

## The Effect of Using the Duolingo Application on Elementary School Students' Mastery of English Vocabulary

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| ARTICLE INFORMATION  | ABSTRACT  |
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| <p>Article History:<br/>Received June 2024<br/>Revised June 2024<br/>Accepted June 2024</p> <p>Keywords:<br/>English, Duolingo Application,<br/>Vocabulary Mastery, Elementary<br/>School Students.</p> <p>*Corresponding Author:<br/><a href="mailto:nabilanurhaliza.s@upi.edu">nabilanurhaliza.s@upi.edu</a></p> <p>DOI:<br/><a href="https://doi.org/10.5281/zenodo.12579678">10.5281/zenodo.12579678</a></p> | <p>Language, particularly English, which is an international language in Indonesia, is used to communicate in a variety of circumstances. However, many people still do not recognize that teaching vocabulary to children is critical since vocabulary impacts a person's capacity to string words to communicate, therefore it is essential to master when studying English. This is demonstrated by the low mastery of the English language among fourth-grade pupils at SDN Purwamekar Purwakarta District, Purwakarta Regency. Previous academics have identified learning media as a message technology that can be used for educational reasons. Previous academics have identified learning media as a message technology that can be used for educational reasons. The use of the Duolingo app is one of the technology-based English learning approaches. The research approach employed was pre-experimental, with a one-group pretest-posttest design and a simple random sample technique. Its goal is to assess fourth-grade students' comprehension of English vocabulary before and after treatment with the Duolingo application, as well as to determine the effect. This study included a total of 30 students. The findings revealed that (1) the average value of elementary school pupils' descriptive tests for vocabulary knowledge in English before using the Duolingo application was 42.67. (2) After two sessions of treatment with the Duolingo application, the average score of primary school pupils' English vocabulary knowledge climbed to 80.33 from the descriptive test average. (3) The findings of the basic linear regression test suggest that using the Duolingo app improves elementary school students' comprehension of English vocabulary by 24.9%. It may be concluded that variable x, namely the usage of the Duolingo application, influences variable y, namely the mastery of English vocabulary of grade IV primary school pupils, allowing kids to master vocabulary.</p> |

### INTRODUCTION

One of the most often used forms of communication in a community is language. Human language now plays a huge role in every aspect of existence. An essential aspect of human existence is language. Considering that language is the most efficient means of communication. In Indonesia, English is a second language spoken by foreigners and has been acknowledged as an international language. Since primary school, English has also been offered as a subject.

English learning can be guided by mastering the four existing skills: hearing, reading, writing, and speaking. In addition, there are three supporting components to the four abilities in learning English: grammar (structure), pronunciation, and vocabulary. In addition to the four English skills, it is vital to learn these three language components. In elementary school, English language learning is more focused on vocabulary development. Students' four core language abilities will improve as they learn additional vocabulary. Teachers must deliver more engaging innovations to make the learning process more effective by using current technological

advances. Relevant to meaningful learning. The use of technology in education can have a significant impact on student learning results. Technology-related learning is presently used as a tool known as learning media.

According to Sanaky in Andrews, (2016) learning media is an educational instrument that serves as an intermediary in the learning process, increasing effectiveness and efficiency in accomplishing educational goals. Duolingo is an application that may be used as a learning tool for vocabulary acquisition because it provides users with engaging and enjoyable features. The Duolingo application is classified as an educational application since it may be used to learn English pleasantly, without being serious or pressured, so that users do not become bored while learning English.

The purpose of this study is to look at how the Duolingo program helps people learn English vocabulary. Based on experiences at SDN Purwamekar Purwakarta District Purwakarta Regency and conversations with fourth-grade instructors, there are complaints that English learning is still subpar. Because the traditional learning approach is still used, such as writing and memorizing English vocabulary from the issue under consideration, as well as conducting questions and answers. According to the statistics provided, their English learning outcomes remain below the KKM. This is due to students' inadequate and incomplete reading and comprehension of the directions for working on the questions, and students continue to struggle with interpreting English sentences into Indonesian contained in the questions.

