groups: group 1: 17–18–19, and group 2: 20–21–22. Regarding the level of study, students need to complete four preliminary English levels at the Preparatory Studies Center before they are allowed to embark on the specialty courses of their individual pathways of study; each preliminary English level lasts one semester. However, some students may join level 3 or level 4 directly based on their English placement test results. The second part included closed-ended questions (20 question items) with a five-point Likert scale ranging from 1. Strongly disagree with 5. Strongly agree.

X. RESULTS

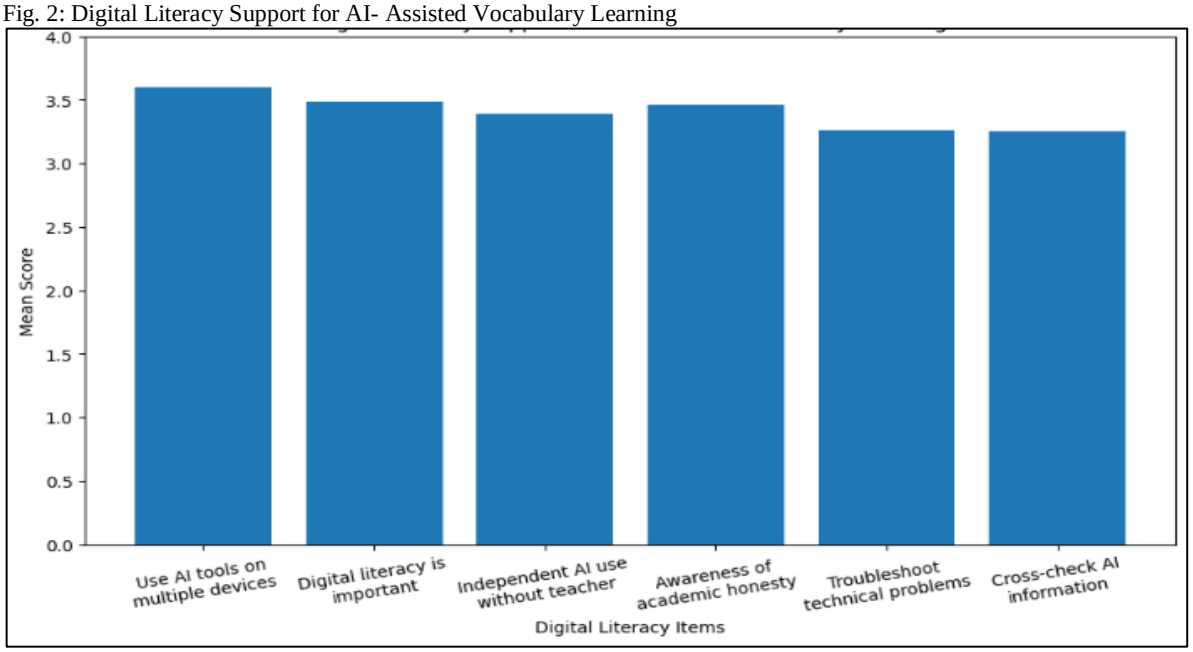
The survey was distributed randomly and sent online via Google Form to 151 EFL Omani students studying the General Foundation Program in the Sultanate of Oman. The below graphs show the demographic overview of Section A:

Fig. 1: (a) Gender Distribution of Respondents (b) Level of Study Distribution of Respondents



The overview of Section-B on Attitudes, Trust, Perceived Effectiveness and Frequency of AI Tool Usage is as follows:

