THE USE OF SMARTPHONE APPLICATIONS IN LEARNING ENGLISH VOCABULARY OF FIRST-YEAR STUDENTS AT VNU INTERNATIONAL SCHOOL

Nguyen Thi To Hoa*

International School - Vietnam National University, Hanoi, No. 79, Nguy Nhu Kon Tum Street, Thanh Xuan, Hanoi, Vietnam

Received 8 December 2021
Revised 10 March 2022; Accepted 31 May 2022

Abstract: This research focuses on the use of smartphone applications in learning English vocabulary of over 400 first-year students of elementary level at International School - Vietnam National University, Hanoi (VNU-IS). It helps to clarify what aspects students should know when learning a new word and aims to find out what criteria these students take into consideration when choosing smartphone applications to learn English vocabulary, which smartphone applications are most frequently used by them and how they evaluate the effectiveness of these smartphone applications in learning English vocabulary. From the data collected and the findings, some conclusions are made relating to the use of smartphone applications in English vocabulary learning of first-year elementary students at VNU-IS.

Keywords: English language, vocabulary learning, mobile applications, apps

1. Introduction

It is undeniable that vocabulary plays an important role in language learning in general (Altman, 1990; Gass & Selinker, 2001) and foreign language learning in particular (Coady & Huckin, 1997). Vocabulary is a key element in language learning because a widely productive vocabulary is essential in enhancing a learner’s language skills. This role can be clearly seen in the saying: “without grammar very little can be conveyed, without vocabulary nothing can be conveyed” (Wilkins, 1972, pp. 111-112).

Troike (1976, p. 87) emphasizes that “vocabulary is the most important for understanding and knowing names for things, actions and concepts”. This does not mean that other aspects of language such as phonology or grammar can be neglected, but one thing which can be clearly seen is that the first thing language learners need in order to be able to communicate is vocabulary.

Due to these reasons, learning vocabulary is an essential aspect in foreign language methodology. If a learner has a wide range of vocabulary, he can make others understand himself easily and also can understand others easily. On the contrary, if his vocabulary is limited, he will surely have difficulties in doing so and in learning a foreign language. It can be concluded that vocabulary is a “must” for all language learners by all means.

At International School - Vietnam National University, Hanoi (VNU-IS), students need to acquire a large amount of vocabulary in a short period of time. Regardless of their English proficiency when admitted, they need to achieve B2 level within one year. According to the Common European Frame of Reference (CEFR), English learners’ proficiency can be classified into the following levels: A0, A1, A2, B1, B2, C, C1, C2 and B2 level is relevant to score 5.5 IELTS (International English Language Testing System), a well-established and the most popular international English

* Corresponding author.

Email address: hoa.ntt@vnu.edu.vn
proficiency test. In order to get B2 certificates, students are free to choose their test format beside IELTS such as TOEIC (Test of English for International Communication), TOEFL (Test of English as a Foreign Language), APTIS (All Purpose Ticket Issuing System), VSTEP (Vietnamese Standardized Test of English Proficiency)... This pushes them to try hard to learn vocabulary and using smartphone applications is one of their favourite ways. This is due to the fact that smartphones are popular and handy, applications on smartphones are available. This article focuses on the use of smartphone applications in learning English vocabulary of first-year students of elementary English level at VNU-IS. On that basis, some recommendations are made to help students improve the effectiveness of smartphone applications in learning English vocabulary.

2. Literature Review

2.1. Vocabulary Learning

In his opinion, Laufer (2004) describes a word as a set of properties or features. Knowing a word, therefore, necessarily includes knowing the following things: forms (spoken and written, i.e. pronunciation and spelling), word structure (the basic free morpheme and the common derivations of the word), syntactic pattern of the word in a phrase and sentence, meaning (referential, affective and pragmatic), lexical relations of the word with others (such as synonymy, antonymy, hyponymy), common collocations of the word.

Nation (2001) describes the most comprehensive construct of word knowledge. He lists three main aspects of knowing a word: form, meaning, and use. In general, when learning a new English word, a learner should, by all means, know its form, meaning and use simultaneously. Among these three aspects, the use is the most important, but without thorough understanding of the form and meaning of the word, the learners are unable to use it correctly.

