East Asian Journal of Multidisciplinary Research (EAJMR)
Vol. 4, No. 11, 2025: 5323 - 5334

Students' Experiences and Pre-AI Strategies in Learning English Vocabulary

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A R T I C L E I N F O

Keywords: Vocabulary, learning, Pre-AI strategies, experiences, EFL

Received : 01, November
Revised : 15, November
Accepted: 26, November

A B S T R A C T

This research aims to explore students' experiences and strategies in learning English vocabulary before the emergence of the use of artificial intelligence (AI)-based technology. The study used a descriptive qualitative design, involving 40 students from the English Education Program of PGRI Silampari University as respondents. Data were collected through an open-ended questionnaire and analyzed using thematic analysis techniques. These findings show a shift towards the use of digital technology, although conventional strategies are still the most widely used. The study contributes by highlighting students' early practices prior to AI adoption, while also providing implications for educators and learning technology developers.

DOI prefix: https://doi.org/10.55927/eajmr.v4i11.410
ISSN-E: 2828 – 1519 (Online)
https://mtiformosapublisher.org/index.php/eajmr

INTRODUCTION

Vocabulary acquisition has been acknowledged as a fundamental component of second language learning, as lexical knowledge supports the enhancement of all other linguistic competencies, including listening, reading, speaking, and writing (Nation, 2020). In English as a Foreign Language (EFL) settings, students' proficiency in understanding texts, participating in dialogues, and articulating concepts fluently is significantly influenced by the breadth and depth of their vocabulary. Teacher-centered and form-focused methods like rote memorization of word lists, textbook drills, translation practices, and dictionary-based study have been the most common ways to teach vocabulary (Schmitt, 2020). Learners frequently utilized repetitive techniques, including flashcards, note-taking, and inferring meaning from context. While these methods contributed to building lexical knowledge, they were often criticized for their lack of contextual richness, limited opportunities for individualized learning, and inability to maintain long-term motivation (Çakmak & Erçetin, 2021). The field has undergone a substantial transformation in the past two decades, with the swift incorporation of digital technology into education resulting in new strategies and tools for learners. This change has been especially noticeable since mobile learning and, more recently, AI-based apps came along. These apps let learners interact with vocabulary in more personalized, interactive, and adaptive ways (Teymouri, 2024).

The main issue is that vocabulary learning is changing a lot from traditional methods to ones that use technology, and this change is happening faster because smartphones, learning management systems, and generative AI tools are everywhere. Technology-assisted vocabulary learning (TAVL) and mobile-assisted vocabulary learning (MAVL) have shown clear pedagogical benefits, such as giving students more control over their learning, helping them remember things better through spaced repetition, and making learning more fun through games (Dağdeler, 2023). For instance, digital flashcard systems like Quizlet or Anki use spaced-repetition algorithms to help people remember things better. Multimodal learning apps, on the other hand, give people both auditory and visual input that works for different learning styles. Systematic reviews have consistently identified favorable outcomes regarding vocabulary enhancement when learners utilize technology-based strategies, especially in EFL and ESL contexts (Wiley, 2024). Additionally, the emergence of AI-driven applications and conversational chatbots has established a novel paradigm: AI tools can now deliver real-time corrective feedback, adaptive lexical sequencing, and contextualized examples customized to the learner's proficiency and interests (Du, 2024). These improvements are a big step forward from static digital resources, making learning more interactive and tailored to each student. Preliminary empirical evidence indicates that AI-driven vocabulary practice elevates student engagement, facilitates meaningful communication, and improves retention relative to non-AI digital tools (Alqaed, 2024).