Fig. 2: Digital Literacy Support for AI- Assisted Vocabulary Learning



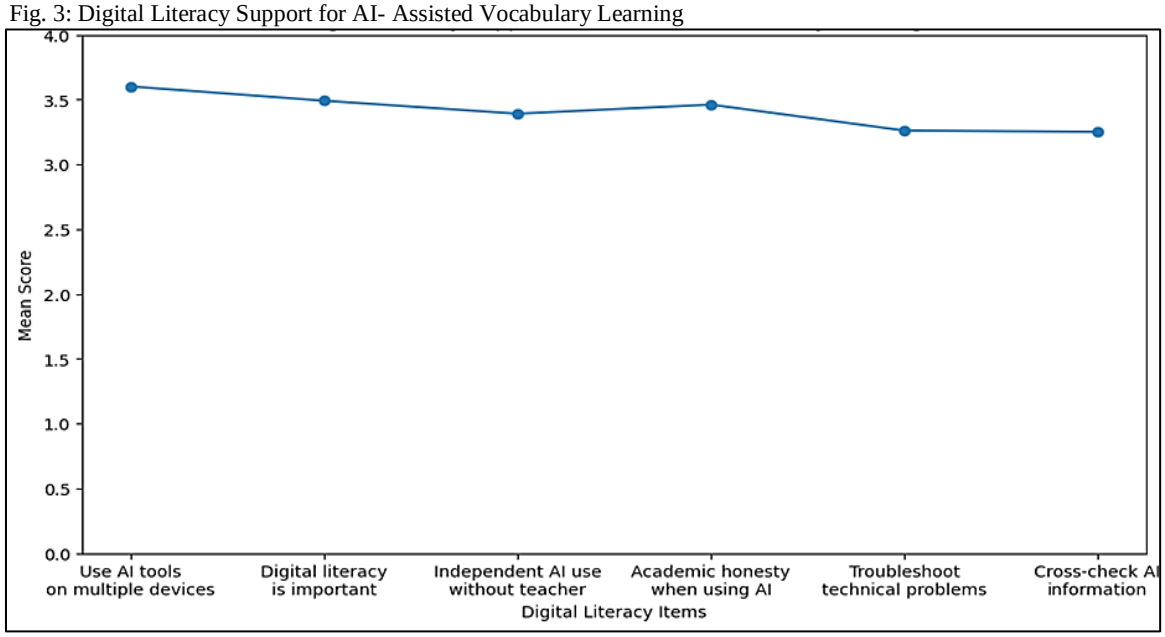
Participants generally viewed AI positively and believed it enhanced vocabulary learning. Students appreciated the convenience, accessibility, and motivational value of AI tools. Nevertheless, the comparatively lower trust scores indicate that students still value teacher guidance and traditional learning resources. This suggests that learners perceive AI as a supportive educational tool rather than a complete replacement for teachers or dictionaries.

However, lower scores related to troubleshooting and verification suggest that some students still rely heavily on AI-generated content without consistently evaluating its accuracy. This highlights the need for instructional support focusing on

critical digital literacy skills, ethical AI use, and information verification. These findings also suggested that Omani EFL learners primarily use AI as a practical vocabulary support tool. Students value AI applications because they provided immediate explanations, contextual examples, and translation assistance. The strong preference for ChatGPT demonstrated the growing importance of generative AI in language learning.

The overview of Section C – Digital Literacy Skills in Using AI Tools is as follows:

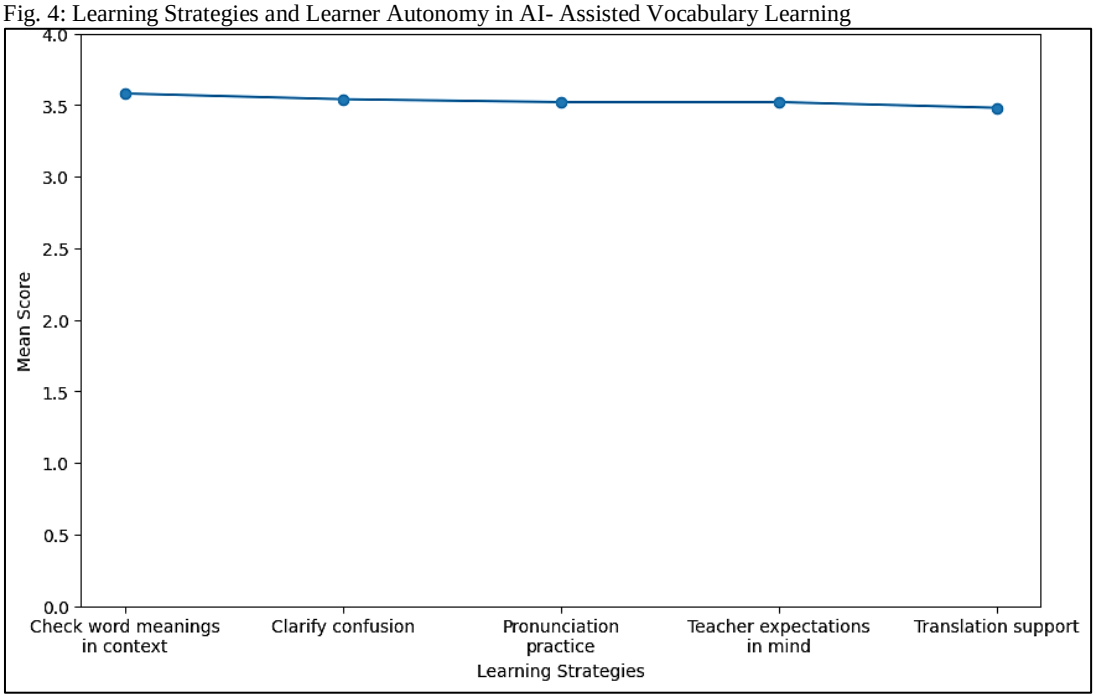
Fig. 3: Digital Literacy Support for AI- Assisted Vocabulary Learning



