

IMPROVING VOCABULARY PROFICIENCY THROUGH THE ANKI APPLICATION IN TEACHING ENGLISH TO HIGH SCHOOL STUDENTS

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ARTICLE INFO		ABSTRACT
Received:	27/5/2024	This research aims to improve the vocabulary capacity of high school students through the Anki application. Experimental activities are conducted at the end of semester 1 and the beginning of semester 2 of the 2023-2024 school year. A total of 8 lessons and 8-week lessons are dedicated to achieving the desired results. The study involved 40 participants, of which 20 students were assigned to the experimental group (using the Anki application) and the remaining 20 students participated in the control group (not using the Anki application). Although all 40 students participated in both the vocabulary pre-and post-tests, only the experimental group's responses mentioned using the Anki app and offered suggestions for optimal performance. Research results show significant improvements in students' vocabulary, including various aspects such as increasing vocabulary and understanding how to use words in context. Different situations will require different methods to enhance English speaking ability through vocabulary usage. Additionally, the study offers several recommendations to improve the effectiveness of Anki applications, making them more popular, meaningful, and useful, while also mitigating potential risks associated with their use.
Revised:	18/11/2024	
Published:	18/11/2024	
KEYWORDS		
Anki application		
Vocabulary acquisition		
High school students		
Educational technology		
Mixed approach		

PHÁT TRIỂN NĂNG LỰC TỪ VỰNG THÔNG QUA ỨNG DỤNG ANKI TRONG DẠY HỌC TIẾNG ANH CHO HỌC SINH TRUNG HỌC PHỔ THÔNG

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THÔNG TIN BÀI BÁO		TÓM TẮT
Ngày nhận bài:	27/5/2024	Nghiên cứu này nhằm mục đích nâng cao năng lực từ vựng của học sinh phổ thông thông qua ứng dụng Anki. Hoạt động thực nghiệm được tiến hành vào cuối học kỳ 1 và đầu học kỳ 2 năm học 2023-2024. Tổng cộng có 8 buổi học và 8 buổi học kéo dài 8 tuần được dành riêng để đạt được kết quả như mong muốn. Nghiên cứu có sự tham gia của 40 người tham gia, trong đó 20 sinh viên được phân vào nhóm thực nghiệm (sử dụng ứng dụng Anki) và 20 sinh viên còn lại tham gia vào nhóm đối chứng (không sử dụng ứng dụng Anki). Mặc dù tất cả 40 học sinh đều tham gia cả bài kiểm tra từ vựng trước và sau, nhưng chỉ có câu trả lời của nhóm thử nghiệm đề cập đến việc sử dụng ứng dụng Anki và đưa ra gợi ý để đạt hiệu suất tối ưu. Kết quả nghiên cứu cho thấy sự cải thiện đáng kể về vốn từ vựng của học sinh, bao gồm nhiều khía cạnh khác nhau như tăng vốn từ vựng và hiểu cách sử dụng từ trong ngữ cảnh. Những tình huống khác nhau sẽ yêu cầu những phương pháp khác nhau để nâng cao khả năng nói tiếng Anh thông qua việc sử dụng từ vựng. Ngoài ra, nghiên cứu còn đưa ra một số khuyến nghị để cải thiện hiệu quả của các ứng dụng Anki, làm cho chúng trở nên phổ biến, có ý nghĩa và hữu ích hơn, đồng thời giảm thiểu rủi ro tiềm ẩn liên quan đến việc sử dụng chúng.
Ngày hoàn thiện:	18/11/2024	
Ngày đăng:	18/11/2024	
TỪ KHÓA		
Ứng dụng Anki		
Tiếp thu từ vựng		
Học sinh phổ thông		
Công nghệ giáo dục		
Phương pháp tiếp cận hỗn hợp		

DOI: <https://doi.org/10.34238/tnu-jst.10471>

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1. Introduction

It can not be denied that English is a global language because it is widely used and contributed to many fields such as technology, science, education, entertainment, economy, culture, and so on. For this reason, the number of people who aim to speak English fluently is growing daily and includes young learners in particular. Not only can learning English broaden students' horizons, but it also presents them with numerous opportunities for personal growth. English is also very important in the Vietnamese context since it is a required subject in the new general education curriculum beginning in grade 3 and continuing through grade 12. Even in non-native countries, English is still spoken, learned, and understood. English is widely used in many industries, including medicine, engineering, education, advanced research, business, technology, banking, computing, tourism and other fields [1]. Improving vocabulary levels is an important aspect of language learning, especially for high school students who want to become fluent in English. However, not all students have effective vocabulary learning methods; Many people have difficulty memorizing vocabulary despite trying many different learning methods. In recent years, mobile as well as desktop learning applications have become valuable tools in language acquisition and provide learners with innovative learning platforms to complement their traditional language acquisition methods. Therefore, an effective vocabulary learning application for students is extremely necessary. This study aims to explore the effectiveness of improving high school students' English vocabulary levels through the Anki application and thereby discuss effective language teaching strategies. Specifically, the study will investigate the extent to which high school students using the Anki app improve vocabulary memory, vocabulary comprehension, and overall language proficiency.

