

## EFL Students' Strategies for Learning Academic Vocabulary with Mobile Phones at Van Lang University in Vietnam

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### ABSTRACT

This research has investigated how EFL (English as a Foreign Language) students use mobile applications to learn academic vocabulary in a self-directed and autonomous manner. Forty first-year students at Van Lang University taking part in the research process were divided into experimental (N=18) and control (N=22) groups. The experimental group utilized a mobile app (specifically the AWL app) throughout the semester, whereas those in the control group used traditional methods. Three final tests every semester were used to check the participants' newly gained vocabulary knowledge. The findings revealed that the students in both groups could enhance their vocabulary proficiency. Nevertheless, the experimental group achieved better results in all three final tests. Moreover, this group also saved significant time when using the phone to support vocabulary learning, while the control group gave unstable test results. The findings demonstrate the potential of mobile apps for independent academic vocabulary acquisition and provide impacts on EFL vocabulary learning.

**Keywords:** EFL students, academic vocabulary, AWL app.

### Introduction

These days, it is obvious that English has played an essential role in the modern world. Over the past few decades, the number of people learning English has increased dramatically. Learning vocabulary is the fundamental step to learning a foreign language. Despite various studies on vocabulary learning, learners show minimal effort to deal with their problems with newly discovered words (Meara, 1982). Students majoring in Linguistics, especially Foreign Language, always need help with the necessary academic vocabulary for language skills, such as Reading and writing; learning vocabulary is very important. According to Harmon, Wood, and Keser (2009) and Linse (2005), learners' vocabulary growth is a crucial part of their language development. In the classroom, the achieving students possess the most sufficient vocabulary. Learning vocabulary items is essential in all language skills (listening, speaking, reading, and writing) in English as a second language (ESL) and English as a foreign

language (EFL) (Nation, 2011). There have always been many different ways to support learning academic vocabulary. In the context of today's popular technology, everyone possesses a smartphone, which is something that people always carry with them wherever they go. Since then, more and more convenient applications with many interesting features that are not boring for vocabulary learners have been born. Through the use of many different vocabulary-learning apps, such as Duo Lingo and Lingo Champ. The researcher discovered a specialized application for learners of academic vocabulary, the AWL application, which I wanted to include in the research. This study aims to research as well as find new support methods for EFL students at Van Lang University. According to Coxhead & Nation (2001), English vocabulary has been split into four groups: (1) high-frequency or general service vocabulary, (2) academic vocabulary, (3) technical vocabulary, and (4) low-frequency vocabulary. According to Nation and Waring (1997), beginning English language learners should concentrate on the first 2000 most common word families of English included in the General Service List (GSL) (West, 1953). Currently, most university students and researchers working in EFL environments must read and publish their research articles in English-language international journals (Flowerdew, 2015; Martnez et al., 2009; Valipouri & Nassaji, 2013). Academic Word List (AWL) (Coxhead, 2000), which comprises 570-word families, has been widely used in instructional programs (Coxhead, 2011) and has persisted as a standard for materials advances in EAP as a result of this persistent requirement (Huntley, 2006; Schmitt & Schmitt, 2005, 2011; Wells, 2007). In this sense, the AWL has long been recognized as a valuable tool for students and teachers (Eldridge, 2008), making it feasible to define vocabulary learning objectives by concentrating on the vocabulary terms that university students would find most helpful (Coxhead, 2011).

## Literature review

### *Academic Vocabulary*

In any language, to use it fluently, each person needs a certain amount of vocabulary. Vocabulary is the essential material to communicate and convey information. Vocabulary is a set of words and equivalent units of words in a language. Academic vocabulary has traditionally been crucial for improving English language proficiency and academic success (Anderson & Freebody, 1981; Dale, 1965; Kieffer et al., 2016; Lesaux et al., 2014; Nation, 2001). Reading comprehension and academic vocabulary are intimately related because the processing of concepts in the reading text might be hampered or confused if word meanings are unknown (e.g., Cromley & Azevedo, 2007). According to Cromley, Snyder Hogan, and Luciw-Dubas (2010), undergraduate students with sufficient vocabulary can immediately use reading strategies to deal with academic texts rather than devoting mental resources to deciphering the meanings of specific unknown or unfamiliar academic words. The most significant obstacle to understanding academic material and succeeding in university may be a lack of adequate language knowledge (Laufer, 1997; Lesaux et al., 2014; Perin, 2013; Wallace, 2008).

When viewed broadly, vocabulary study may be divided into three themes: selection (or

prioritization), (and instruction), and testing (or assessment) (Bogaards & Laufer, 2004; Laufer, 2014). The first of the three research areas, selection (or prioritization), which is related to academic vocabulary, focuses mainly on the creation of Academic Word Lists (AWLs) (Coxhead, 2000, 2011, 2016a; Gardener & Davis, 2014) and subsequent studies on their pedagogical use in the teaching of vocabulary, including the development of materials. The second area deals with learning academic vocabulary and the best methods for teaching it; this topic overlaps with selection and prioritizing (e.g., Coxhead & Nation, 2001). Assessment and testing research is the third topic. The current research focuses on academic vocabulary, so the second research area is the most appropriate choice: acquisition and teaching/learning. The study also seeks to explore students' perceptions of their challenges and identify vocabulary learning strategies they use as they learn. The scope also acknowledges the critical role of the Academic Vocabulary List (AWL) in helping university students supplement their English.

### *The Challenges of Learning Academic Vocabulary*

Actually, mastering and using academic vocabulary effectively in educational literacy contexts are crucial for academic success (Gardener & Davis, 2014). However, EFL students, especially those in their first year, frequently need more targeted support (Nguyen, 2022). My experience as a fourth-year student leads me to believe that academic vocabulary is typically absent from social and conversational texts, which are frequently the first step at the beginning of the second school year's learning. As a result, learners are rarely exposed to academic texts, either written or spoken, and they have few opportunities to expand their academic vocabulary knowledge. Students cannot utilize traditional learning processes to acquire academic vocabulary because of their abstract nature. These two difficulties may make it difficult for EFL students to learn academic terminology.