2.1.1. Form

In terms of word forms, what learners need to know are spelling, pronunciation, affixes, part of speech, and irregularities of that word. It is necessary for learners to make sure that these aspects are fully understood. Besides, the grammar of a new word should also be learnt. The learners need to know grammatical functions, the change of form in different grammatical contexts, the regularity and irregularity, the singular and plural forms of the new word. For example, when learning the noun child, the learner should at the same time know the plural form children or when learning the verb have, the learner should be aware of its irregularity in past form had. Once having known the grammar of a word, the learners can use the word in such a way that is grammatically true.

2.1.2. Meaning

When we talk about the meaning of a word, it is necessary to refer to its denotative and connotative meaning as well as its meaning relationship. The meaning of a word is primarily what it refers to in the real world, i.e. its denotation. This meaning can be found in a dictionary. For example, if you look up the word snake in a dictionary, you will discover that one of its denotative meanings is "any of numerous scaly, legless, sometimes venomous reptiles; having a long, tapering, cylindrical body and found in most tropical and temperate regions."

Another component of the word meaning which is less obvious is its connotation in different contexts or its connotative meaning. This is the associations of positive or negative feeling it evokes. This meaning may or may not be indicated in a dictionary. For example, the connotations for the word snake could include evil or danger.

Knowing denotative and connotative meanings of a word is not adequate. The learners also need to know its meaning relationship, which is how the meaning of that word relates to the meaning of others. A variety of meaning relationships can be listed such as synonyms, antonyms, translation, etc. One thing to be noted is that the learner has to make a careful choice and decision on how many words to learn in a given period of time or else it will be impossible for them to absorb too many meanings and words. Then confusion or forgetting will be unavoidable.
2.1.3. Use

Learning the use of a word, the learners necessarily need to know how to use it correctly in different oral and written contexts, otherwise it may become useless. To use a new word well, learners need to know the way to collocate it with other words correctly. Due to this reason, the learners should put words into collocations when learning vocabulary and learn by heart if possible. For example, we say “drive a car” but “ride a bicycle”.

To sum up, learners should understand the form, the meaning, and the use of words in a vocabulary lesson. It should be ensured that vocabulary is regularly recycled/revised because if learners do not get the chance to put it into use, they will easily forget it. In this case, vocabulary learning is not effective.

2.2. Mobile Learning and the Technology Acceptance Model

Mobile technology appears to be an appropriate approach to education since smartphones and other portable Wi-Fi gadgets are related to both traditional and innovative ways of learning and are well aligned with strategic educational goals (Kukulska-Hulme, 2009). Klímová (2017) argued that characteristics such as portability, individuality, unobtrusiveness, availability, adaptability, persistence, usefulness, and usability make mobile devices an ideal language-learning tool. Moreover, the ownership of smartphones among students has grown fast which led to a great popularity of the mobile technology in education, including English as Foreign Language (EFL) learning. Mobile devices have been adapted in the traditional classroom environment and are increasingly used by English language learners (Nasab & Taki, 2016). Since vocabulary acquisition is considered to be an essential part of language learning, vocabulary mobile learning applications (apps) have become a popular form of mobile-assisted language learning (MALL) (Klímová, 2019).

The Technology Acceptance Model (TAM) proposed by Fred D. Davis in 1989 and evaluated the influence of four internal variables upon the use of technology in learning. The variables used in the original model are perceived ease of use, perceived usefulness, attitudes towards using and intention to use as shown in Figure 1.

According to this model, the students’ intention to use mobile apps is influenced by the acceptance in using the apps. Besides, one more variable which is also used in this study is app design. Therefore, it is proposed that the acceptance of students in using mobile apps to learn vocabulary is influenced by the students’ perceived usefulness (the degree to which a person believes that their work performance can be increased by using the system), perceived ease of use (the extent to which a person has to make a mental or physical effort to use the technology) and app features. It is also proposed that the students’ intention to use mobile apps in vocabulary learning is influenced by their acceptance in the use of mobile apps in
vocabulary learning. Hence, they are assumed to use the apps in the future if their acceptance towards the use of the apps in vocabulary learning is positive.