Furthermore, students can read but not fluently, and they struggle to understand how to pronounce the English language. This behavior creates a situation in which students become less interested and driven to learn English. Boring learning approaches encourage students to get bored and disinterested in their studies. This is owing to the limitations of the learning medium; teachers lack ideas for making learning exciting, and they frequently teach using the lecture style. This assumption has an impact on the low comprehension of English vocabulary among grade IV elementary school students. The source Silvia et al., (2023) supports their research on the usage of educational game applications as an alternative to learning English. This application assists professors in presenting material to their students, as well as students in understanding what the application conveys.

This can be used in the study of the English language through the use of interactive educational materials built around instructional games. Educational game-based learning emphasizes the importance of student-teacher interaction and places a strong emphasis on the role of the learner. The researcher is interested in investigating English language learning with the Duolingo application for English vocabulary mastering in grade IV primary school pupils, based on the phenomena and issues mentioned above.

## **LITERATURE REVIEW**

### **English Language Learning in Primary School**

Many Indonesian kids still find it difficult to learn English as a foreign language, particularly in basic schools. Many students lack motivation to enhance their English language skills because they perceive English lessons as complex. Students frequently have unsatisfactory learning outcomes and struggle to apply what they have learned in everyday communication. Additionally, a lot of pupils struggle with learning English vocabulary. Students frequently receive bad grades because they are not accustomed to using English dictionaries and do not yet fully understand the terminology that has been taught, according to Sucandra et al., (2022) Furthermore, they are not accustomed to speaking English in daily situations. Instructors must use technology-based media and engaging learning strategies to inspire students. since language is necessary for day-to-day operations. Student desire for learning can rise with continued practice and the use of interactive, technology-based learning materials.

Graduates of primary schools that take English as a local content subject will be well-positioned to advance in their further education. The goal of English classes in elementary schools is to help kids become more proficient in restricted oral communication that supports classroom action (language accompanying action) and to raise their knowledge of the value of English in raising their country's standing in the international community.

Using the book "My Next Words," which is used in the teaching and learning process by both teachers and students in grade IV, grade IV students are effectively and efficiently introduced to the fundamentals of English. In compliance with Law No. 3 of 2017, the government assigned the EYLC (English for Young Learners) group to write this book to satisfy the demand for affordable, accessible, and high-quality educational materials. Unit 9: I Head to School After Breakfast is the chosen study material.

### **English Vocabulary Mastery of Elementary Students**

Vocabulary is a collection of words in English. Vocabulary determines a person's capacity to create sentences and communicate, thus learners must master it when learning English. language mastery is critical because the more language a person possesses, the greater their ability to communicate and receive information regarding that vocabulary. Vocabulary mastery can also be used to assess an individual's intellect. Vocabulary acquisition is typically a combination of reading, writing, listening, and speaking.

The indication of vocabulary mastery is just one of the numerous components of mastering English vocabulary. Brewster in Sucandra et al., (2022) that there are four signs of proficient vocabulary use, which are as follows: Form: This refers to hearing something aloud, repeating it, and then seeing it in writing, including letter sequences, spelling, and the initial and final letters. (2) Pronunciation, which emphasizes word pronunciation. Students are said to have strong vocabulary mastery if they can pronounce words correctly. (3) Word Meaning: This section discusses vocabulary meanings and how they relate to other vocabulary ideas. Usage, which highlights using words correctly in the right context, is number four.

### **Duolingo App**

Duolingo is a free multiplatform app available for Windows, Android, iOS, and the web. This program is quite helpful for users learning English and is very easy to use. According to Munday, (2015), students can learn how to read, write, listen, and speak the language they wish to learn by utilizing the Duolingo app. According to their statement, Duolingo is preferred over traditional media and assignments due to its ease of use and user-friendly interface. Furthermore, the Duolingo app is an engaging approach to studying the numerous foreign languages you choose to master. The program also includes visuals to study, as well as a voice tool for direct pronunciation practice.

In addition, Duolingo's initial appearance on the main menu includes options such as learn, stories, friends, commerce, and settings. Duolingo also has a Duolingo for School feature available to both teachers and students. Duolingo for School is a dashboard that is integrated with the instructor's Duolingo account and allows teachers to build classrooms and assignments that may be customized to students' hobbies. Teachers can use the Duolingo for School feature to assist educate their students.