Learners should store academic vocabulary in their long-term memory to learn it effectively. It is argued that learning new words is divided into two stages. The first stage is referred to as the input analysis stage, while the second stage is referred to as the retrieval stage, according to Eckerth and Tavakoli (2012). The learners learn a new word's orthographic and phonological features in the input analysis stage; in contrast, in the retrieval stage, they thoroughly examine the semantic and conceptual elements of that new word (Eckerth & Tavakoli, 2012), challenges with academic vocabulary related to several areas, not least the very nature of academic language. Academic research has shown that disciplinary material is complex because academic terminology is less frequent than vocabulary used in everyday language (Evans & Morrison, 2011; Heppt et al., 2016; Nagy & Townsend, 2012). Academic language differs from everyday language because academic language frequently appears in written form, carries in-depth information, and has an argumentative structure made of general and specialized/technical academic words (Pham, 2023). Everyday language often involves short sentences and involves personal points of view (Quiroz et al., 2010).

Another critical challenge is the amount of vocabulary EFL students need. Schmitt (2008) analyzes the obstacles of vocabulary acquisition in a review paper and finds "vocabulary size" as the most critical issue in vocabulary learning. He contends that considering the extent of one's vocabulary knowledge is a significant problem in language development. This is

because the number of vocabulary items we know impacts the depth of a learner's grasp of spoken and written language and their capacity to engage in discussions. Nonetheless, as Schmitt (2008) argues, the number of words that an English student must absorb cannot be calculated with certainty. While Goulden, Nation, and Read (1990) and Nagy and Anderson (1984) proposed 114,000 and 88,500-word families, respectively, Schmitt (2008) believes that an EFL learner with knowledge of 10,000-word families can handle different language-related situations easily. This vocabulary is considered broad enough to manage the linguistic problems and requirements of university-level education. Obviously, this quantity of vocabulary is sufficient for academic achievement. In that case, studies like Laufer's (as referenced in Schmitt, 2008) reveal that many students fail to memorize even a significant portion of this amount.

In summary, for EFL students to overcome the challenges mentioned above to acquire and use academic vocabulary in their tests, it is necessary to have a more efficient strategy during the trial to learn academic vocabulary.

#### *The Merits and Drawbacks of Using Mobile Phones in Learning Academic Vocabulary*

As mentioned, mobile phones have made learning academic vocabulary easier for EFL students. Through many applications that bring positive results to support English learning, such as Duolingo and Lingo Champ, researchers have gradually noticed mobile phones. Students may enjoy entertaining games while studying, such as crossword puzzles, digital video games, and quizzes, in addition to learning through high-quality sound, graphics, and videos. This fosters a favorable social environment that encourages users' motivation and interest in lifelong learning while also boosting their cognitive activity. Many students use mobile devices because of their ease of use and the variety of learning applications that are accessible. These practical applications encourage self-control and independence in people appropriate by users to create schedules for their level of skill and available time (Kramarski & Gutman, 2006). Furthermore, studies demonstrate that English applications are particularly good at teaching vocabulary since vocabulary can be broken down into smaller tasks, which is ideal for creating material for EFL students. According to Klimova and Prazak, students who used mobile applications performed much better academically and had more positive attitudes toward learning than those who did not. Therefore, applications for English learning are essential for each EFL learner, just like they are for all the advantages listed above.

Researchers have compared the effectiveness of the technological applications for learners based on questionnaires from users of vocabulary learning software (Webb & Nation, 2017). In the comparison between the Duo Lingo and the AWL apps, it can be seen that the Duo Lingo app has a more appealing design and pictures for learners. There is agreement that Lingo Champ is more image-rich and has more picture-based sentence links than the AWL application, which makes it simpler for users to recall. According to the reviews, the AWL app has more academic vocabulary than the two apps mentioned above. While the AWL program gives students vocabulary up to the C1 level, these two applications, despite their investment in visuals and effects, only go as high as B1.

Mobile phones bring many features to support learning, but they also carry certain

disadvantages. The first disadvantage to mention is the self-discipline of learners. Students who learn via apps must do independent research and study, but not all can be conscious of their self-consciousness. According to Nami, F. (2020), most students will fall into this category when there is no one to direct and supervise them: they will use their mobile phones to communicate, visit social media websites, upload images, or play video games. Such diversion is a loss of time and energy that could have been put to productive use. Klimova, B. (2019) and Le (2023) identified several drawbacks to learning applications; specifically, they can lead students to lose focus when studying due to multitasking on their phones. In isolated locations, there are additional issues with Internet access and connectivity. Additionally, linguists did not create some study apps, and as a result, they contain high-quality learning materials that are inaccurate and deceptive, confusing users (Tatan, 2020).

To summarise, choosing a cell phone as a learning aid has two outcomes. It will be helpful if students know to take advantage of all the good points, and it will be a tool with bad results if misused with the original intention.

### *Previous studies*

Several previous studies have worked on the issue of using mobile phones to assist EFL students in learning vocabulary. Bensalem (2018) investigated the development of academic vocabulary knowledge of English as a foreign language (EFL) student utilizing WhatsApp and traditional vocabulary education methods. It also intends to investigate students' impressions of the usage of WhatsApp for vocabulary acquisition. The study included forty Arab EFL students at the primary level enrolled at an Arabian Gulf state institution. Twenty-one individuals from the same class were randomly allocated to the experimental group. They finished and turned in their vocabulary tasks, which included searching up the definitions of new terms in a dictionary, creating a phrase with each word, and submitting their sentences over WhatsApp. The control group consisted of 19 pupils from another class. They had to turn in identical homework assignments on paper and pencil. The pretest-posttest method was used to collect data. T-test results showed that the WhatsApp group outperformed the traditional group on a vocabulary test. Furthermore, the findings of a questionnaire that assessed participants' perceptions of the usage of WhatsApp in learning vocabulary reveal that, on average, participants have good attitudes toward learning new vocabulary items via WhatsApp.