Despite this increasing evidence, current research predominantly emphasizes the efficacy of AI and technological tools, often neglecting learners' pre-AI strategies and experiences. Research conducted by Çakmak and Erçetin

(2021) and Teymouri (2024) substantiates the substantial impact of technology on vocabulary acquisition; however, they rarely investigate the micro-level, lived experiences of learners prior to the implementation of AI. In numerous instances, learners' conventional techniques—such as rote memorization, dictionary utilization, or mnemonic devices—constitute the foundational basis for their integration of technology. It's important to know this baseline because the strategies students already use may affect how ready they are to use AI tools. For example, a student who is used to spaced repetition with paper flashcards might have no trouble switching to an AI-based flashcard app. On the other hand, a student who only uses translation might have trouble with AI systems that focus on communicative contexts. Consequently, a clear research gap exists in the limited documentation and analysis of learners' pre-AI vocabulary learning strategies and how these traditional practices influence their transition toward AI-driven vocabulary learning.

This gap highlights the need for a learner-cantered investigation that captures the experiential dimension of how students perceive and adapt from conventional vocabulary learning methods to AI-assisted ones. The uniqueness of the current study resides in its endeavours to connect learners' historical and contemporary practices. Although prior studies emphasize the advantages of technology in vocabulary acquisition (Dağdeler, 2023; Wiley, 2024), limited research has systematically investigated the influence of learners' pre-AI strategies—such as memorization, context-based inference, or bilingual dictionary utilization—on their perceptions and adaptation to AI-driven tools. Therefore, the objective of this study is to explore students' experiences, perceptions, and strategies related to vocabulary acquisition before the integration of AI tools and to analyze how these experiences shape their readiness and attitudes toward AI-assisted vocabulary learning.

This not only adds to the theoretical literature on how people use technology to learn languages, but it also has real-world uses for teachers and AI tool makers. Teachers can better support the use of AI by connecting new tools to strategies that students already know. Developers can make systems that include parts of students' usual practices, which will make them easier to use and less likely to be resisted. The study also adds to bigger talks about fairness and access in AI use. It does this by acknowledging that the students' past strategies may have been affected by things like limited resources, cultural expectations, and different levels of exposure to English outside of school. Keeping track of these experiences before AI is important for understanding how students move to technology-assisted environments. It also makes sure that new educational methods are still relevant to students' real needs and backgrounds.

While literature since 2020 has robustly demonstrated the efficacy of technology- and AI-assisted vocabulary acquisition, it has inadequately explored the learner-centered approach of pre-AI methodologies. Hence, this study explicitly aims to fill this gap by documenting learners' pre-AI vocabulary learning experiences and analysing how these prior strategies influence their perceptions, adaptation, and engagement with AI-based vocabulary tools. In this way, it contributes new insights to the ongoing discussion about how students

deal with the change from traditional vocabulary learning to learning vocabulary through AI. The research question are below:

1. How do students describe their general experiences in learning English vocabulary?
2. What methods or strategies do students usually employ to improve their vocabulary before the use of AI tools?

THEORETICAL REVIEW

The Importance of Vocabulary in Language Learning

Vocabulary is the cornerstone of language proficiency because it underpins all four language skills—listening, speaking, reading, and writing. Learners cannot express meaning or understand communication effectively without sufficient vocabulary knowledge (Nation, 2020). In second and foreign language contexts, vocabulary mastery supports not only comprehension but also learner confidence and fluency. The process of vocabulary learning, however, remains complex, requiring the understanding of form, meaning, and use. Therefore, exploring how students experience vocabulary learning and what strategies they employ before the integration of Artificial Intelligence (AI) can provide valuable insights into the foundations of modern vocabulary instruction.

Students' Experiences in Learning English Vocabulary

Students' experiences in learning English vocabulary are shaped by individual motivation, exposure, and access to learning resources. Research shows that EFL learners perceive vocabulary as both challenging and essential for communication (Sari & Putri, 2021). In Indonesia, many students report using repetition, note-taking, and contextual guessing to acquire new words. However, they often struggle with retention and contextual use, revealing gaps in strategy awareness. Fu (2021) found that Chinese EFL students heavily depended on bilingual dictionaries and rote memorization, resulting in surface-level learning without deep semantic understanding. Similarly, Hapsari and Kusumaningrum (2023) discovered that students tended to memorize vocabulary for exams rather than developing communicative competence. These findings highlight that, before AI-assisted learning, vocabulary learning was primarily student-driven, repetitive, and context-limited.