1.1. Definitions of vocabulary

To effectively use any language, vocabulary is an important key. A person's vocabulary is a collection of words that they know, learn, and summarize in the language they are familiar with. Age-related vocabulary growth is a normal and beneficial tool for communication and knowledge gain. Active and passive vocabulary are the two categories used to classify it. Having a strong vocabulary that includes both spoken and written words. Words in a person's passive vocabulary are those that they recognize when reading or listening but do not utilize when speaking or writing. There will be more passive vocabulary than active vocabulary only, the definitions of vocabulary are also very diverse. Concrete has the same meaning as vocabulary, vocabulary. Vocabulary is also understood as the set of words and equivalent word units in a language.

According to Nation (2001), vocabulary acquisition is defined as "the process of learning new words and adding them to one's mental lexicon." It encompasses the learning of both the form (pronunciation, spelling) and meaning (semantic and pragmatic aspects) of words [2].

Research by Gu and Johnson (1996) suggests that vocabulary acquisition involves understanding word relationships, collocations, and usage patterns. It goes beyond memorizing individual words and emphasizes the importance of building connections between words and their contexts [3].

Hornby (1995) gave a specific lexical definition that is: "the total number of words in a language; a list of words with their meanings". However, a new vocabulary item can be more than just a single word [4].

1.2. The significance of learning vocabulary

Vocabulary acquisition is crucial in language learning for developing proficiency and communication skills. Just as grammar is essential, vocabulary serves as the foundation for expressing ideas, understanding others, and conveying meaning effectively [5]. It impacts reading comprehension, as larger vocabularies correlate with better comprehension across different texts

[6]. A rich vocabulary contributes to effective writing by enhancing clarity and coherence. It promotes listening and speaking proficiency, capturing nuances and enabling fluent expression. Vocabulary acquisition fosters cultural understanding, facilitating cross-cultural communication. Effective strategies, such as contextual learning and word associations, enhance retention. Research emphasizes the importance of vocabulary acquisition and its benefits in language learning [7]. Prioritizing vocabulary acquisition and employing effective strategies enhance language abilities and communication skills.

Regarding vocabulary learning, two approaches can be used: explicit and implicit methods. Explicit teaching of words is a hallmark of the explicit method [8]. In this instance, the teacher chooses a few target words and then uses an organized plan to demonstrate their meanings, forms, and word families. This is followed by exercises that help students learn and retain new vocabulary [9], like vocabulary drills and rote learning. By repeating actions without fully understanding the content, students are taught to memorize a list of vocabulary words by rote learning [10]. Based on Koda's (2005) [11] recommendations, to be able to absorb vocabulary, children should actively participate in understanding the meaning of words, because this approach will help them remember vocabulary more effectively [12]. Vocabulary acquisition plays a decisive role in language learning. It is central to effective communication and expressing ideas so others can understand. Having a larger vocabulary will help you understand better and improve the clarity of your writing and speech. Therefore, prioritizing vocabulary learning and using effective vocabulary learning strategies will contribute to significantly improving language ability.

1.3. Understanding the AnkiApp

The Anki app is a program used to aid the memorization and acquisition of new languages. This application was created by Damien Elmes and released in 2006. The name "Anki" in Japanese means "memorize".

Anki uses spaced repetition, a form of recording that involves reviewing knowledge more frequently over a specific period. By calculating the most effective time to review each flashcard based on the user's performance and memory capacity, this algorithm aids in the optimization of the learning process.

Users of the application can make their flashcards or download pre-made decks that other users have provided. One side of each flashcard is the question or clue, and the other side is the answer. To improve the learning experience, users can add images and sounds. Anki is available in four main editions, the first being Anki Desktop which offers all the features of Anki and can be downloaded to your computer for free. In addition to the desktop app, Anki is also available as AnkiWeb, however, its applications are quite limited. Furthermore, this App is also available for iOS called Anki Mobile and you will have to pay for this version. Finally, there is the Android version called AnkiDroid, which is similar to the desktop version and of course completely free [13].

According to some researchers, the Anki app has been shown to significantly improve students' vocabulary abilities. First, a study by Thompson et al. (2019) [14] investigated and evaluated the effectiveness of using the Anki application in medical education. The study found that medical students memorized complex medical concepts more effectively using the Anki app. Next, in a study conducted by Garcia and Martinez (2020) [15] on the effectiveness of the Anki application in learning foreign language vocabulary, it was shown that students who used Anki to review vocabulary demonstrated higher vocabulary retention and improved speaking skills compared to students who relied solely on classroom instruction. Additionally, another study by Smith and Johnson (2018) [16] on the use of the Anki application in enhancing memory and retention in computer programming and research courses found that students Incorporating Anki into their study routine can help remember and apply programming concepts more effectively, leading to improved programming skills and problem-solving abilities.