According to Kalimova (2019), mobile applications are now frequently utilized in higher education, including studying English as a foreign language, due to their unique properties (e.g., portability, multimodality, interaction, or ubiquity). In comparison to traditional classroom learning, learning via smartphones/mobile applications is, on the one hand, more learner-centered in terms of autonomous and individualized learning. On the other hand, it necessitates responsible and proactive students who wish to enhance their academic performance (Ngo & Ha, 2022). This review paper aims to determine if EFL mobile apps have a major, moderate, or no influence on learners' vocabulary improvement. The methodology of this study is based on a search of existing papers on the research issue, namely the efficacy of mobile applications on EFL university learners' vocabulary learning, in the world's databases Web of Science, Scopus, and Google Scholar. The outcomes of this

research demonstrate that mobile applications are effective, helpful, and appropriate learning aids for the retention and practice of new vocabulary. In reality, they allow for the repeating of typical class instruction based on the following presentation mode: input interaction feedback.

Dr Mansour Habbash (2015) assessed the efficacy of employing mobile devices to teach vocabulary in EFL (English as a Foreign Language) classrooms in Saudi Arabia. The primary goal of this research was to investigate the possibilities of improving students' grasp of English vocabulary using mobile phone interfaces and assisting them in utilizing vocabulary items more accurately. The research looked at the feasibility of undergraduate students at the University of Tabuk using mobile phones in EFL lectures to improve their English vocabulary. The secondary goals were to establish if students and teachers find it comfortable and easy to utilize mobile phones for educational purposes within and outside of university classrooms (Ngo, 2021). The necessary information was acquired by issuing a questionnaire to all EFL teachers. The responses are analyzed using the qualitative interpretive method, and the results are presented for discussion with the goal of using the outcomes in developing course materials for future EFL studies and providing teachers with appropriate recommendations for repairing materials and selecting relevant methods for their language classes.

In assent with Klimova and Polakova (2020), mobile gadgets have infiltrated many aspects of human life, including education. This study aimed to explore students' perceptions of using a mobile application to acquire new English vocabulary and phrases, as well as to identify its perceived merits and shortcomings. After using the app for one semester, 28 university students completed a pen-and-paper questionnaire survey. The mobile software assisted students in preparing for the final accomplishment exam; learning was accessible from anywhere and at any time. Students liked the corrective feedback, and students would prefer the mobile app to be implemented in additional courses taught by the faculty. The students, on the other hand, reported that the app was not very supportive of communication performance; they did not find the teachers' notifications encouraging, and they did not use the pronunciation support much, which was caused by a variety of factors, such as offering students words and phrases without context or not testing all of the items in the final credit test.

According to Ebadi and Bashidi (2013), the study used a smartphone application to evaluate EFL learners' perceptions of their vocabulary learning experiences. Evaluation questionnaires and semi-structured interviews were used to obtain quantitative and qualitative data, respectively. To evaluate the application from the users' viewpoints, an evaluation questionnaire based on Chapelle's (2001) evaluation criterion was utilized. This study studied the impact of learners' proficiency level and gender disparities on using the application, as well as their perceptions of the application's negative and positive elements. Users had good views about the program since it favorably affected their learning and provided them with both form and meaning-focused training, but they were disappointed with the app's levels and authenticity. Independent t-test and ANOVA results revealed that gender and language competency level had no significant effect on participants' app usage habits. The study's



findings emphasized users' specialized demands, which might be utilized as guides for the creation of personalized vocabulary applications. The study's consequences for students, instructors, and app developers are thoroughly examined.

In summary, the advent of the smartphone and its accompanying appearance of academic applications has widened the increasing trend of research on mobile apps for language learning purposes. Although several studies show that they offer EFL students some significant benefits (such as accessibility, portability, and the opportunities to practice language whenever and wherever they like), using apps has some drawbacks that demand the attention of researchers and teachers. To ensure the learning process is effective, app implementation must be done with caution, with the learners' needs in mind, and with assistance. The study focuses on the proper and efficient use of a vocabulary learning application (AWL) to improve the process of language learning for EFL students in Vanlang University.

### *Research Questions*

To fulfill the purpose of the study, the survey was seeking to answer the following research questions:

Question 1: How effective is the use of AWL application to support learning academic vocabulary for EFL students at Van Lang University?

Question 2: How do EFL students feel after using the AWL app to support their academic vocabulary learning?

## **Methods**

### *Research Design*

The mixed method research design was used to explore the impact of utilizing vocabulary learning applications on mobile phones on students' vocabulary acquisition. Quantitative and qualitative data were collected using a mixed-method study methodology. As a result, the shortcomings of quantitative and qualitative approaches were reduced. With a control group experimental study design, quantitative data were obtained utilizing the pretest and post-test. Over the six weeks, the experimental and control groups were taught new terms. Before the testing began, a vocabulary learning application (AWL) that would run on students' mobile phones was chosen. It was given to EFL students to investigate their practices and perceptions of using mobile phones to improve their ability to acquire and apply academic vocabulary.

### *Participants*

To obtain qualitative data, 10 participants were selected to participate in structured interviews to clarify further their opinions on their preferences, effectiveness, and challenges in using vocabulary learning apps on mobile phones, especially their views on applying this platform to specialized subjects at Van Lang University.

The study was carried out for almost three months with two individual groups with 40 participants. Participants were first-year English language students of Van Lang University,

and all studied English during this study. Regarding their previous academic vocabulary learning experience, all the participants learned vocabulary as a critical skill for foreign language students at university.

Survey participants included 22 college students who joined the experimental group to complete online surveys and interviews. Respondents in the study also came from four different majors, including Business English, Anglo-Chinese Business, English Translation and Interpretation, and English Teaching.