Pre-AI Vocabulary Learning Strategies

Before the introduction of AI-based tools, learners relied on a variety of Vocabulary Learning Strategies (VLS) to enhance their lexical knowledge. Al-Qahtani (2021) classified these into cognitive, metacognitive, memory, social, and determination strategies. Cognitive strategies involve manipulating and practicing the target language through writing, repetition, or grouping words by theme (Zhou & Wei, 2022). Memory strategies use mental associations, imagery, or word mapping to aid recall. Metacognitive strategies help learners plan, monitor, and evaluate their learning process, promoting autonomy and awareness. In Indonesia, determination strategies—such as guessing word meaning from context or using dictionaries—are the most common among university students (Rahmah & Arifin, 2022). However, social strategies, like

asking teachers or peers for help, are less frequently employed, suggesting that vocabulary learning often occurred in isolation (Zulfikar & Putra, 2023).

Technology-Assisted Vocabulary Learning Before AI

Even before AI technology became common, learners began integrating digital tools into their vocabulary learning. Early studies on mobile-assisted vocabulary learning (MAVL) demonstrated improved motivation and engagement. Lin and Lin (2022) reported that students using mobile vocabulary apps achieved higher vocabulary retention compared to traditional learners. Similarly, multimedia exposure—such as learning vocabulary through movies, music, or games—supported incidental learning and improved contextual understanding (Ananda, 2023). These digital but non-AI tools marked a transitional phase where technology facilitated vocabulary learning without the personalization or feedback mechanisms that AI systems now provide.

METHODOLOGY

This study utilized a descriptive qualitative research design, appropriate for examining and articulating participants' experiences and strategies within their natural context. Descriptive qualitative research aims to furnish a comprehensive and nuanced depiction of the phenomenon being investigated, free from stringent theoretical constraints (Sandelowski, 2000). In this instance, the design was selected to acquire insights into students' personal experiences in learning English vocabulary and the strategies they employed prior to the utilization of Artificial Intelligence (AI) tools.

Subject of Research

The study's participants consisted of 40 students enrolled in the English Education Study Program at PGRI Silampari University. These students were chosen on purpose because they had first-hand experience with learning vocabulary in EFL settings and were a relevant group to study pre-AI strategies. People could choose whether or not to take part, and they gave their informed consent before the data was collected.

Gathering Information

An open-ended questionnaire sent out online was used to collect the data. The questionnaire included guiding questions aimed at extracting students' overall experiences in acquiring English vocabulary and the techniques or strategies they employed prior to the adoption of AI tools. This format let students say what they thought and give narrative answers, which made sure that the data was rich and varied (Creswell & Poth, 2018). It was also practical to do the questionnaire online, since it allowed students to take part even though their schedules and locations were different.

Analysis of Data

The qualitative data derived from students' responses were subjected to thematic analysis. The procedure adhered to Braun and Clarke's (2006) six steps:

(1) familiarization with the data through repeated reading of responses, (2) the generation of initial codes to identify significant units pertaining to experiences and strategies, (3) the search for themes by categorizing similar codes, (4) the review of themes to ensure coherence and alignment with the research questions, (5) the definition and designation of themes, and (6) the production of the final report. This methodical process revealed patterns concerning students' overall experiences with vocabulary acquisition and their pre-AI strategies. The analysis aimed to preserve the integrity of participants' voices while simultaneously integrating the commonalities and divergences within the group.

RESULTS

Students' experiences in learning English vocabulary

Table below is the data from the students' respond relate their experience since using technology to develop their English vocabulary.