3. Methodology

This study aims to:

- Identify students’ acceptance towards the use of mobile applications in learning English vocabulary
- Find out the most frequently-used smartphone applications by students at VNU-IS to learn English vocabulary
- Find out the students’ overall evaluation on the effectiveness of the smartphone applications that they used

The participants in this research include over 400 first-year students at International School - Vietnam National University, Hanoi (VNU-IS) whose English ability is at elementary level. These students are learning general English at an English preparatory program in order to be able to achieve B2 certificates or equivalents (for example, IELTS 5.5) after finishing the program. They are required to reach B2 level before studying their major in English because all training programs at VNU-IS are conducted in foreign languages. The maximum length of time for them to acquire B2 certificates is one year, which is challenging for them and puts them under pressure. Therefore, learning vocabulary is extremely important for them to improve their English skills and overall proficiency.

In this research, quantitative approach was applied and a set of questionnaires consisting of closed-ended items was used. The data from the questionnaires were analyzed by using descriptive statistics. The data were then displayed and described with the use of tables and figures.

4. Findings and Discussion

4.1. The Acceptance of Students in Using Mobile Apps to Learn English Vocabulary

As mentioned above, the acceptance of students in using mobile apps to learn vocabulary is influenced by the students’ perceived usefulness, perceived ease of use and app features. In order to find out what students take into account when choosing smartphone applications used for learning English vocabulary, the participants are asked to list the criteria then rank their importance on a scale of 1 to 5 in which 1 means “least important” and 5 means “most important”. The data collected is summarized in the following table.

<table>
<thead>
<tr>
<th>No</th>
<th>Criterion</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>(4) + (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Ease of use</td>
<td>18%</td>
<td>50%</td>
<td>32%</td>
<td></td>
<td>82%</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Saving time</td>
<td>7%</td>
<td>14%</td>
<td>35%</td>
<td>44%</td>
<td>79%</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Convenience</td>
<td>6%</td>
<td>60%</td>
<td>34%</td>
<td></td>
<td>94%</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Enhancing students’ self-learning</td>
<td>7%</td>
<td>23%</td>
<td>38%</td>
<td>32%</td>
<td>70%</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Improving students’ learning effectiveness</td>
<td>25%</td>
<td>50%</td>
<td>25%</td>
<td></td>
<td>75%</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Changing students’ learning habits</td>
<td>2%</td>
<td>28%</td>
<td>40%</td>
<td>30%</td>
<td>70%</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Improving students’ technological skills</td>
<td>2%</td>
<td>29%</td>
<td>44%</td>
<td>25%</td>
<td>69%</td>
<td></td>
</tr>
</tbody>
</table>

The Acceptance of Students in Using Mobile Apps to Learn English Vocabulary

(1= Extremely unimportant, 2 = Unimportant, 3 = Neutral, 4 = Important, 5 = Extremely important)
As can be seen from the table above, there are many criteria that VNU-IS students take into consideration when choosing the smartphone application to learn English vocabulary. The top three most important criteria include: convenience (94%), interesting activities (90%), sound quality (87%). The next highly important criteria that VNU-IS students care about are: appealing animation and graphic design (84%), ease of use (82%), saving time (79%) and providing the definition and thesaurus of vocabulary (78%). The other criteria which are also considered to be really important include: improving students’ learning effectiveness (75%); enhancing students’ self-learning, changing students’ learning habits, increasing level of difficulty (70%) and improving students’ technological skills (69%).

It can clearly be seen that when choosing an application to be installed in their smartphones, students take convenience as the crucial factor and they seem to care a little more about the design (activities provided by application developers, quality of sound embedded in that application as well as the graphic design) than the function of that application (ease of use, saving time or providing definition/thesaurus of vocabulary). Participants in this research have a rather comprehensive choice of applications to be used for learning English vocabulary via their smartphones.