### *Research Procedure*

#### *Quantitative Method*

The study's goal and the student's expectations during the experimental procedure were outlined to them before the application. Students were instructed to utilize the vocabulary software on their mobile phones during extracurricular activities for eight weeks. Students in the experimental group were given vocabulary flashcards that included terms that could be found on mobile phones and were instructed to apply typical vocabulary learning approaches, while students in the control group studied the new words on paper for eight weeks using these vocabulary flashcards. Students in the control group could not use their mobile phones to participate in the vocabulary acquisition application. Two reading tests on vocabulary were given before and after the research to measure the experimental and control groups' English vocabulary learning. After the quantitative portion of the study, semi-structured interview questions were used to acquire qualitative data.

#### *Qualitative Method*

A digital tape recorder was used to record ten interviews with randomly selected students from the experimental group. They were asked five questions about the frequency of using the AWL software and its efficiency in their learning vocabulary. The participants had to use English to answer the questions and express their opinions honestly. Interviewees received a commitment from the researcher that all responses would be kept strictly confidential and that the information would be used only for the research. After the interview, the researcher will listen to the recording again and analyze and compare the participants' answers.

#### *Data Collection Procedure*

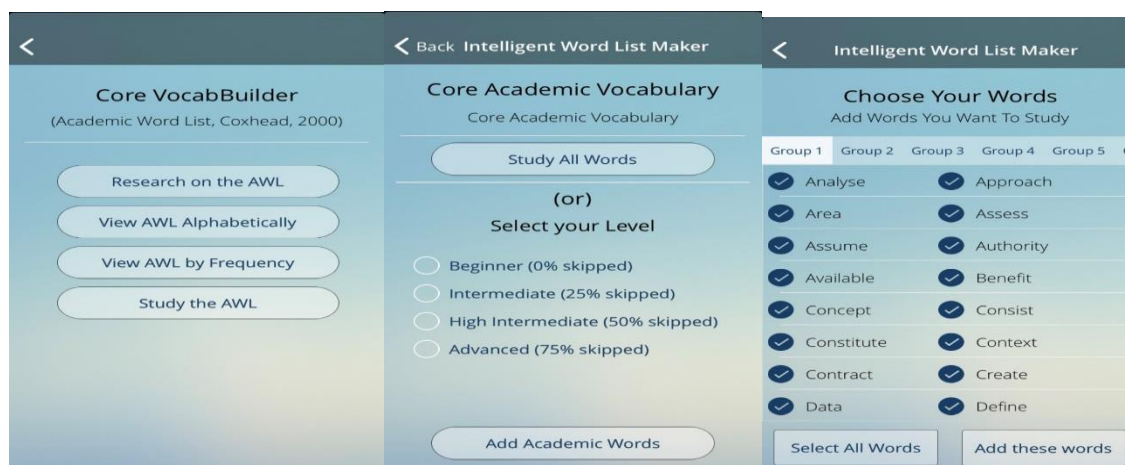
The study was conducted over nearly three months with two groups of individuals with a total of 40 learners. The participants were first-year EFL students at Van Lang University. Regarding their previous experience learning academic vocabulary, all the participants learned vocabulary as a required skill for foreign language students at university. Their academic vocabulary level ranged from elementary to intermediate. Based on participants' preferences for studying academic vocabulary using mobile applications or traditional materials, they were divided into experimental (N = 22) and control (N = 18) groups. The participants were fully informed regarding the nature of the study, and all agreed to give their contact information to the researchers. All the participants in the experimental group had smartphone devices that supported installing and using mobile applications for vocabulary learning.

Participants in the control group studied academic vocabulary using conventional resources.



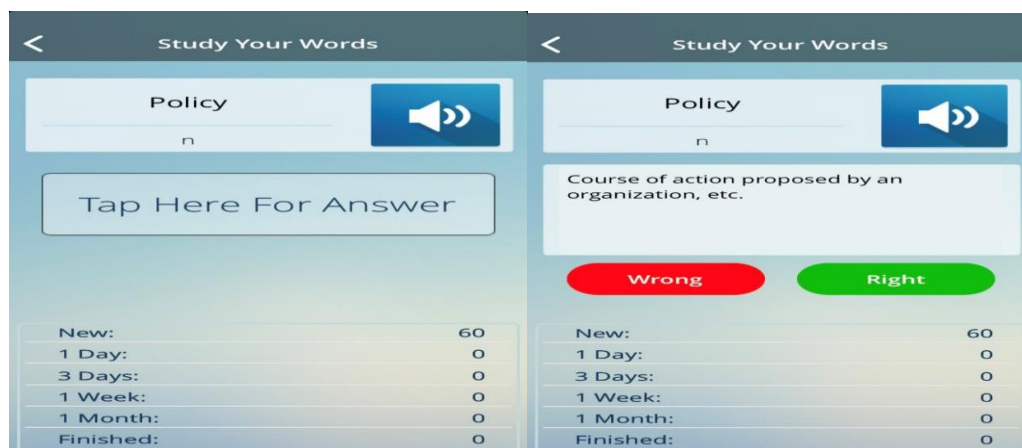
To do this, they received a free copy of "Focus on Vocabulary 2: Mastering the Academic Word List" (Schmitt & Schmitt, 2011). Nevertheless, participants in the experimental group used the AWL Builder Multilingual app, created for iOS and Android devices by EFL Technologies. The free AWL builder app for Android and iOS employs sophisticated flashcard technology to assist with studying the 570 vocabulary words on the Academic Word List (Coxhead, 2000). The program keeps thorough records of the progress in learning particular vocabulary words and offers the option of emailing the results to the student or teacher. Additionally, the program displays the part of speech and the pronunciation for each word from the AWL and defines words in basic English.