Table. 1 Students' experiences in learning English vocabulary

Sub-Categories	**Total**
Positive/fun	30
Difficult/still limited	10
Entertainment media (film, lagu, YouTube, sosmed)	25
Books/short stories	6
Game/Apps/AI	9
Practice & repetition	14
Notes/community/tasks	6
Difficulty remembering & using vocabulary	11

Based on the results of an open questionnaire filled out by 40 students of the English Education Study Program, the majority of respondents described their experience in learning English vocabulary as something positive and fun, even though it was full of challenges. From the summary table, it can be seen that 30 respondents stated that their experience was quite good, while 10 respondents admitted that they still had difficulties and felt that their vocabulary was limited. For example, one student wrote: "Learning English vocabulary has been hard but fun at the same time. At first, I forgot new words quickly, but with practice, I started to remember them better. However, there were also respondents who expressed their limitations: "I've been learning English words since high school, and I still think my vocabulary is limited. "I often have trouble understanding new words I hear or read."
In terms of learning sources, most of the students (25 respondents) said they got their vocabulary from entertainment media like movies, songs, YouTube, Instagram reels, and social media. For example, a student said: "I learn English words from movies and music." Meanwhile, 6 people used books, short stories, or online readings, and another 9 people used games, apps, or tools AI. This shows that today's college students rely more on technology-based learning and entertainment than on traditional media.

From the point of view of learning strategies, 14 respondents emphasized the importance of repetitive practice through reading, watching, and repeating new vocabulary. One of the students wrote: "Most of the time, I learned English words by watching movies and practicing speaking English in front of the mirror." Besides that, six other respondents said they used strategies like writing things down in a notebook, joining an online community, or taking on academic challenges like memorizing 1000 words in one semester. Still, the students face the main problem of having trouble remembering new words (11 respondents). Some also mentioned problems with using vocabulary in both writing and everyday conversation. This is clear from what one of the respondents said: "Easy to remember, but I don't know how to write it down."

Overall, these findings show that students are very motivated to learn vocabulary, but they mostly use entertainment media and self-study methods. The biggest challenge is retention (recalling vocabulary) as well as active use in real contexts. Therefore, this study emphasizes the need for a more systematic learning strategy so that vocabulary is not only memorized, but also used productively.

Analyze Vocabulary Learning Strategies Before Using AI Tools

Table. 2 Analyze Vocabulary Learning Strategies Before Using AI Tools

Category Strategy	Total
Read (books, articles, texts)	14
Listen to music/podcasts	12
Watch movies/videos (with subtitles)	10
Writing & jotting down new vocabulary	15
Using a dictionary/dictionary	6
Flashcards & word lists	5
Practice speaking / making sentences	7
Game/App (Duolingo, English Linduo, dsb.)	3

Based on data from 40 respondents, it can be seen that students had a variety of traditional strategies to improve their English vocabulary before they knew or used artificial intelligence (AI) technology. These strategies can be grouped into a few main groups, such as reading, listening to music, watching movies, writing down new words, using a dictionary, using flashcards, practicing speaking, using game apps, and mixed methods.

Reading is one of the most common strategies, with 14 respondents mentioning this activity. Students often read books, articles, or texts in English to expand their vocabulary. For example, one person said, "I usually read books, watch movies, write down new words, and practice using them in sentences." It showed that reading is not only used to understand the content of the text, but is also combined with the recording and practice of using new words in sentences, making it more effective in strengthening memory.

12 respondents said that watching English-language movies or videos is also a popular strategy. Films are considered to present vocabulary in a real context, making it easier for students to understand the meaning and use of words. A student said, "Before I used AI tools, I usually improved my vocabulary by watching English movies with subtitles." This statement shows that subtitles are used as a bridge to understand new words and improve listening skills at the same time.

Listening to music is also a popular strategy, with 10 respondents choosing this method. English songs are considered interesting and make it easier for students to remember vocabulary because they are recited repeatedly in the lyrics. One person said, "I used to improve my vocabulary by listening to music and paying attention to the lyrics." This method shows that entertainment can indirectly help with learning vocabulary.