Convenience is the most important thing they care about because with smartphones students can learn whenever and wherever they want. If the application is not convenient enough, its operation may make users waste a lot of time and cause demotivation. Besides, if students find the application uninteresting, they may not continue using it. That is the reason why interesting activities are considered to be really important and students prefer using smartphone applications instead of using traditional ways of learning vocabulary. They enjoy the excitement brought about by the activities in the application and feel like they are playing their favourite games. It is understandable why over 90% of participants choose these two criteria.

4.2. The Most Frequently-Used Smartphone Applications by Students at VNU-IS to Learn English Vocabulary

As mentioned previously, over 400 students participated in this survey. They are first-year students at elementary English level and are on the way to improve their skills to achieve B2 certificates before studying their majors in English. The data collected reveals that the following smartphone applications are most frequently used: Quizlet, Duolingo, LinGo Play, Memrise and 11+ Vocabulary Builder. The table below illustrates the names and logos of these five mostly chosen smartphone applications of VNU-IS students in the survey.

The five smartphone applications are briefly described as follows.

4.2.1. Quizlet

For smartphone version, Quizlet provides the following functions:

- **Flashcard:** digital flashcards demonstrate terms in which the students can flip them by using mouse clicks or touching the screen to show definitions or pictures that explain the term.
- **Learn:** words and their meanings can be learned through multiple choice and writing questions. Questions are sorted from easy to difficult.
- **Write:** students are asked to write the definition for the term or the picture exposed. They can retake this module if they make an error.
- **Test:** a test consists of four types of
questions: written, multiple choices, matching, and True or False. The questions are based on the study set. The scores gained and the correct answer for the mistaken ones can be checked.

- **Match**: a game in which players are asked to match terms to their definition (or the corresponding pictures) as quickly as possible. After finishing it, the app learners.

### 4.2.2. Duolingo

Duolingo enables users to practice vocabulary, grammar, and pronunciation using spaced repetition. Exercises can include written translation, reading and speaking comprehension, and short stories. Duolingo courses are built upon the concept of a "tree". A number of units must be successfully completed before a user can move to the next row of activities. Units tend to be semantically or grammatically themed. Completion of all 68 units is equated with a high-intermediate, or B2 on the CEFR.

Each unit contains a linear sequence of lessons, each made up of a set of chronologically ordered activities containing a chunk of related skills. Skills can be vocabulary and grammatically based. Skills are composed of six levels. Learners progress through levels of skills by practicing the lessons a certain number of times. When users complete a lesson or test out, they are rewarded experience points. Users are also tested on prior knowledge in future lessons as lessons will call back to previously learned words and expect the user to be able to apply them in new sentences. Lessons can include matching, translating, speaking, and multiple choice.

### 4.2.3. LinGo Play

When opening the app, you will discover your homepage with a summary of your profile. The different categories of the app include: Play online (for learners to invite friends and have fun while learning foreign languages together), Tournaments (for learners to participate in tournaments with other players around the world), Rating + prizes (for learners to participate in rating competitions and win prizes), Learn lessons (for learners to discover thousands of new words and phrases in foreign languages), Updates (for learners to keep their vocabulary updated),

Learn lessons (for learners to complete the course and get a certificate in any of the foreign languages available in the app). Each lesson has three options: flashcards, words and phrases.

### 4.2.4. Memrise

Memrise lessons alternate between eight different types:

- **Learn new words**: this lesson type starts off with a video of a native speaker saying a word. Learners have to listen and match. Next, the English translation is shown. This is where learners can create a meme or add it to the “difficult word” category. This is repeated for the new words that make up the lesson.

- **Classic review**: it consists of a few practice activities and does not introduce any new material. Learners get plenty of chances to practice reading, writing, and listening to the language.

- **Speed review**: this is a fast-paced multiple choice quiz that uses the words and phrases learners have learned so far. In the speed review, learners are supposed to answer the question as quickly as possible. The faster they do it, the more points they get.

- **Difficult words**: it is a collection of words that the app has identified as especially difficult for learners and words that learners have identified as difficult themselves. Selecting the difficult words exercise brings learners to a basic review session of the difficult words.

- **Listening skills**: the listening skills portion is made up of a few different audio review activities. Learners get points based on how many they get correct, but it is relaxed practice without time limits.