With Duolingo for School, educators can monitor every student from a single dashboard. The purpose of this new dashboard is to provide teachers with resources to enhance language instruction. In a single learning environment, the objective is to offer each student and trainer a personalized getting-to-know-you experience and instant feedback. According to research Anangga & Ardiyani, (2021) the Duolingo app has both advantages and drawbacks. These include:

| No | Advantages   | Drawbacks  |
|----|--|--|
| 1. | imple and free to download   | The Duolingo application requires an internet connection |
| 2. | Is readily accessible  |  |
| 3. | Because the technique of learning is similar to playing a game, learning becomes enjoyable |  |
| 4. | ll of the content, from basic to advanced, is available                                    |  |
| 5. | To make learning fun, interactive elements like games and listening exercises are included |  |

## METHOD

### Research Type

This study used the pre-experiment approach of one group design pre-post test with a simple random sample strategy of fourth-grade pupils A, B, and C from SDN Purwamekar Purwakarta District Purwakarta Regency.

### Research Time and Locations

This study was carried out in Purwamekar Elementary School, which is located on Jl. Taman Pahlawan RT 05 RW 07 Purwamekar Village, Purwakarta District, Purwakarta Regency, West Java Province. This study was conducted during the even semester of the 2023/2024 academic year.

### Research Subjects

This study included 30 students, with 10 chosen at random from each class IV A, B, and C at SDN Purwamekar in Purwakarta District, Purwakarta Regency. With a total of 13 male students and 17 female students.

### Research Schedule

The research lasted four days. Details include one day for pre-test implementation, two days for treatment, and one day for post-test implementation.

### Data Collection and Analysis Techniques

The data-gathering strategies employed include written tests in the form of pretest-posttest implementation, as well as non-tests such as instructor and student observation activities and documentation attachments. The written test was designed to assess proficiency in the English language. According to Brewster in Sucandra et al., (2022), students must understand four indicators: form (vocabulary writing), word meaning (meaning/translating vocabulary), and usage.

The tests in this study were pretest and posttest. This test was carried out before and after the treatment. The test comprises pretests and posttests, which include:

a) Pre-test problem

Pre-test questions are supplied before the learning process begins. The goal is for researchers to assess the amount of students' language mastery knowledge before they receive treatment.

b) Post-test Problem

The purpose of posttest questions, which are presented at the end of the teaching unit program, is for researchers to determine the amount to which students' vocabulary mastery has improved after receiving treatment.

Observation techniques will be utilized to watch students as they learn. The researcher will function as the facilitator, while the English subject teacher will be the observer, providing feedback to the researcher during the observation.

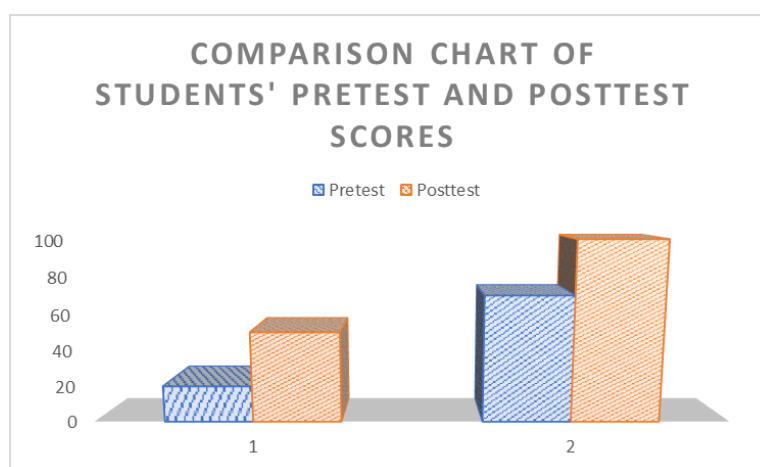
According to the Learning and Assessment Guidebook, teachers can measure the assessment using the interval value of the completed exam. After obtaining the test results, the teacher can adjust the value interval to decide which criteria meet the interval. The rating scale employed in this study is a research scale that refers to the assessment according to Arikunto, (2012:281). The assessment stage is completed objectively by dividing the number of student acquisition scores by the total number of questions and multiplying by a perfect score of 100.

