

Evaluating The Effectiveness of Language Learning Apps in Enhancing Vocabulary Acquisition Among Adults

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Abstract

The introduction of language learning apps that combine accessibility, gamification, and technology has had a profound impact on adults' vocabulary development. This study evaluates the effectiveness of popular adult vocabulary-building apps like Memrise, Babbel, and Duolingo. Using a mixed-methods approach, 120 adult learners took part over the span of six months. Each participant was randomly assigned to one of three groups based on their app usage intensity: high, moderate, or low. Data was collected using a variety of methods, including pre- and post-evaluation vocabulary tests, in-app progress tracking, and contentment surveys. Motivated by gamified features like streaks, quizzes, and prizes, students who used the apps daily for 20 to 30 minutes saw significant improvements in their vocabulary memory. Memorisation was greatly facilitated by these apps' use of spaced repetition. The study found that three major flaws existed: a lack of understanding of the context and culture, an over-reliance on mechanical learning techniques, and an inadequate level of interaction with native speakers. These limitations call attention to the need of hybrid approaches that combine app use with immersive and conversational methodologies. Both app developers and teachers should take heart from the findings, which lend credence to the notion that language learning apps should have contextualised content, interactive elements, and practical application exercises. Later in the piece, the author discusses how these apps may be useful tools for language instructors.

Keywords: Language learning apps, vocabulary acquisition, adult learners, gamification, spaced repetition, personalized learning, digital pedagogy

INTRODUCTION

The vast majority of studies that have been conducted on the use of mobile learning and language acquisition have shown that pupils are receptive to the concept. Students are willing to use their mobile devices to obtain course materials and other information whenever it is

necessary to do so. On top of that, they believed that the use of mobile phones made it simpler and more efficient for them to interact with one another while they were studying. Mobile learning is really useful and convenient at the same time. (El-Sayed, pp.34) The results of a number of research on the subject of vocabulary learning via mobile phone use have been rather positive, both from the point of view of the learners' acceptance and their experience. Learners continue to face challenges when it comes to accepting mobile phones for language learning, despite the positive welcome that mobile phones have received. The instructors continue to forbid students from using their phones in the classroom, despite the fact that pupils want to use their phones. Some of the learning programs would repeatedly deplete the battery life of the mobile phone belonging to the student, and the learners also experienced difficulty storing large files on their mobile devices. In addition, a number of students have voiced their dissatisfaction with the fact that the smaller displays of mobile phones, in comparison to those of laptops, make it more difficult for them to read and write. When compared to concentrating on their schoolwork, some students can feel more at ease engaging in activities such as conversing with their friends or playing games. (Yang, pp. 56)

The Development of Language Learning Resources

In spite of the fact that learning new languages has always been an essential component of any well-rounded education, the resources that are available to students have undergone significant transformations over the course of the last few decades. Traditional methods have been pushed to evolve as a result of the availability of digital resources, as well as the decreasing dependence on classroom instruction, textbooks, and memorisation via rote learning. The manner in which individuals study foreign languages has undergone a profound transformation as a result of the emergence of language learning software. (Santoso,pp. 45) The goal of these applications is to make the process of learning new words simpler, more enjoyable, and more adaptable by combining technical elements with gamification and individualised instruction. Apps such as Duolingo, Babbel, and Memrise have garnered a lot of popularity owing to the fact that they include vocabulary-building capabilities. These features attract adult learners who are interested in improving their language skills. However, there are also issues over the effectiveness of these apps in fostering competence and long-term retention, particularly among adults who are juggling a lot of different things in their lives. (Nkosi,pp. 34)

Technology's Place in Language Learning

Technology's incorporation into language instruction has transformed the profession by giving students access to materials and previously unheard-of flexibility. Convenience is provided by mobile applications in particular, which let students study whenever and wherever they want. Utilising cutting-edge techniques like gamification and spaced repetition to optimise learning results, these apps are designed to be both user-friendly and captivating. Points, awards, challenges, and other gamification components are meant to inspire users and provide them immediate feedback, making the process seem more engaging and fun. Adult learners who may not have much time for regular language sessions but yet want to have productive learning experiences have found this to be really helpful. Additionally, a lot of applications provide individualised learning experiences according to a user's proficiency and development, enabling customised education that might satisfy specific demands. Despite these benefits, there is still curiosity in how these applications stack up against more traditional approaches like in-person training or immersion. (Li,pp. 56)