The application's main menu and choices for creating study plans are seen in the screenshots below. The first screenshot (from the left) displays the opening page, as seen in Step 1 (figure 1). Learners may pick target words, study certain items, and modify the settings for presenting words or definitions in flashcards in the study tools area. After choosing the "pick your words" option, students can choose to begin studying the intermediate (25% skipped), high intermediate (50% skipped), or advanced (75% skipped) levels of the 570 AWL items. The program takes users to the following page, where they may pick specific words from a range of bands after choosing one of these alternatives. With this tool, students may skip through words in various bands they already know.



**Figure 1** The main features and configuration choices for the AWL builder program (Step 1)

Additional details on the vocabulary learning possibilities offered by the AWL builder program are provided in Step 2 (figure 2). As demonstrated, the program offers grammatical information for a particular word and lets users hear how it is pronounced. The "tap here for response" feature displays the target item's definition in plain English. Then, by picking the appropriate function or not, students assess their understanding of the word that has been presented.



**Figure 2.** AWL builder flashcard (Step 2)

The sixth section of the new vocabulary levels test (NVLT) (McLean & Kramer, 2015) was utilized in pre-, post-, and delayed assessments to evaluate the participants' knowledge of the AWL (Coxhead, 2000). The participants were requested to take parts three and four of the NVLT after finishing the academic vocabulary exam to minimize any learning that could have occurred due to taking the test. Additionally, the tests were given at intervals of four and two months. The validity and reliability of the test are guaranteed by the test creators, who claim that ethical specifications choose test items and distractors. (For further details on the design and validation of the test, see McLean and Kramer (2015)).

Participants received a briefing on the study's objectives before the experiment started. Before getting their initial collection of vocabulary test items, each participant completed a pre-test on vocabulary. They were assured that their test results would not affect their final grade. Following completion of the pre-test, all participants attended a brief (30-minute) session led by the first author, during which they learned about vocabulary acquisition techniques for the independent study of English vocabulary (Webb & Nation, 2017) and the significance of the AWL in academic literature. After the session, those in the experimental group received the necessary instructions for downloading, installing, and using the AWL builder application on their smartphones. In contrast, those in the control group received a free copy of the assigned book for mastering the AWL items (Schmitt & Schmitt, 2011). The study's emphasis on independent, outside-of-classroom vocabulary learning required the participants to use the provided resources independently for a semester. The identical list of 300 words was sent to the experimental and control groups over six weeks, averaging 50 words per week. One hundred minutes of instruction was provided once a week. The teacher set up a chat room, and after getting everyone's permission and adding each participant to the group, the experimental group was given word lists using the AWL app. The identical word lists were distributed in printed form to the control group in class. The frequency of the weekly class sessions determined how often vocabulary lists were presented. Each vocabulary task had a week to be finished to obtain full credit. The study involved creating sentences out of new words by searching for their definitions in a dictionary. To learn the purposes of the target terms, experimental group members may either use a monolingual dictionary app like Longman Mobile Dictionary or go to an online dictionary created by Fageeh's (2013) design.

They were required to construct sentences utilizing the target words and submit them for editing through the AWL app. Any English dictionary in a single language was allowed for use by participants in the control group. Participants completed an unscheduled vocabulary posttest after finishing all of their homework assignments on the day when their last homework assignment was due. The posttest was used to gauge how much the students' vocabulary had grown. This made it possible to assess the effectiveness of each teaching strategy in improving students' capacity to acquire a new language. The pre-and posttests were the same. The researcher had to rearrange the objects to prevent pupils from remembering the correct answers rather than responding to the questions based on knowledge. After the trial, members of the experimental group answered questions regarding how they felt about learning vocabulary with the AWL app.

## Results/Findings

### Findings

#### Quantitative Analysis

The primary purpose of this section is to answer the research questions based on the thorough examination of the questionnaire. The analysis included descriptive statistics such as mean, frequency, percentage, and standard deviation (SD). These analyses were conducted to answer a research question examining how EFL students at Van Lang University use mobile phones (AWL app) to support their academic vocabulary and cognition learning about using this platform to cultivate the ability to acquire and memorize academic vocabulary for practical application.

The demographic information received from the questionnaire, including the frequency of participants' genders, majors, and English proficiency, was evaluated using descriptive statistics from SPSS 22.

#### Demographic information

**Table 1.** Summary of the demographic data of EFL students

| Group              | N  | Gender |        |
|--------------------|----|--------|--------|
|                    |    | Male   | Female |
| Experimental Group | 18 | 14     | 4      |
|                    |    | 77.8%  | 22.2%  |
| Control Group      | 22 | 17     | 5      |
|                    |    | 77.3%  | 22.7%  |

Table 1 shows the gender demographics of the participants in both groups. There were 77.8% female students and 22.2% male students in the experimental group. In the control group, there were 5 students who were male, or 22.7% of the total; 77.3% of the students were female. This table also reveals that the majority of participants were first-year female EFL students.