Furthermore, writing and recording new vocabulary became the most widely used strategy, namely by 15 respondents. Students usually write down a list of words, memorize them, and then use them in sentences. For example, "I used to write word lists, memorize them, and practice by reading English texts." This strategy shows that students tend to learn by doing things over and over again and writing things down.

Using a dictionary is still an important method for 6 respondents. For example, a student might say, "I open the dictionary." This shows that even though it's simple, a dictionary is still the best way to find out what a new word means. There are also five people who use flashcards as a visual aid. One person said, "I usually read articles, take notes, and use flashcards." Flashcards help you remember things better because they show words in a short, repeated way.

Another strategy that stands out is to practice speaking or writing sentences with new words. Seven people who answered said it was important to practice new words in real life. For example, "I usually wrote and made sentences and practiced speaking." This shows that students know how important it is to use vocabulary in real life, not just memorize it.

There are still only a few respondents who have tried using language learning games or apps, like Duolingo. For example, one student said, "Before I used AI tools, I worked on improving my vocabulary with interactive game apps like English Linduo and Duolingo." This shows a small shift from traditional methods to digital ones, even though AI isn't involved yet.

Interestingly, there were also respondents who mentioned flexible strategies (4 respondents). One answer said, "There is no standard; everything is flexible and can be used depending on the situation." You can do this by opening a dictionary, making small notes, or using it in context. This shows that some students don't stick to one way of learning, but instead change their strategies to fit their needs.

Overall, these results show that students rely more on traditional text-based, audio, and hands-on strategies before getting to know AI. This approach is fairly effective, but it takes longer and requires more discipline. This also shows why students feel helped when they learn about AI-based technology: AI

can speed up the process of finding meaning, examples of use, and even more modern interactive practice.

DISCUSSION

The results of this study show that students used many different methods to improve their English vocabulary before they started using AI-based tools. Thirty of the forty people who answered said their experiences were good and fun, even though ten of them said that learning vocabulary was still hard and limited. This duality shows that learning vocabulary can be both motivating and hard, depending on the strategies used (Nation, 2020). One person said, "Learning English vocabulary has been hard but fun at the same time." I forgot new words quickly at first, but after some practice, I started to remember them better. This is in line with Schmitt (2021), who says that practicing and being exposed to new words over and over again is the best way to remember them.

Most of the students (25 of them) got most of their information from entertainment media like movies, music, YouTube, and social media. This finding aligns with the research conducted by Sundqvist and Sylvén (2021), which emphasizes that informal digital learning environments—such as streaming platforms and online entertainment—substantially facilitate incidental vocabulary acquisition. A respondent's assertion, "I learn English words from movies and music," illustrates how genuine input from entertainment media can inspire learners while offering contextualized exposure to novel vocabulary.

Six people also mentioned books and short stories, which shows that traditional resources are still useful but not as popular as digital media. As Webb and Nation (2020) point out, reading is still one of the best ways to learn a lot of new words because it gives students many chances to use them in meaningful situations.

Another interesting finding is that 9 respondents used games and apps, like Duolingo, which shows that vocabulary learning is moving toward gamification. Lin and Warschauer (2020) say that digital game-based learning increases motivation and engagement, making vocabulary practice more fun. One student said, "Before I used AI tools, I worked on my vocabulary by playing interactive games like English Linduo and Duolingo." This shows that students are starting to use mobile learning more in their studies.

In terms of learning strategies, 14 respondents said that practice and repetition were important. They said that it was important to review words over and over again through reading, watching, and speaking activities. This is similar to Nation's (2022) idea that learning vocabulary requires purposeful repetition and retrieval practice to make sure it stays with you for a long time. Moreover, six students utilized note-taking, collaborative learning, or academic activities, including composing word lists or participating in online groups. These strategies are similar to what Oxford (2020) says about learner autonomy and metacognitive regulation in vocabulary learning.