The above findings demonstrated that digital literacy plays a significant role in enabling effective AI-assisted vocabulary learning. Students generally showed confidence in operating AI tools across different devices and recognized the importance of digital literacy in language learning.

The overview of Section D- Leaner Autonomy Using AI Tools is as follows:

Fig. 4: Learning Strategies and Learner Autonomy in AI- Assisted Vocabulary Learning



The findings showed that students actively employ AI tools as self-regulated learning aids. Learners demonstrated moderate levels of autonomy by independently using AI tools for vocabulary practice, pronunciation support, sentence checking, and clarification of misunderstandings.

The results also indicated that students combine AI-assisted learning with teacher guidance rather than relying entirely on autonomous learning. This balanced approach reflects a blended learning strategy in which AI complements classroom instruction.

10.1. Most Common AI Tools to Learn Vocabulary

The results revealed that students frequently used AI-powered applications for vocabulary learning. Among the reported tools, ChatGPT emerged as the most widely used AI application, followed by Google Translate and Gemini AI.

Table 1. Common AI Tools to Learn Vocabulary

AI Tool	Frequency
ChatGPT	75
Google Translate	32
Gemini AI	27
Grammarly	10

The findings indicate that conversational AI platforms are becoming increasingly popular among Omani EFL learners due to their accessibility, immediate feedback, and interactive learning support. The top-used tools are explained as follows:

10.1.1. ChatGPT

ChatGPT represents the highest level of application of AI tools among Omani male and female students learning English vocabulary. This result can be associated with the use of AI tools, where the majority of Omani students use them to translate and understand the meanings. This may be due to students' inability to comprehend the meaning of a text or a sentence unless it is translated. This application is also commonly used by Omani students, particularly to support their writing tasks and assignments. It is also used to provide students with examples of some specific grammatical rules.

10.1.2. Google Translate

It seems that both Google Translate and ChatGPT serve the same purpose; therefore, they are commonly used by Omani students. Students use them overwhelmingly to translate from English into Arabic and vice versa to better understand the texts and assist them in enhancing their vocabulary.

10.1.3. Gemini AI

Gemini AI is ranked fifth among the most common AI tools to learn English in general and vocabulary in particular. The special feature of this application is its comprehensive scope, whereby all language skills, namely listening, speaking, reading, writing, and language areas, such as grammar, vocabulary, and pronunciation are included. Learners need to pass each lesson and unit to move to the following step.

10.1.4. Grammarly

This is least commonly used AI tool among the Omani students in this particular university. Its due to paid app many students cannot afford.

10.2. Common Learning Strategies Using AI Tools

Table 2 below shows the learning strategies utilized by Omani students while using AI tools to learn English. Translating the meaning of new words occupied the highest ranking among other learning strategies used by Omani students. This can be noticed in the classroom while doing their activities, especially fill-in-the-blank activities and writing new sentences using the new words. Learning new vocabulary had the second ranking among other learning strategies. No doubt that learning a foreign language starts with vocabulary; therefore, Omani students select such a strategy to increase the size of their vocabulary. To translate the meaning of a full sentence was ranked third. It is associated with strategy No. 1, but the difference here is translating a full sentence. This learning strategy may be followed by Omani students to save time spent compared with translating the meaning of individual words. To pho to shoot a full text and translate it is another strategy ranked fifth that is related to translating a text from English into Arabic or from Arabic into English. This implies that a third of the learning strategies in utilizing AI tools is linked with translation. Learning other language areas, such as pronunciation also motivated Omani students to use AI tools to learn the correct pronunciation of strange words.