## RESULT AND DISCUSSION

The pretest and posttest findings demonstrate the impact of using the Duolingo app on elementary school students' comprehension of English vocabulary. The pretest and posttest results are shown in the table below.

|                 | Score        |              |
|-----------------|--------------|--------------|
|                 | Lowest       | Highest      |
| <b>Pretest</b>  | 20           | 70           |
| <b>Posttest</b> | 50           | 100          |
| <b>Mean</b>     | <b>42,67</b> | <b>80,33</b> |

The table above shows a rise in pretest and posttest scores. The average pretest score was 42,67 in the bad category, but the average posttest score climbed to 80,33 in the very good category. The table above shows that the top and lowest values differ between the pretest and posttest findings. As a result, it can be depicted in the diagram below.



The graph above shows a comparison of student pretest and posttest scores. The graph above illustrates that almost all pupils improved their grasp of the English language. This rise is demonstrated by the difference in average scores between the students' pretest and posttest results.

Following an increase in scores from the students' pretest and posttest results, a simple linear regression test can be performed to measure the effect of utilizing the Duolingo application after students have received treatment. The simple linear regression test yielded a correlation coefficient (R) of 0.449 and a coefficient of determination (R Square) of 0.249. So, when put in percentages, it becomes 24%. From these results, using the Duolingo application on students' mastery of English vocabulary influences 24%. At the same time, the remaining 75% is influenced by other variables not examined. From the N-Gain test results, the score is 66% which is included in the moderate category. This means that from these results, the use of the Duolingo

application in learning English has a positive impact on increasing students' mastery of English vocabulary.

This is consistent with the study (Azzahara et al., 2023), which shows that the Duolingo program can have a favorable impact in terms of enhancing students' understanding of their vocabulary proficiency. Furthermore, pupils are driven to acquire vocabulary by utilizing the Duolingo application. As a result, the use of the Duolingo application had an impact on fourth-grade pupils' understanding of English vocabulary at Purwamekar Elementary School, Purwakarta District, Purwakarta Regency.

## CONCLUSION, LIMITATION, AND SUGGESTION

### Conclusion

Based on the findings, it is possible to conclude that using the Duolingo application improves elementary school kids' grasp of English vocabulary. It is demonstrated by an increase in the acquisition of scores that were previously below the KKM when utilizing the Duolingo application as a technology-based learning medium.

### Limitation

The duration of the study did not follow the researcher's expectations. Various problems hampered the research process because the school was holding exams. As a result, researchers must make as many changes to the study implementation schedule and time management as feasible to ensure that the research is completed correctly.

### Suggestion

As a guideline for future research, researchers might identify the learning themes that will be used in advance by comparing them to topics already available on the Duolingo application. Because the themes provided on the application are not identical to those in the "My Next Words" student book. So that the chosen topic can be properly communicated and understood, and learning occurs optimally.

## REFERENCES

- Anangga, N. D., & Ardiyani, K. D. (2021). Autonomous Learning melalui Aplikasi Duolingo untuk Melatih Keterampilan Menyimak Bahasa Jerman Siswa SMA. *Seminar Nasional Pembelajaran Bahasa Dan Sastra (SELASAR)*, 1, 177–182.
- Andrews. (2016). Konsep Dasar Visualisasi. *Journal of Chemical Information and Modeling*, 53(9), 1689–1699.
- Arikunto, S. (2012). *Prosedur penelitian : suatu pendekatan praktik*. Rineka Cipta.
- Azzahara, T., Muliati, A., & Sakkir, G. (2023). the Effect of Using the Duolingo Application As a Medium in Improving Students' Vocabulary Mastery. *Journal of Technology in Language Pedagogy (JTechLP)*, 2(3), 523–539.
- Munday, P. (2015). the Case for Using Duolingo As Part of the Language Classroom Experience. *RIED. Revista Iberoamericana de Educación a Distancia*, 19(1), 83–101. <https://doi.org/10.5944/ried.19.1.14581>
- Silvia, D., Roedavan, R., & Pudjoatmodjo, B. (2023). Aplikasi Game Edukasi Sebagai Media Alternatif Pembelajaran Bahasa Inggris Di SMPN 1 Cugenang. *E-Proceeding of Applied Science*, 9(5), 2683–2689.
- Sucandra, Budiman, M. A., & Fajriyah, K. (2022). Analisis Kesulitan Penguasaan Kosakata Pembelajaran Muatan Lokal Bahasa Inggris Pada Siswa Kelas Iv Di Sd Plus Latansa Kabupaten Demak. *Wawasan Pendidikan*, 2(1), 76. <https://doi.org/10.26877/wp.v2i1.9664>