- **Learn with locals**: it is a bunch of simple exercises with videos of native speakers speaking the words and phrases. Learners get points based on how many
they get correct, but it’s relaxed practice without time limits.

- Chatbots and grammarbots: this is an interesting way to interact with the language. The Grammarbots are very similar to the Chatbots, but they focus on grammar.

### 4.2.5. 11+ Vocabulary Builder


The application has over 350 questions that cover over 5000 words. On the completion of each test the user is given a summary of questions answered correctly, incorrectly and skipped along with the time taken on each question. Every question can be reviewed and all questions have an explanation of the answer. An interactive pie chart displays current progress for each topic. Pie charts simply display what areas need to be worked on and the mock test at the end of the section ties all of the skills together to prepare for the verbal reasoning paper.

Learners can choose to answer only incorrectly answered questions, unattempted or correctly answered questions. After learners have practiced all types of questions, they can take a Mock Test with 50 questions selected randomly from each topic. Scores for the mock tests taken in the past are displayed in a bar chart. There is no limit on how many mock tests you can take. All of these applications can be found and downloaded/installed easily on smartphones. Before deciding to use these applications, students must have made a thorough research and review in order to choose the most suitable ones. However, VNU-IS students in the survey have different choices for these applications. The detailed percentage of users choosing each of these smartphone applications to learn English vocabulary is displayed in the following figure.

**Figure 2**

<table>
<thead>
<tr>
<th>Percentage of Smartphone Application Users to Learn English Vocabulary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quizlet 62%</td>
</tr>
<tr>
<td>Duolingo 18%</td>
</tr>
<tr>
<td>LinGo Play 10%</td>
</tr>
<tr>
<td>Memrise 8%</td>
</tr>
<tr>
<td>11+ Vocabulary Builder 2%</td>
</tr>
</tbody>
</table>

It can clearly be seen that Quizlet outweighs others and becomes the most-favored smartphone application that students in the survey choose to use for learning English vocabulary. Quizlet accounts for 62% while the second ranking application – Duolingo – only takes up 18%. Other applications are chosen by quite a small number of users: LinGo Play 10%, Memrise 8%, 11+ Vocabulary Builder 2%. The dominance of Quizlet over other applications leads the researcher to find out features that enable it to attract the majority of students in the survey. Further interview with Quizlet users reveals the reasons why it is chosen. They find Quizlet useful because it helps them save time and effort spent on learning new words, helps to increase their learning motivation, helps to encourage their autonomy and self-study. Most importantly, Quizlet makes them feel interested to learn vocabulary. It can be concluded that interest is really important for students and this is the factor that makes them continue using that application.
4.3. Students’ Overall Evaluation on the Effectiveness of the Smartphone Applications

Being asked to make a general evaluation on the effectiveness of these smartphone applications in helping them broaden their vocabulary on a scale of 1 to 5 in which 1 means least effective and 5 means most effective, the students have various ideas. The data collected is summarized in the following table.

Table 3  
Students’ Overall Evaluation on the Effectiveness of English Vocabulary Using Smartphone Applications  
(1= Extremely ineffective, 2 = Ineffective, 3 = Neutral, 4 = Effective, 5 = Extremely effective)

<table>
<thead>
<tr>
<th>No</th>
<th>Application</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>(4) + (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Quizlet</td>
<td>8%</td>
<td>12%</td>
<td>20%</td>
<td>25%</td>
<td>35%</td>
<td>60%</td>
</tr>
<tr>
<td>2</td>
<td>Duolingo</td>
<td>22%</td>
<td>28%</td>
<td>35%</td>
<td>6%</td>
<td>9%</td>
<td>15%</td>
</tr>
<tr>
<td>3</td>
<td>LinGo Play</td>
<td>32%</td>
<td>42%</td>
<td>20%</td>
<td>4%</td>
<td>2%</td>
<td>6%</td>
</tr>
<tr>
<td>4</td>
<td>Memrise</td>
<td>38%</td>
<td>22%</td>
<td>35%</td>
<td>3%</td>
<td>2%</td>
<td>5%</td>
</tr>
<tr>
<td>5</td>
<td>11+ Vocabulary Builder</td>
<td>44%</td>
<td>35%</td>
<td>20%</td>
<td>0.5%</td>
<td>0.5%</td>
<td>1%</td>
</tr>
</tbody>
</table>