*Results from Pre-test and Posttest*

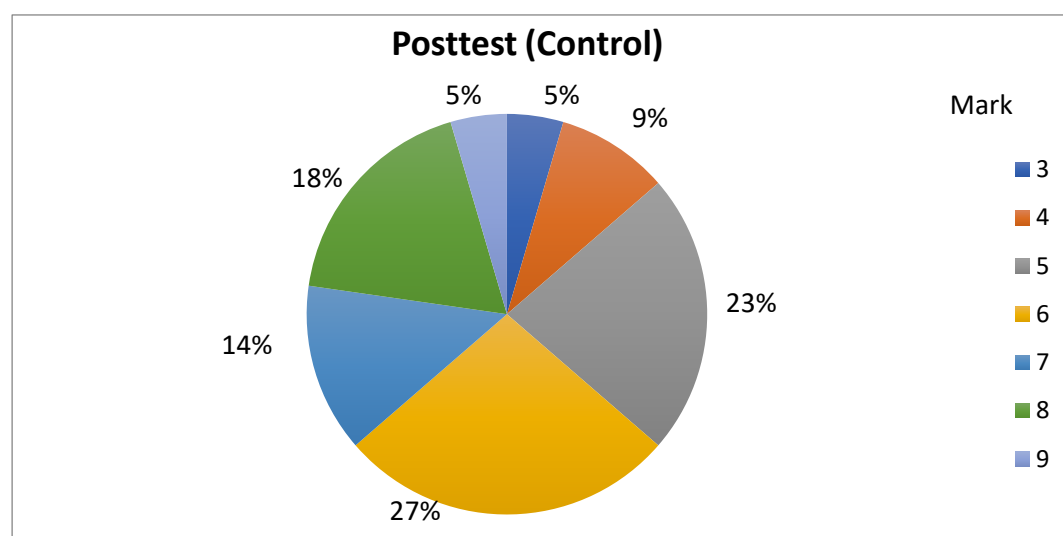
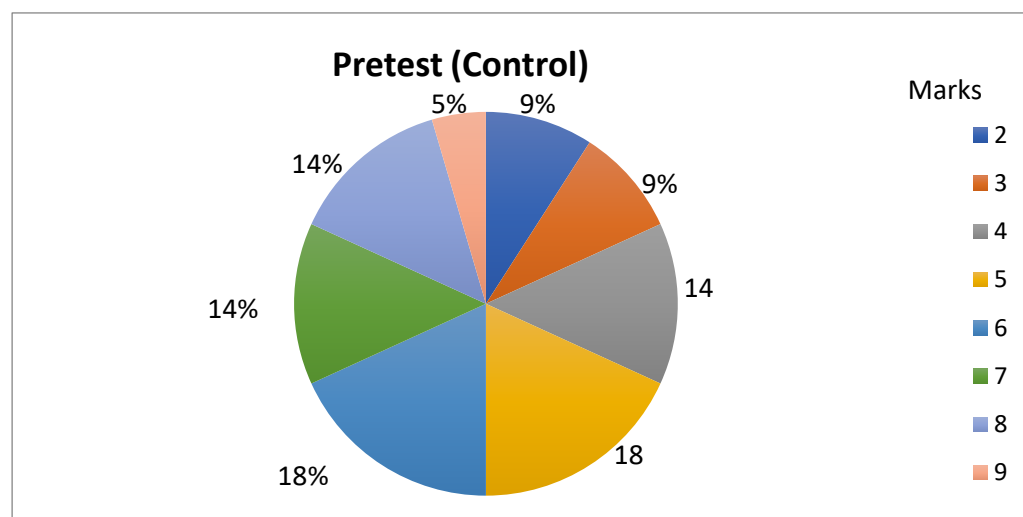
Students were assigned a pre-test at the beginning of the term (week 2) and another test (posttest) at the end of the term (week 9). The two tests were designed in reading passages with questions about vocabulary and done by students in both experimental and control groups.

*The control group*

**Table 2. Descriptive statistics of results from exams (SPSS 22)**

| Tests    | N  | Minimum | Maximum | Mean | SD   |
|----------|----|---------|---------|------|------|
| Pre-test | 22 | 2       | 9       | 5.4  | 1.94 |
| Posttest | 22 | 3       | 9       | 6.04 | 1.42 |

**Chart 1 and 2.** The percentage of control groups of the pre-test and posttest (SPSS 22) N=22



Regarding Table 2, although the lowest marks increased from 2 marks in the pre-test to 3 marks in the posttest, it cannot make a significant improvement in the attempt to raise EFL student's level up to the pre-intermediate one (about 5 marks on average). The mean score increased from 5.4 to 6.04, which means that EFL students could make progress in their reading skills without the support of the AWL app. Similarly, this can also be seen in the decrease in SD from 1.94 to 1.42.

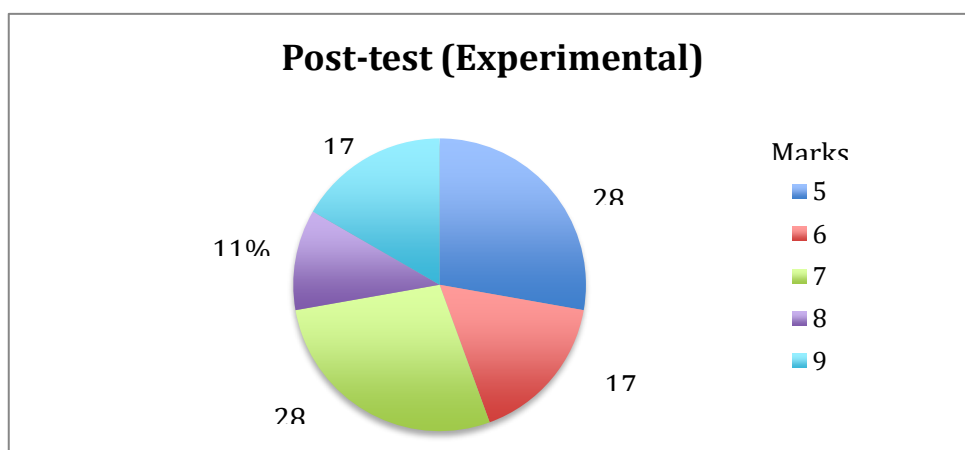
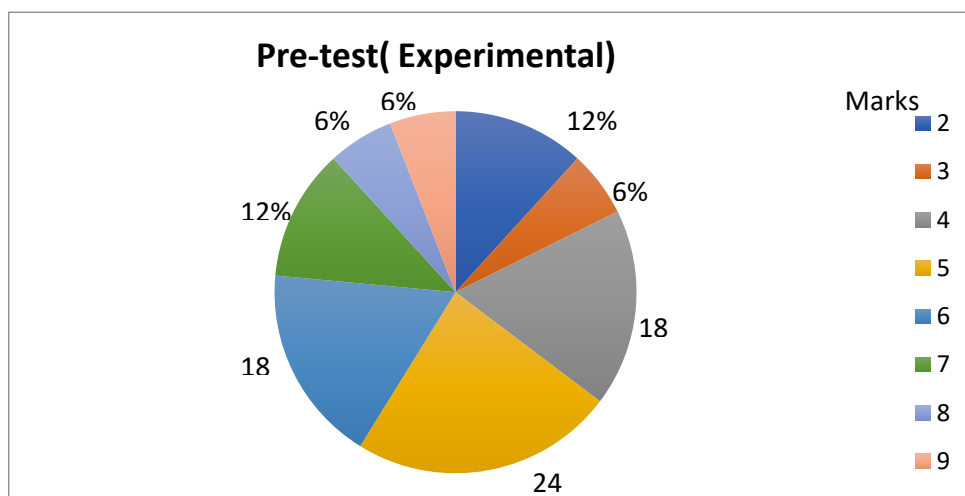
*The experimental group*