Table 2. Common Learning Strategies Using AItools.

Rank No	Strategies	Frequency
1	To translate the meaning of a word.	141
2	To learn new vocabulary.	134
3	To translate the meaning of a full sentence.	91
4	To learn the correct pronunciation of strange words.	90
5	To photo shoot a full text and translate it.	84
6	To enhance my speaking skills	79
7	To enhance my listening skills	74
8	To improve my English in general	71
9	To learn language grammar	67
10	To enhance my writing skills	65
11	To enhance my reading skills	58
12	Other benefits	50

10.3. Attitudes, Trust and Perceived effectiveness of Omani Students Toward Employing AI Tools to Learn English Vocabulary

In general, Omani students revealed a positive stance toward employing AI tools to learn English vocabulary. Table 3 reports the mean, std. deviations, and frequency of use of the 20 question items.

The lowest mean as clarified in Table 4 is associated with question item Q6 since some AI tools may provide wrong information; therefore, learners cannot completely trust the feedback given. This implies that self-learning is sometimes challenged unless accompanied by the feedback offered by the English instructors. This question item is correlated with question item Q19, "I think some answers of AI tools include wrong information", which had a high mean. In contrast, all other question items had a high mean, thereby implying a positive stance by Omani students toward using AI tools to learn English vocabulary.

Table 5 reveals the mean and standard deviation of the 20 questions items that compose the full questionnaire. The overall mean showed high use. Notably, the responses to all individual question items were high excluding one question item Q6, "I completely trust the vocabulary words or phrases recommended by AI tools", which was reported with medium use (3.4576). This means that language learners know that AI tools to learn new vocabulary have not succeeded in gaining learners' complete trust. In contrast, question item Q1, "Using AI for vocabulary learning is effective and beneficial for me" had the highest mean (3.9237).

Table 3. Mean, St. Deviation and frequency of use.

No	Question Items	Mean	St. Deviation	F.
Q1	I feel comfortable and confident when I use AI apps for learning English	3.9237	0.95121	High
Q2	I trusted that AI-assisted vocabulary exercises are easy to understand.	3.7712	0.97554	High
Q3	I would recommend AI-based vocabulary tools to my peers because of their ease of use.	3.6864	0.91511	High
Q4	I enjoy using AI tools because they make learning English fun and motivating.	3.5339	1.02880	High
Q5	I believe AI-based vocabulary tools are dependable for regular learning.	3.5339	1.05735	High
Q6	I feel confident using AI tools without always checking a dictionary or teacher.	3.4576	0.99054	High
Q7	AI tools are effective to my understanding of how words are used in sentences.	3.6568	0.97457	High
Q8	I use AI tools every week to improve my English vocabulary knowledge.	3.6229	1.02196	High
Q9	I can troubleshoot basic technical problems when using AI tools.	3.7203	0.99689	High
Q10	I cross-check AI-generated vocabulary with other reliable sources.	3.8136	0.89869	High
Q11	I can identify incorrect or misleading vocabulary suggestions from AI tools.	3.5890	0.91123	High
Q12	I believe digital literacy is important for effective AI-assisted learning.	3.5085	1.00844	High
Q13	I use AI tools independently without any constant teacher guidance.	3.7203	0.93067	High
Q14	I respect academic honesty when using AI tools when choosing vocabulary for assignments.	3.5805	0.98385	High
Q15	I use AI tools to learn synonyms and antonyms of new words.	3.8644	0.90779	High
Q16	I use AI tools to learn the correct pronunciation of unfamiliar words.	3.8390	0.96289	High
Q17	I use AI tools to translate full sentences to understand meaning better.	3.8051	0.88734	High
Q18	I use AI tools to revise and review vocabulary from the vocabulary list provided by the teacher.	3.7839	0.93622	High
Q19	I feel motivated to learn English when using AI tools independently.	3.5339	0.99087	High
Q20	When I get confused, I use AI tools to clarify my understanding.	3.7034	0.90680	High

Table 4. Highest and lowest means of the 20 question items.