2. Methodology

The study included 40 students studying biology at Thai Nguyen High School, class 12A5. 40 students will be divided into 2 groups, the control group, and the experimental group, the control group will learn like in class and the experimental group will apply the Anki application in the vocabulary learning process. The study will begin by asking these students to complete an initial questionnaire to gauge their views and opinions on the importance of improving vocabulary when learning traditional languages. through this medium. Traditional learning methods and learning methods through the Anki application. In addition, there will be an entrance test conducted in the first week to evaluate students' vocabulary and vocabulary level, to determine each individual's strengths and weaknesses as a foundation. platform to track progress throughout your studies. From the second to the seventh week, students will participate in studying, reviewing, and undergoing six testing sessions at the end of the week. In week eight, participants will take a 30-minute test consisting of 20 questions. The course will last 8 weeks.

Approximately five participants will be selected for in-depth interviews to gain a deeper understanding of their feelings, attitudes, and perceptions about the Anki app. Data collected from questionnaires, tests, and interviews will be meticulously analyzed to provide a comprehensive overview of the impact of the Anki application on students' vocabulary capacity and learning experience. A comparative analysis between the test group (Anki app users) and the control group (non-Anki users) will be conducted to identify any notable differences in user proficiency. Once we have all the test scores, we can rely on them to measure the effectiveness of the Anki application.

In our investigation method, we use a combination of qualitative and quantitative methods to provide the most accurate results and can analyze data seamlessly, concisely, and qualitatively. We chose this approach because we wanted to gain a deeper understanding and grasp what we had not yet achieved.

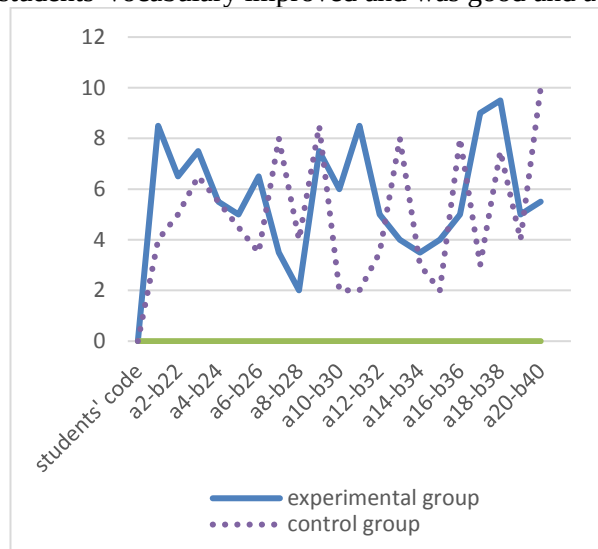
In addition, when using these methods, we can also limit assessment risks when using the Anki application to improve students' vocabulary capacity. Besides, qualitative data collected through the survey also helps us further evaluate students' interest in using the Anki application.

3. Findings and discussion

Through assessment tests, it can be seen that everyone recognizes that the Anki application is extremely effective in improving students' vocabulary. The findings of the test, interview, and classroom observation all provide a clear description of how well applying the Anki vocabulary learning method works for vocabulary enhancement. Students have proven that they enjoy using the Anki app to learn vocabulary. In addition, teachers regularly divide the class into small groups of five to six students, assigning tasks to students afterward. Together, they worked through several challenging exercises, had friendly discussions, and assisted each other in completing them. They also feel more secure, participate in more activities, and learn more from their classmates' experiences and knowledge.

However, most students find it difficult to learn vocabulary despite many methods from teachers, but most students do not have a positive attitude or have difficulty learning. Most children, about 70 percent, still don't have the right way to learn vocabulary. Nam, who was interviewed, said: "I don't know how to learn vocabulary effectively and my vocabulary is minimal." In addition, 75% of students feel that they do not know how to apply the vocabulary they have learned and are afraid of being wrong when using it. Nam also said, "Sometimes I feel unsure about using my vocabulary in tests." Moreover, another interviewer said: "Using and applying vocabulary in different contexts is very difficult, so using vocabulary flexibly and

accurately is a big challenge. Vocabulary is often changed and updated, so students also need to update their meanings continuously. In short, students face many difficulties including lack of confidence, lack of self-discipline, and lack of vocabulary. After the research process using the Anki app, most of the students' vocabulary improved and was good and acceptable.