**Table 3.** Descriptive statistics of results from exams (SPSS 22)

| Tests    | N  | Minimum | Maximum | Mean | SD   |
|----------|----|---------|---------|------|------|
| Pre-test | 18 | 2       | 9       | 5.3  | 1.94 |
| Posttest | 18 | 5       | 9       | 6.7  | 1.4  |

Table 3 shows that the mean scores for the pre-test and two posttests were 5.3 and 6.7, respectively. It is clear that there was a significant increase in the score gained by EFL students in the experimental group.

**Chart 3 and 4.** The percentage of experimental groups of the pre-test and posttest (SPSS 22)  
N=18



It can be seen from Table 3 and Charts 3 and 4 that the lowest scores in the experimental group increased from 2 marks on the pre-test to 5 marks on the posttest, while the two tests shared the same highest scores at 9 marks. Moreover, the mean score rose from 5.3 to 6.7 respectively. Students with good or excellent grades (8,9 marks) accounted for 11% and 17%, respectively, whereas only 18% of students gained 8 marks in the pre-test. Therefore, it is certain that the AWL app helped improve EFL students' ability to learn and remember vocabulary as well as their reading skills.

*The effectiveness of the AWL app to EFL students.*

**Table 4.** EFL students' frequency of using AWL app

| How often do EFL students use the AWL app? | Frequency | Percentage (%) |
|--------------------------------------------|-----------|----------------|
| Everyday                                   | 11        | 61.1           |
| Once a week                                | 5         | 27.8           |
| Twice a week                               | 2         | 11.1           |
| Once a month                               | 0         | 0              |

According to the findings of the frequency of use of the AWL application in Table 4, almost 61.1% of students (N=11) enthusiastically said that they use the AWL application every day, while around 27.8% of students (N=5) use this app once a week. Furthermore, the percentage of students who use this app twice a week and once a year is 11.1% (N=2).

**Table 5.** EFL students's positive feelings on the use of the AWL app

| Learning new words with the AWL app is an exciting learning method. | Quantity | Percentage (%) |
|---------------------------------------------------------------------|----------|----------------|
| Strongly Agree                                                      | 16       | 88.8           |
| Agree                                                               | 1        | 5.6            |
| Neutral                                                             | 1        | 5.6            |
| Disagree                                                            | 0        | 0              |
| Strongly Disagree                                                   | 0        | 0              |

According to the data in Table 5, the number of respondents who answered that they feel excited when using the AWL application to acquire vocabulary autonomously accounts for the highest percentage. 88.8% (N=16) completely agree with the effectiveness of the application for them. The percentage of students who feel normal is 5.6% (N=1) because they think the application is missing the eye-catching part.



**Table 6.** EFL students' opinions on learning vocabulary on the AWL app

| Using the AWL app helps me remember new words faster and longer. | Quantity | Percentage (%) |
|------------------------------------------------------------------|----------|----------------|
| Strongly Agree                                                   | 15       | 83.3           |
| Agree                                                            | 2        | 11.1           |
| Neutral                                                          | 1        | 5.6            |
| Disagree                                                         | 0        | 0              |
| Strongly Disagree                                                | 0        | 0              |

Table 6 shows that EFL students believe that using the AWL app helps them remember new words faster and longer. The number of people who completely think that the application is successful in supporting learners is 83.3% (N=15), the number of people who agree with the application's effectiveness is N=2, accounting for 11.1%, and the number of people who give the neutral opinion is 5.6% (N=1).

**Table 7.** The AWL App provides convenience and time-saving for EFL students.

| Learning academic vocabulary through this application is convenient and very time-saving. | Quantity | Percentage (%) |
|-------------------------------------------------------------------------------------------|----------|----------------|
| Strongly Agree                                                                            | 16       | 88.9           |
| Agree                                                                                     | 2        | 11.1           |
| Neutral                                                                                   | 0        | 0              |
| Disagree                                                                                  | 0        | 0              |
| Strongly Disagree                                                                         | 0        | 0              |

As shown in Table 7, the number of students who agreed that using the AWL app saves them time and feels more convenient than traditional learning methods accounted for 88.9% (N=16) of the total number. This number is not a big surprise because the test results of the experimental group accounted for very high scores, showing that the effect that the application brings is not small.

### *Qualitative analysis*

Data was collected from ten interviews out of twenty-four respondents. The replies of respondents were meticulously documented and evaluated using Microsoft Teams. The researcher assures the interviewees that their replies would be kept totally secret. In addition, the researcher employed the Thematic Method to explain the replies of the study participants.

### ***Interview question 1: How do you feel about knowing and using the AWL app to support academic vocabulary learning?***

The answers received after this interview question were that they all felt new and interested when they first heard the introduction and started downloading the application to use. 5 EFL students have heard about the application before but do not want to download it to use it because they are still confused and feel that the application is not as diverse in learning style

as other applications. In contrast, according to the other 4 students, this is the first time they have known the AWL app and tried to download it to use it; they feel that the application is a very convenient way of learning for them because they can choose the level as well as filter many words unnecessary instead of having to learn all the words in the same order as the previous applications. Three students expressed their opinions about the AWL app in their learning.