No	Question Items	Mean	St. Deviation	No
Q6	I feel confident using AI tools without always checking a dictionary or teacher.	3.4576	0.99054	236
Q12	I believe digital literacy is important for effective AI-assisted learning.	3.5085	1.00844	236
Q19	I feel motivated to learn English when using AI tools independently.	3.5339	0.99087	236
Q4	I enjoy using AI tools because they make learning English fun and motivating.	3.5339	1.02880	236
Q5	I believe AI-based vocabulary tools are dependable for regular learning.	3.5339	1.05735	236
Q14	I respect academic honesty when using AI tools when choosing vocabulary for assignments.	3.5805	0.98385	236
Q11	I can identify incorrect or misleading vocabulary suggestions from AI tools.	3.5890	0.91123	236
Q8	I use AI tools every week to improve my English vocabulary knowledge.	3.6229	1.02196	236
Q7	AI tools are effective to my understanding of how words are used in sentences.	3.6568	0.97457	236
Q3	I would recommend AI-based vocabulary tools to my peers because of their ease of use.	3.6864	0.91511	236
Q20	When I get confused, I use AI tools to clarify my understanding.	3.7034	0.90680	236
Q9	I can troubleshoot basic technical problems when using AI tools.	3.7203	0.99689	236
Q13	I use AI tools independently without any constant teacher guidance.	3.7203	0.93067	236
Q2	I trusted that AI-assisted vocabulary exercises are easy to understand.	3.7712	0.97554	236
Q18	I use AI tools to revise and review vocabulary from the vocabulary list provided by the teacher.	3.7839	0.93622	236
Q17	I use AI tools to translate full sentences to understand meaning better.	3.8051	0.88734	236
Q10	I cross-check AI-generated vocabulary with other reliable sources.	3.8136	0.89869	236
Q16	I use AI tools to learn the correct pronunciation of unfamiliar words.	3.8390	0.96289	236
Q15	I use AI tools to learn synonyms and antonyms of new words.	3.8644	0.90779	236
Q1	I feel comfortable and confident when I use AI apps for learning English	3.9237	0.95121	236

Table 5. The effect of age on using AI tools to learn English vocabulary.

Q	Age	N	Mean	St. Deviation	Std. Error Mean	Frequency of Use
Q1	17–19	172	3.9070	0.98084	0.07479	High
	20-22	64	3.9688	0.87230	0.10904	High
Q2	17–19	172	3.7674	0.97542	0.07438	High
	20-22	64	3.7813	0.98349	0.12294	High
Q3	17–19	172	3.6395	0.92291	0.07037	High
	20-22	64	3.8125	0.88864	0.11108	High
Q4	17–19	172	3.5581	1.04970	0.08004	High
	20-22	64	3.4688	0.97539	0.12192	High
Q5	17–19	172	3.4709	1.06198	0.08098	High
	20-22	64	3.7031	1.03402	0.12925	High
Q6	17–19	172	3.4419	0.96251	0.07339	High
	20-22	64	3.5000	1.06904	0.13363	High
Q7	17–19	172	3.6628	0.95649	0.07293	High
	20-22	64	3.6406	1.02921	0.12865	High
Q8	17–19	172	3.6047	0.98858	0.07538	High
	20-22	64	3.6719	1.11348	0.13918	High
Q9	17–19	172	3.6802	0.97756	0.07454	High
	20-22	64	3.8281	1.04737	0.13092	High
Q10	17–19	172	3.7907	0.93804	0.07152	High
	20-22	64	3.8750	0.78680	0.09835	High
Q11	17–19	172	3.5581	0.86659	0.06608	High
	20-22	64	3.6719	1.02438	0.12805	High
Q12	17–19	172	3.4535	1.00475	0.07661	High
	20-22	64	3.6563	1.01134	0.12642	High
Q13	17–19	172	3.7267	0.93081	0.07097	High
	20-22	64	3.7031	0.93740	0.11718	High
Q14	17–19	172	3.5116	1.00576	0.07669	High
	20-22	64	3.7656	0.90400	0.11300	High
Q15	17–19	172	3.8198	0.92215	0.07031	High
	20-22	64	3.9844	0.86359	0.10795	High
Q16	17–19	172	3.8547	0.93461	0.07126	High
	20-22	64	3.7969	1.04167	0.13021	High
Q17	17–19	172	3.8198	0.90293	0.06885	High
	20-22	64	3.7656	0.84969	0.10621	High
Q18	17–19	172	3.7849	0.92730	0.07071	High
	20-22	64	3.7813	0.96722	0.12090	High
Q19	17–19	172	3.5349	0.94526	0.07208	High
	20-22	64	3.5313	1.11225	0.13903	High
Q20	17–19	172	3.6860	0.89523	0.06826	High
	20-22	64	3.7500	0.94281	0.11785	High
Overall	17–19	172	3.6637	0.64857	0.04945	High
	20-22	64	3.7328	0.70796	0.08850	High