As mentioned previously, the number of students using these five smartphone applications vary greatly and therefore the percentage of answers relating to the effectiveness vary accordingly. 62% of participants in this research choose to use Quizlet to learn English vocabulary and 60% of them consider it to be effective. The data for Duolingo, LinGo Play, Memrise and 11+ Vocabulary Builder are: 18% - 15%, 10% - 6%, 8% - 5%, 2% - 1% accordingly. This reveals the fact that a few learners choose an application but after a certain period of time using it, they may find it unsuitable and it can not help them improve their vocabulary size as expected. Luckily, the number of these students is small in comparison with the total number of users choosing that application. The application designers must have done a thorough research of vocabulary learning methods as well as learning habits of various users before developing such applications.

5. Conclusion

This research involves a limited number of VNU-IS students to find out how they use smartphone applications to learn English vocabulary. The results show that students decide to choose the application based on a wide range of criteria such as convenience, interesting activities, sound quality, appealing animation and graphic design, ease of use, saving time and providing the definition and thesaurus of vocabulary, improving students’ learning effectiveness, enhancing students’ self-learning, changing students’ learning habits, increasing level of difficulty, and improving students’ technological skills. These criteria are not equally important.

The survey results show that the following smartphone applications are most frequently used by VNU-IS students: Quizlet, Duolingo, LinGo Play, Memrise and 11+ Vocabulary Builder. Among these, Quizlet is the most widely used and favoured by the students.

The experience of using these smartphone applications helps students evaluate their effectiveness in improving vocabulary size. The good news is that the majority of users think that these applications are effective.

However, it can be seen that students are not fully aware of the word aspect they need to focus on as well as the types of vocabulary exercise or activities they need to use in order to learn English vocabulary effectively. For VNU-IS students, they are required to improve their...
vocabulary size in particular in their English level in general in a limited period of time. Therefore, it is crucial that students be given necessary information about word aspects, vocabulary learning methods in order to be able to choose the most suitable learning methods as well as the most suitable smartphone application which can help them learn vocabulary effectively. Students should be equipped with knowledge about study skills so that they can know how to gain the best in the shortest time.

References
VIỆC SỬ DỤNG CÁC ỨNG DỤNG TRÊN DIỆN THOẠI THÔNG MINH ĐỂ HỌC TỪ VỰNG TIẾNG ANH CỦA SINH VIÊN NĂM NHẤT TRƯỞNG QUỐC TẾ - ĐẠI HỌC QUỐC GIA HÀ NỘI

Nguyễn Thị Tổ Hoa
Trường Quốc tế, Đại học Quốc gia Hà Nội,
Số 79 Đường Nguyễn Hü Kon Tum, Quận Thanh Xuân, Thành phố Hà Nội, Việt Nam

Tóm tắt: Nghiên cứu này đề cập tới việc sử dụng các ứng dụng trên điện thoại thông minh để học từ vựng tiếng Anh của hơn 400 sinh viên năm nhất của Trường Quốc tế - Đại học Quốc gia Hà Nội (VNU-IS). Nghiên cứu giúp làm rõ khi học từ vựng tiếng Anh, những ứng dụng nào trên điện thoại thông minh thường được sử dụng nhiều nhất và đánh giá của các sinh viên này về hiệu quả của các ứng dụng trên điện thoại thông minh trong việc học từ vựng tiếng Anh. Từ dữ liệu thu thập được và kết quả nghiên cứu, tác giả đưa ra một số kết luận về việc sử dụng các ứng dụng trên điện thoại thông minh để học từ vựng tiếng Anh của các sinh viên năm nhất trình độ sơ cấp tại Trường Quốc tế, ĐHQGHN.

Từ khóa: tiếng Anh, học từ vựng, ứng dụng trên điện thoại, ứng dụng