*“... the AWL app aids in my memory of the terms I have learned.”*

*“...it just concentrates on words in the reading text in class. Therefore, it greatly aids in my final exam preparation”.*

*“... the AWL app's rich graphics may aid in improving word recall.”*

*“... the vocabulary could make it easier for me to construct sentences and enhance my grammar.”*

***Interview question 2: What makes the AWL app more interesting to you than other vocabulary-learning apps?***

As far as the data goes, there are many different answers. 80% of the answers received that the AWL application is completely academic vocabulary, so it helps them to accelerate their learning process more than other applications that follow each lexical level and have almost very little vocabulary academics mentioned. 10% said that although this application does not have as many illustrations as other applications, it has meaningful explanations for diverse academic vocabulary and is easier to apply in many cases. The remaining 10% think it is not very interesting, only that the academic vocabulary it brings is very diverse and useful for EFL students.

*“... the AWL app is a great way to get me interested in learning new terms.”*

*“... Using the app to learn and review vocabulary is engaging and flexible.”*

*“... The app makes it convenient to learn words because there are no time or space restrictions.”*

*“... I can use the app to learn vocabulary as long as my phone is with me, it's really convenient.”*

*“...it is much more practical to carry a phone than a dictionary when learning new words.”*

*“... I can utilize the available app to learn vocabulary as long as I want to.”*

***Interview question 3: What difficulties have you experienced when using the AWL application to support learning academic vocabulary?***

Ten interviewees mentioned their difficulties when using the phone to support learning, especially when using the AWL application. The first challenge with the majority in the

answer is that they need to be more focused while studying. Because they are using their phones to study, they are often distracted by other applications, leading to forgetting the words they have just learned. The second difficulty is that they have to absorb many meanings of a word at the same time, leading to easily confused meanings when taking tests. The last difficulty is that they have eye pain when looking continuously at the phone screen with a lot of very specialized explanations, causing the brain to be slightly affected.

*“...The words are so small to read that I often experienced sore eyes after learning with the mobile phone.”*

*“...The constant pop-up, messages from Facebook and Zalo, and online news prevent me from learning vocabulary on the AWL app”.*

***Interview question 4: Do you think the AWL application is really useful and has helped you to have more academic vocabulary?***

The most successful answer to this question is yes. They admit that although the application does not have many eye-catching colors funny illustrations, instead of words, sounds to listen to, and the layers of meaning of that vocabulary, it is very useful and worth it for use by EFL students. It also has the function of flashcards to check vocabulary instantly, helping learners absorb new vocabulary more quickly than traditional learning methods.

*“...I feel so stressed out when I look at the word list in the textbook since there are so many words to memorize and pronounce. The app relieves my stress and makes me delighted to learn new phrases.”*

*“... learning 10 words at once with the program is enjoyable for me, almost like completing a quest. Additionally, the variety of the topics prevents me from feeling down.”*

## **Discussion**

Through the survey, the data showed that the experimental group students had trained themselves before a certain amount of vocabulary, and the AWL application helped them have more vocabulary than the number of words they came into contact with in their classroom. They think this is a very useful method of learning academic vocabulary. It helps them remember vocabulary faster and longer without making mistakes when applied to different cases in the end-of-term reading test. Meanwhile, students in the control group (N=16) yielded uneven results on the final exam because they used traditional methods of memorizing academic vocabulary, stating that this learning method is extremely effective. The period is boring and not as convenient as learning on an application through a mobile phone.

Research shows that EFL students have begun to recognize the ability of mobile phones to assist in learning academic vocabulary. Not only does it help with vocabulary acquisition, but it also helps them improve other skills, such as listening and speaking. They start to learn various language apps to study at home or study whenever they have free time. If students used to feel uncomfortable about having to carry a notebook full of vocabulary with them to

open and memorize, now they just need to open their phones and access the AWL application to learn vocabulary. They were able to learn many other words immediately without having to take notes. Through that, they gradually realize that mobile phones bring them a lot of benefits in learning if they know how to use them properly.

## Conclusion

After conducting the survey and researching the topic, I have come up with a complete answer to the first two questions I posed. With the first question, the AWL application has been of great help to the experimental group of EFL students in the process of learning academic vocabulary. By answering survey questions, the experimental group students said they improved their academic vocabulary faster than usual, which also helped them remember longer. The results of the final exam showed that EFL students of the experimental group made significant progress after using the AWL application to support learning.

With the second question, through the research and survey questions, it was found that the students who did not use the phone to support learning academic vocabulary (AWL application) could absorb and remember lower academic vocabulary than the test group. The students said that learning words with many syllables as well as diverse meanings by traditional learning makes them take longer to memorize and apply in the test. The results of the final exam were also lower than those of the experimental group.

### *Recommendations for practical solutions*

Future research papers should invest mainly in methods of using phones to assist foreign language students in learning academic vocabulary and applying it to the lesson in the most accurate way. It is necessary to find out the reasons why students cannot memorize academic vocabulary for a long time so that teachers can find ways to help students remember more easily. In addition, future research should also focus on the causes of students' difficulty in acquiring vocabulary, leading to low scores on the test, so that more effective strategies can be devised to remedy this situation.

### *Limitations*

To have a complete research paper like today, I also met certain limitations. The first limitation that I encountered was the selection of students to participate in the research. Since the learning curve and the credits that English language students need to gain in the 2nd and 3rd years is so much, it is difficult to convince you to join together. I worked with my instructor to convince and ensure that participants had enough time to complete their school hours and could help me with this research. The following limitation that I encountered was that the Foreign Language students did not know and had used the AWL application before. I had to point out the pros and convince them to download and use this app to support academic vocabulary learning. During the first days of using the app, they were very excited but also quickly bored. Fortunately, they tried to complete the task and helped me to the end.

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