It shows no significant differences among Omani students in terms of employing AI tools to learn English vocabulary. This means that age does not have any effect on Omani students' attitudes and inclinations to use AI tools. In the Omani context, using smart phones starts at a nearly stage, where by children and teens use them as devices to play games or watch videos. This implies that all students can be considered as the digital generation who can use mobile devices smartly and have access to the internet. Therefore, age might have an influence when considering students with varied generations.

XI. SIGNIFICANCE OF THE STUDY

This study concluded up with language learning and teaching enhancement in the higher education institutions in Oman and other Gulf region. It offered empirical evidence on how Omani EFL students engage with AI tools for vocabulary learning and validated theoretical models such as TAM in this context. Findings recommended teachers and curriculum designers on how to effectively integrate AI-based applications into vocabulary instruction. It highlighted strategies to balance technological autonomy with teacher-guided scaffolding, ensuring that AI complements rather than replaces traditional pedagogy. In addition, the study guided educational institutions and policymakers in Oman toward data-driven decisions regarding AI adoption in ELT. It also supported Oman Vision 2040 goals by fostering digital literacy and innovative learning ecosystems within higher education.

XII. DISCUSSION

This mixed method study aimed to examine the attitude of Omani students toward using AI tools in learning English in general and vocabulary in particular. The questionnaire questions representing the qualitative approach was distributed to 200 students. 151 Questionnaires were responded to by Omani students studying the foundation program at a university in the Sultanate Of Oman. The qualitative findings revealed that ChatGPT and Google Translate were the most common AI tools used mainly by Foundation students to translate the meanings of a new word or a full sentence or learn new vocabulary. For non-native speakers like Omani students, obtaining meanings of new words in English is basic to comprehend the text and ensure that their message is delivered well. Therefore, they depend heavily on Google Translation and ChatGPT to get the meanings of new words. This finding partially agrees with the results of other studies.

Consequently, it can be argued that advanced technologies have made the language teaching and learning process much more attractive, interesting, engaging, and varied (Mooij, 2007). Moreover, students like learning English better, and their engagement with learning English increases by employing applications on iPads, which is characterized by high confidence among the majority of the students.

One of the significant findings reported in this study is the potential of leaner autonomy, perceived effectiveness, digital literacy and self-learning of English vocabulary that can be enhanced by using AI tools, particularly since the majority of students have access to the internet on their mobile phones[20]. However, self-learning utilizing AI tools needs to be examined thoroughly to measure the extent to which students remain engaged and motivated to continue studying outside the classroom because the majority of the language applications based on AI tools are not integrated with the curricula that teachers teach.

XIII. CONCLUSION

Employing a mixed research design could present thoughtful insights into the attitudes and perspectives of EFL Omani students toward utilizing AI tools to learn English in general and vocabulary in particular. Pedagogically, although AI-based vocabulary learning tools are engaging and motivating, a need arises for thorough research to evaluate their pedagogical efficacy compared to traditional methods. In other words, experimental studies can be conducted on students and learners in different contexts with varied L1 and L2 backgrounds to explore the perspectives of more participants and examine aspects for a long-term period, including vocabulary retention, communication skills, reading comprehension, and writing skills. Effective feedback is also crucial for vocabulary learning; nonetheless, the quality and timing of feedback offered by AI systems need further research to compare the feedback given by language instructors and the automatic feedback provided by AI tools. Further, studies should focus on how AI-driven vocabulary learning tools could be integrated into language curricula and instructional practices. This may include exercises related to the reading materials and other language skills and areas that need to be considered to provide language learners with a comprehensive journey that mimics reality. Other studies can also explore the effect of AI tools on improving vocabulary skills at the postgraduate level.

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DECLARATION

Authors' Contributions

- Ameena Mohamed Ali: Drafting the study framework, study design, data collection, results, revision
- Frah Al Busaidi: Literature review, data collection, data analysis, references, revision

Both authors contributed equally to this work and are considered co-first authors.

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