Even with these efforts, 11 people said they had trouble remembering and using new words in both spoken and written communication. This challenge corresponds with prior research indicating that numerous EFL learners encounter

difficulties in the active utilization of vocabulary, despite their ability to recognize words passively (Webb, 2020; Zou, Huang, & Xie, 2021). One respondent said, "It's easy to remember, but I don't know how to write it down." This disparity between receptive and productive vocabulary knowledge underscores the necessity for enhanced systematic pedagogical support.

In general, the conversation about these results shows that students still value traditional methods like reading, taking notes, and using a dictionary, but they are more likely to prefer learning that is supported by technology and fun. But their biggest problem is remembering and using vocabulary in a useful way, which shows how important structured teaching methods are. Prior studies (Zou et al., 2021; Schmitt, 2021) indicate that the integration of formal instruction with technology-enhanced learning may effectively address this disparity. This study adds to the growing body of research by showing how pre-AI vocabulary learning strategies show a transitional stage in which students still rely on traditional methods but also start to use digital resources in their language learning.

CONCLUSIONS AND RECOMMENDATIONS

The examination of students' experiences and strategies in acquiring English vocabulary prior to the implementation of AI tools reveals that learners predominantly depend on conventional and entertainment-oriented techniques, including reading, note-taking, viewing films, listening to music, and reinforcing vocabulary through repetition. Although these methods create enjoyable and positive learning experiences for most students, there are still problems with keeping vocabulary and using it in a useful way. This finding is consistent with the assertions of Nation (2022) and Schmitt (2021), who underscore that vocabulary acquisition necessitates not only exposure but also systematic practice and retrieval to achieve long-term proficiency.

As people rely more on digital and entertainment media like YouTube, music, and social media, they are moving toward more casual, technology-supported learning environments. This supports Sundqvist and Sylvén's (2021) claim that incidental vocabulary learning through extramural English is becoming more important. Nevertheless, the persistent utilization of conventional instruments such as dictionaries, note-taking, and flashcards indicates that learners adopt a hybrid methodology that integrates both traditional and contemporary techniques (Webb & Nation, 2020).

Even though they were motivated, many students said they had trouble remembering and using new words, especially when writing and speaking. This is in line with what Webb (2020) and Zou et al. (2021) found: that learners often have trouble turning receptive vocabulary into productive knowledge. This underscores the necessity for more organized pedagogical strategies that combine intentional practice with interactive, technology-enhanced methodologies.

In short, the results show that students are in a transitional stage of vocabulary learning, where traditional methods are still the most common but digital resources are becoming more common. The main point is that future teaching should focus on using both systematic methods and new, technology-based tools to help students remember what they learn and use their vocabulary

in real life. By combining old and new ways of doing things, teachers can create more effective and interesting ways for students to learn new words in the age of AI-assisted learning.

FURTHER STUDY

Subsequent research ought to expand upon this study by evaluating the efficacy of pre-AI strategies in conjunction with AI-assisted vocabulary acquisition, thereby enhancing the comprehension of their individual impacts on language development. Longitudinal investigations are also recommended to examine how students gradually transition from traditional approaches to technology-driven methods and whether early strategies, such as rote memorization or note-taking, influence long-term success in AI-supported learning. Additionally, subsequent research may concentrate on particular linguistic competencies to assess the influence of various strategies on receptive and productive vocabulary acquisition. Another promising direction is to create and test teaching models that combine students' existing practices with new AI tools. This will make it easier for students to adapt. It is also important to look into issues of fairness and access, since students from different socioeconomic and cultural backgrounds may have different problems when it comes to using AI-based resources. Finally, additional investigation into students' perceptions, motivation, and emotional responses will yield more profound insights into the affective aspects of the transition from conventional to AI-assisted vocabulary acquisition.

ACKNOWLEDGMENT

The researchers would like to thank Universitas PGRI Silampari for their ongoing support and encouragement in completing this study. We would also like to thank the Institute for Research and Community Service (LPPM) Universitas PGRI Silampari for all the help, advice, and support they gave us throughout the research process. Their help has been very important in making sure that this work was done well.

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