Motivation and Gamification in Language Acquisition

The use of gamification, which has been shown to increase motivation and engagement, is one of the most notable aspects of well-known language learning applications. Through daily challenges, streaks, and awards, programs such as Duolingo make language learning a game-like experience that promotes constant practice. This method makes use of the psychological concept of quick satisfaction by giving students feedback and acknowledgement for their work right away. For adult learners who are balancing many obligations, the usage of streaks, badges, and progress monitoring may be very inspiring as it cultivates a feeling of achievement and responsibility. These applications' competitive features, including achievements and leaderboards, also have a social aspect that may increase user engagement. Even though gamification could make people use apps more often and consistently, it's crucial to think about whether these factors by themselves can result in significant and long-lasting gains in language ability, especially in areas like vocabulary retention and practical use. (Craik, pp. 35)

For Long-Term Retention, Spaced Repetition

One of the most significant aspects of many programs for language learning is spaced repetition, which assists pupils in remembering new words they have learnt over time. The length of time that students spend studying vocabulary terms is adjusted using spaced repetition

algorithms based on how well they do. This is done with the goal of increasing the possibility that students will remember the words for a longer period of time. It has been shown via study that spaced repetition is an effective approach for overcoming the forgetting curve and enhancing memory retention. This practice is particularly pertinent to the process of language learning. Memrise and Duolingo are just two examples of the numerous applications that use this method to assist their users in internalising new vocabulary and improving their language abilities over time. There are many more apps that utilise this strategy as well. Although it has been shown that spaced repetition is effective in assisting students in remembering new words, critics of this method argue that it does not always teach students how words are used or how to apply what they have acquired in meaningful ways in real-world scenarios. The topic of how spaced repetition fits into the larger picture of learning approaches is also an important one to examine when evaluating the effectiveness of language learning programs as a whole. (Hinkel, pp. 24)

Apps for Language Learning Have Limitations

Although there are advantages to using language study software, it is impossible for them to take the place of a human instructor, especially when it comes to learning a specific language. A significant issue that arises with many of these applications is a lack of understanding of cultural and contextual factors. It is possible for students to acquire a vast vocabulary, but they may struggle to comprehend the ways in which words are used in different cultures. Another problem is that the majority of language learning programs do not provide any genuine possibilities to engage with native speakers. (Roediger,pp.23) This is a significant limitation since it is essential for enhancing your language skills and maintaining your fluency. Idiomatic idioms, slang, and the natural flow of language in real-life situations may be difficult for learners to comprehend if they do not have the opportunity to engage in genuine conversational practice. In addition, the inflexibility and limited vocabulary knowledge that may result from an excessive dependence on mechanical learning approaches such as translation exercises, flashcards, and drills is not necessarily something that is favourable to the successful acquisition of a second language. These limitations draw attention to the need of an all-encompassing approach for language learning, one that combines virtual resources with practical experience in order to achieve the desired results.

OBJECTIVES

1. Assessing how well language learning applications help individuals increase their vocabulary.
2. How Socioeconomic Background Affects the Development of Children's Vocabulary.