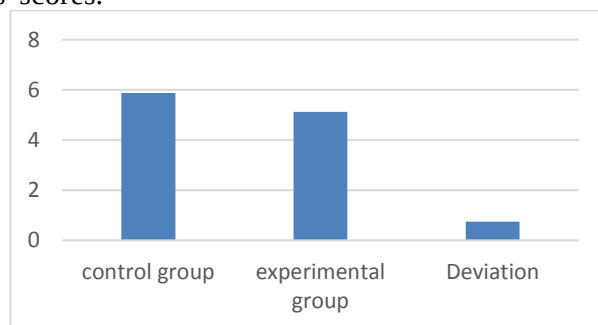
Figures 1. Overall band score in pre and post-test of Students

In short, while students encounter various obstacles in their vocabulary learning journey, innovative tools like the Anki app still offer promising solutions. By addressing basic difficulties and providing a structured learning environment, students can overcome vocabulary challenges and achieve language proficiency.

Table 1. Comparison of Pre-test and Post-test Score Distributions

Score Range	Pre-test (%)	Post-test (%)
2-4	50	15
4.1-6	25	35
6.1-8	25	20
8.1-10	0	30

Through the graph in the data table, we can see that in the first test, the score level focused on 2-4 points, accounting for 15%, but by the final test, the overall score fell from 11-15 points, accounting for 40%. Overall, using the Anki application has significantly improved the students' scores.



Figures 2. Compare the control group with the experimental group

The bar chart above provides further insight into the effectiveness of using the Anki app in improving vocabulary ability for 12th-grade students. Overall, it is a clear demonstration of the positive impact of technology in education and learning.

The experimental group went through a different learning experience than the control group. Instead of relying on traditional methods such as using textbooks and classroom lectures, students are guided and encouraged to use the Anki application, a flashcard-based learning tool. The Anki app not only provides a means of learning vocabulary in an organized and effective way but also takes advantage of the benefits of frequent repetition. This repetition-based learning method has proven to be an effective way to reinforce study material and retain information. When vocabulary is discussed and practiced many times through the Anki application, it becomes easier to remember and use in different contexts.

Through the research process, it can be seen that the experimental group has outstanding efficiency when using the Anki application to learn vocabulary. The number of points and the number of correct sentences increased significantly more than the control group.

Table 2. Weekly average

week	Control group	Experimental group	Deviation
1	4.8	5	0.2
2	4.8	5.1	0.3
3	4.9	5.2	0.3
4	5	5.4	0.4
5	5.1	5.3	0.2
6	5	5.5	0.5
7	5.3	5.2	0.1
8	5.5	5.9	0.4
Average	5.05	5.33	2.4

Data analysis shows that using the Anki app to enhance vocabulary for 12th graders has yielded noticeable positive results. After eight weeks of participating in the pilot sessions, the method was validated through concrete and reliable data. The average score after applying Anki was (14), a significant improvement from the previous score of only (9).

Research has shown clear results that the use of the Anki application for 12th-grade A5 students has changed in both quality and quantity. It also increases interest in learning and improves skills. vocabulary for students

Students' confidence and interest in using new vocabulary motivated them to progress more quickly and confidently in communicating. This boost is reflected not only in improved scores on tests but also in confidence and the ability to communicate better in real-life situations.

The majority of students who have achieved the best results from using Anki are students who previously had average or low grades, while the scores of high achievers may fluctuate. To achieve this result, the use of Anki has motivated students to be regularly exposed to new vocabulary and practice harder and more effectively.

Our team's recommendation after completing the study is a desire to expand the use of the Anki application as an effective learning tool in the classroom. At the same time, it is necessary to create conditions for students to use Anki flexibly and creatively to take full advantage of the potential of this application to expand their vocabulary.

5. Conclusion

In summary, this study has provided insightful information about how well the Anki program works to improve general English students' vocabulary. Using a combination of qualitative and quantitative research methods, the study found that 12th-grade students at Thai Nguyen High School significantly improved their vocabulary proficiency when using the Anki application for vocabulary enhancement instead of traditional study methods. These results highlight the Anki app's promising ability to improve pupils' language proficiency.

Additionally, the research procedure revealed that the reverse flashcard method and spaced learning generated great excitement in pupils and solved frequent vocabulary acquisition

deficits. It emphasizes how important it is to incorporate modern technologies into the classroom.

Inevitably, contemporary technology will soon be incorporated into education. Of these innovations is the Anki application, a tool that significantly lessens the drawbacks of conventional teaching strategies and fosters students' passion for vocabulary study. Additionally, the Anki app promotes a fresh viewpoint on language acquisition by providing accessibility and flexibility anytime and from any location.

To summarize, the research findings highlight the critical role that technology plays in education, especially the Anki application, and offer additional strategies and resources for vocabulary and language acquisition through technology. It is envisaged that widespread use of technology at all educational levels will occur in the future, resulting in a more stimulating and effective learning environment for students working to expand their vocabulary.

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