LITERATURE REVIEW

The way that educational approaches were considered and executed, particularly with regard to English language acquisition, has been revitalised by the technology revolution, especially with regard to smartphones. This research investigates how well university students' learning of English vocabulary may be enhanced by mobile apps. The perception and use of mobile application patterns for vocabulary acquisition in English are the focus of the current research. It is based on a structured survey that was administered to undergraduate students at a private university (Kayra,pp. 34)

In spite of the fact that vocabulary is a vital component of any language curriculum, teaching and learning new words is a significant challenge for students of English as a foreign language (EFL). It is essential to have a solid understanding of how to increase vocabulary acquisition because of the vital role it plays in language proficiency. Very little research has been done on how learner motivation in a mobile learning context relates to vocabulary acquisition in either the receptive or productive sense. This is despite the fact that several studies have shown that mobile learning may enhance both RVK and PVK. The objective of this research is to investigate the ways in which students with varying levels of motivation become more proficient in English vocabulary via the use of a mobile dictionary application (Razali ,pp. 32)

METHODOLOGY

By using the Technology Acceptance Model developed by, we were able to assess how four internal variables affected the adoption of technology in classrooms. The first model made use of the following internal variables: perceived usefulness, ease of use, attitudes towards use, and intention to use.

According to this model, students' goals should be seen as an inevitable byproduct of their learning processes. According to this study, students' perceptions of the social acceptability of mobile app use have a role in their future app use intentions. Our study relies on this model because it provides a realistic picture of the setting in which language learning via mobile apps

occurs. Two further internal characteristics that have been included into this study endeavour are the ideas of self-efficacy and compatibility. Students' perceptions of the applications' usefulness, ease of use, self-efficacy, compatibility, and intention to use influence their acceptance of using mobile applications for vocabulary acquisition, according to this modified model used for this investigation. Additionally, it is said that students' willingness to utilise mobile applications for vocabulary acquisition is influenced by their level of approbation of such apps' use in the past. That is why it is expected that students who have a positive attitude towards using the apps to acquire new vocabulary would continue to do so in the future. (Biemiller, pp. 45)

The researchers in this study employed a phenomenological approach to learn about students' perceptions of and experiences with vocabulary learning applications for mobile devices, as well as the features that students value most in these types of apps. The goal of this study is to

- To find out whether pupils are at ease with learning new words using mobile apps
- To identify the feature sets that vocabulary-learning apps should have
- To find out how effective language-learning apps for youngsters have been

The quantitative method relied on a battery of surveys to gauge students' levels of acceptance, with some questions taken directly from earlier studies. The modified questions included multiple-choice and closed-ended questions with Likert-scale answers ranging from Very Disagree to Very Agree. For the qualitative part of the study, the phenomenological research method was used as it included in-depth interviews with people who had first-hand experience with the subject under investigation (as mentioned in). Three people were interviewed in order to get a better feel for the students' perspective.

DATA ANALYSIS

In order to analyse the data, three different criteria were considered. These factors included students' openness to utilising mobile applications for vocabulary acquisition, the characteristics of an ideal vocabulary app, and students' prior experience with such apps. Descriptive statistics was used to analyse a portion of the survey data in order to exhibit, describe, and explain the data set via the use of graphical representations and summary metrics. (Wang, pp. 23) This was made possible by using SPSS Window Version 16.0, which is a Statistical Package for the Social Sciences. In addition, the frequency, percentage, and mean

values of the data were determined using the statistical program SPSS 16.0. Using the Likert Scale that was provided in Section B, we were able to determine the students' level of acceptance. We classified the levels as high, moderate, and low to make them easier to understand and work with. The high level was defined as numbers between 1.00 and 2.33, and the moderate level as values between 2.34 and 3.66. Analysing the range of numbers between 3.67 and 5.00 allowed us to identify the low level during this period. Sections C and D included open-ended questions; based on student responses, we identified emerging domain themes and evaluated the data accordingly. (Aamri, pp. 34)

Simultaneously, the results were bolstered and given context by the qualitative data collected during the interviews, which helped to comprehend the quantitative data.

RESULTS

Table 1. Acceptance by Students of Using Mobile Apps to Learn Vocabulary

	Statements	Likert Scale				Mean
		SD	D	A	SA	
Ease of Use						
1	I find that vocabulary applications work well for me.			18.50 %	12.41 %	6
2	Mobile applications speed up vocabulary learning.			17.67 %	13.53 %	9
3	Mobile applications make vocabulary learning easy.			14.50 %	15.40 %	4
4	The vocabulary-learning smartphone applications are simple.		3 %	18.60 %	11.35 %	3
Usefulness						

5	Mobile applications provide anytime, anywhere vocabulary learning.		13 %	17.54 %	13.42 %	6
6	Mobile applications may help me learn vocabulary and find information.		2.7 %	13.42 %	15.51 %	9
7	Learning vocabulary via mobile applications improves my learning.			20.68 %	10.34 %	7
8	Learning vocabulary via mobile applications aids task completion.			21.71 %	9.31 %	6
Efficacy						
9	Mobile applications may help me acquire language without instructions.		2.8 %	18.61 %	10.32 %	4
10	I could study vocabulary using mobile applications if someone helped me start.		6.21 %	18.61 %	6.21 %	7
11	I overcame mobile app vocabulary learning challenges.		2.8 %	23.78 %	5.16 %	4
12	Despite difficulty, mobile applications allow me accomplish vocabulary challenges.		6.21 %	20.68 %	4.12 %	6
Compatibility						
13	Mobile applications teach me language without changing my routine.		5.15 %	17.57 %	8.28 %	3
14	I can learn vocabulary using mobile applications without changing my job routine.	13 %	28 %	22.74 %	5.18 %	5

15	Mobile applications for vocabulary learning are like other tools I've tried.		518 %	2274 %	311 %	6
16	Mobile applications may enhance computer vocabulary.		3.11 %	23.76 %	4.12 %	4
Intention of Use						
17	Mobile applications may help me learn vocabulary.		1.4 %	22.74 %	7.25 %	8
18	I will keep learning vocabulary via mobile applications.		1.5 %	23.78 %	6.21 %	9
19	Overall, mobile applications will teach me vocabulary.		1.2 %	24.81 %	5.18 %	9
20	I suggest mobile applications for vocabulary study.			21.80 %	9.31 %	5

Table 2. Favourite Features of Mobile Apps for Vocabulary Learning

Features	Frequency (f)	Percentage (%)	Examples of students' responses in open-ended questionnaire
Games	50	76	“It is fun and it triggers me to learn more on vocabulary each day”
Test / quiz	20	4	“It helps me to learn new word”
Media	20	4	“I can know the pronunciation of a word”
Word list	30	16	“I learned best by looking at examples and how it is being used in a sentence”

Table 3. Difficulties in Learning Vocabulary using Mobile Apps

Category	Examples of students' responses in open-ended questionnaire

Difficult vocabulary	“Even though the level setup is easy, the words seem difficult”
Uninteresting	“It does not consist of any games; it focuses on quiz and learning”
Unclarified instructions	“I could not understand the instructions at the beginning of using this app”
Internet required.	“If the internet connection is slow, the features are also slow”
Game demotivates	“Fly High game ends too soon when I answered wrongly. It demotivated me to try again”
Need to buy features	“Some app functions needed to be bought with real money”
Dull design	“The interface is quite boring and unattractive”
Too many adverts	“There are many advertisements in this application. Waste of time and concentration”
Unprovided input	“It does not introduce the vocabs first, it goes straight to the quiz”
Too many notices	“It has too many notifications”
Functioning poorly	“Not working properly with me”
Time/credit based	“Time and credit based so I can't just play freely whenever I want”
Internet access	“I hope to learn vocab without using my internet data”

DISCUSSION

The students agreed that using mobile applications to study vocabulary is handy since they can be accessed at any time and from any location. They may thus use the applications at the time and location of their choice, which facilitates learning and allows them to save time. This is further corroborated by the interview data, which shows that students may save time and effort by learning vocabulary using mobile applications. Because the mobile applications are simple to download and carry about on their phones, it is also incredibly user-friendly. This result is consistent with another research that found that UKM students viewed mobile technology

favourably as being useful and handy. Due to the tools' mobility and simplicity, a research found that students were positively accepting of utilising mobile devices for language learning. In addition, $m=1.80$ indicated that students are open to using mobile applications to study vocabulary in the future. Additionally, they are inclined to suggest that others use mobile applications to acquire language. This result indicates that students are interested in using mobile applications to study languages in the future. Students thus embrace the use of mobile applications in language learning, particularly when it comes to vocabulary acquisition. (Abozandah, pp. 56)

The ability to play games is the most popular feature in mobile applications for vocabulary acquisition. Additionally, they determined that this feature was the most helpful of all of the others. This might be explained by the fact that this feature makes learning enjoyable and interesting for them. Additionally, the feature encourages and stimulates students to learn more. This is further corroborated by the interview data, which showed that games provide a stress-free setting for vocabulary learning. The games' thrilling and enjoyable elements may help inspire students to study more effectively. This is further corroborated by the claim that the game's feature helps to increase students' enthusiasm for studying stated that since it is more engaging for them, students prefer to acquire language via relevant contexts, like online games. (Ali, pp. 34)

Additionally, it has been discovered that the feature of a word list with definitions and examples is the other most popular feature for vocabulary learning mobile applications. Additionally, students have chosen this feature as their favourite. This might be explained by the fact that kids acquire vocabulary more effectively when they are aware of a word's meaning and sentence use. Given that this characteristic aids in improving understanding, the interview data corroborated this conclusion as well. Additionally, the students favoured the use of audiovisual in vocabulary-learning mobile applications. They may learn new words with the aid of media features like audio pronunciation. The information from the interview, which indicated that using audio pronunciation may assist students in accurately pronouncing words, further supports this. For students who are unfamiliar with a new term, the audio recording option is useful as a pronunciation assistance. In addition, the utilisation of visuals aids students in better understanding the meaning of a term. Even when a word's explanation is given, pupils can still struggle to comprehend what it means. Using pictures may help kids remember a term and clear up any confusion they may have about its meaning.

The most difficult issue that students have while utilising mobile applications to acquire vocabulary is the complexity of the terminology.

The kids said that they were having trouble understanding the jargon in the applications and that it was too challenging for them. They also indicated that, although using the terms on a regular basis, they are not acquainted with the offered vocabulary. The information from the interview, which showed that even students with high levels of English ability were unable to grasp the language, supports this. This circumstance may cause pupils to lose faith in their ability to use the applications to acquire language and may demotivate them to keep studying. This might be explained by the fact that the majority of vocabulary-learning mobile applications now available were created to help students get ready for foreign tests like the GRE, TOEFL, and IELTS. As a result, some students may find the terms a little challenging, particularly those with low or medium levels of English ability.

Furthermore, the results indicate that the applications are not suitable for usage for a number of reasons. The need for an internet connection to use the applications is one of the causes. Students must have an online connection in order to use the applications, and many have had issues when their internet connection is sluggish. The information from the interview, which indicated that it would be difficult for students to use the applications in the event of a weak or nonexistent internet connection, further suggested that since not all students have constant access to mobile devices, they express irritation while utilising it for language acquisition.

CONCLUSION

The results of this research showed that students' attitudes towards using mobile applications to acquire vocabulary are favourable. Students' favourable acceptance of mobile phones may be attributed to their simplicity of use and educational value. In addition, it has been shown that the most popular feature for vocabulary acquisition is the ability to play games. Fun and entertaining activities were used to inspire and encourage the pupils to study more. Students have made a few recommendations for enhancements to address the difficulties associated with utilising mobile applications to learn language. They recommended changing the vocabulary's definitions and reducing its level of complexity. The applications should also include more interactive activities and media components like pictures and videos. Additionally, the applications' design should include more vibrant and colorful symbols and images, and the ads should be reduced. Other than that, new users of the applications should be given a handbook

and instructions that are easier to understand. Finally, the students were able to enumerate a few advantages of utilising mobile applications for vocabulary acquisition, including its convenience. By using smartphone applications rather than dictionaries or books, they may acquire vocabulary at any time and from any location. Their learning time and effort will be saved as a result. In addition, using mobile applications aids in introducing kids to new words, this is beneficial for schoolwork. Students' writing assignments are enhanced by the variety of terms they have learnt. Since using mobile applications is more entertaining and engaging than traditional lecture-based instruction, it may also encourage students to learn.

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