The Implementation of the Duolingo App in Increasing Students' Vocabulary Mastery

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A B S T R A K

Kosakata adalah salah satu bagian terpenting dalam belajar bahasa Inggris. Salah satu aplikasi mobile yang dapat membantu dalam mempelajari kosakata bahasa Inggris. Aplikasi Duolingo yang merupakan salah satu aplikasi terpopuler untuk belajar bahasa Inggris di era modern saat ini. Latar belakang penelitian ini adalah karena, bagi siswa EFL, ada banyak kesulitan yang harus mereka hadapi saat mempelajari kosakata. Penelitian ini bertujuan untuk menganalisis penerapan Duolingo untuk meningkatkan penguasaan kosakata sebagai media pembelajaran Kosakata Bahasa Inggris siswa SMA. Penelitian ini menyajikan hasil penelitian eksperimental yang menyelidiki dampak aplikasi pembelajaran bahasa berbantuan seluler gamifikasi yang disebut Duolingo dalam pembelajaran kosakata siswa. Peneliti menggunakan metode penelitian eksperimen semu. Untuk mengatasi masalah ini, penelitian ini menyelidiki efektivitas Duolingo dengan membandingkan skor pre-test dan post-test kelas kontrol dan kelas eksperimen. Hasil penerapan penggunaan Duolingo pada kelas eksperimen menunjukkan bahwa nilai post-test kelompok eksperimen lebih tinggi dibandingkan kelompok kontrol dan kelas eksperimen menunjukkan peningkatan yang cukup besar.

A B S T R A C T

Vocabulary is one of the most essential parts of learning English. One of the mobile applications that can assist in learning English vocabulary is the Duolingo application that one of the most popular applications for English learning. The background of the study is because, for EFL students, there are a bunch of difficulties they have to face while learning vocabulary. This study is aimed to analyze the implementation of Duolingo to enhance vocabulary mastery as media learning English Vocabulary of high school students. This study presented the results of an experimental study investigating the impact of a gamification mobile-assisted language learning application called Duolingo in students' vocabulary learning The researcher use a quasi-experimental research method. To address this issue, this study investigated the effectiveness of Duolingo by comparing pre-test and post-test scores of control and an experimental class. The results of the implementation of Duolingo use in the experimental class indicated that post-test scores were higher for the experimental group than for the control group and the experimental class showed a quite big improvement.

1. INTRODUCTION

Technology plays such an important role in many aspects, including in education. It has changed teaching and learning in the EFL classroom of course in a good way. These days, it is seen that using technology can both help and improve teaching and learning English (Barth et al., 2019; Gai et al., 2018). It is in line with previous study who point out that by using technology students can access unlimited resources that can be used in the EFL classroom (Mollaei & Riasati, 2013). In addition, another statement also reported by claims that technology can give the students access to a lot of information that their teachers are not able to provide (Pourhossein & Gilakjani, 2017). Vocabulary is one of the most essential parts of learning English. Vocabulary is the building block of language. It means that with just limited vocabulary knowledge, students will most likely struggle in speaking, writing, reading, and listening in English (Bakti, 2018; Castillo-Cuesta, 2022; Mariyam & Musfiroh, 2019). The previous research conducted found some of the pedagogical implications of learning vocabulary for students' language development (Wang, 2017). So, internal and external factors impact how students learn and the result that they got. In The same research found that students tend to read books to increase their vocabulary but the school does not have enough English books to facilitate the students (Li et al., 2019). On the other hand, due to the lack of learning media that students could use in schools, teachers should initiate by providing more media that probably could help students learn the language. For EFL students, there are a bunch of difficulties they have to face while learning grammar. It is proved by study on the research found several difficulties that Indonesian

students have encountered in learning English (Prihatini, 2020). The result of the research reveals that students have struggled in pronouncing the words, are still confused in writing and spelling the words, and can't remember well the various grammatical kind of a word called inflections was one each of the causes of students' troubles in acquiring vocabulary.

As technology gets more advanced each decade or even every year, there are lots of inventions that possibly could help EFL students learn English easily. It is supported by almost all students who have their gadgets with smart features and an easily accessible internet connection (Noori, 2021; Rahiem, 2020). In addition, the internet is also a medium of entertainment as well as to access information and social media. The awareness of the importance of English as an international language makes developers of Information Technology (IT) compete with each other to make learning applications that can be used by the community (Abdullah et al., 2016; Wang, 2017). During a pandemic like the current trend of applications, English learning is on the rise in our society, where distance learning needs are so necessary. Online learning is a teaching-learning process in different places both every student and the teacher by using technology or application as media for their meeting (Kundu & Bej, 2021; Siahaan, 2020). As the need for mobile application language learning is getting bigger, there are lots of new ones that appear that offer a variety of advanced features that can be used to learn languages, especially English.

To develop their vocabulary mastery, students need to transfer what they have learned in class and also choose a suitable strategy for learning. As suggested by previous study state that students need to know how to learn vocabulary and monitor their progress (Deni & Fahriany, 2020). For example, using multimedia, books/journals, and activities on social media involving English can improve students' vocabulary mastery. These days, almost all students even elementary school students have mobile phones, so it's possible if they use mobile-assisted language learning applications to help them improve their Vocabulary (Alisha et al., 2019; Lin et al., 2022; Wang, 2017). There are lots of mobile-assisted language learning applications out there, but the top two most downloaded apps in Google Play Store is Duolingo. There has been plenty of research that has proven that mobile-assisted language learning could assist students in learning English. Based on previous study in the field of Mobile-Assisted Language Learning (MALL), Duolingo and are seen as a strong representation of gamification in MALL applications (Bayyurt et al., 2014).

Duolingo is a platform to learn languages that can be accessed through its application or website. Duolingo application uses gamification techniques that provide written and voice learning so it is very helpful to get many people to learn a language (Hidayati & Diana, 2019; Irawan et al., 2020). Learn English is a visually appealing language learning application with the rapid swipes and taps feature. The application can be installed on android or IOS so, the users can use it on their smartphones. Duolingo provides free language courses for the users, which not only provide English learning but also many other languages such as Italian, German, French, Dutch, Spanish, and so on. There are tons of research that have been done about the utilization of Duolingo in the language classroom. There are some features that Duolingo provides. First, the learning form come in units, for example, unit one of learning German, contains basics that include the information about basic expressions such as greetings, it also gives the information about the basic structure or characteristic.

Previous study found Duolingo to be an effective and interesting application for vocabulary learners because young people (students) only needed to use it on their mobile phones (Ishikawa et al., 2016). And by using Duolingo as a learning method, ensure that students can continue to learn vocabulary comfortably through this learning method. Also, according to other study Duolingo can select and choose words in every material and every challenge that Knowledge is appropriate to suitable with grammar and level skills of the student (Bahjet Essa Ahmed, 2016). Duolingo presents learning materials like gameplay with gradually gradual levels and challenges. So, Duolingo facilitates it easier for beginners into learning English, and /or their level will increase and improve Advance until they advanced if he/she wants to keep learning and continue to learn and complete the challenges. The aim of this study is to analyze the implementation of Duolingo to enhance vocabulary mastery as media learning English Vocabulary of high school students.

2. METHOD

This research will use a quasi-experimental research design as this research aims at the implementation and students' perception of using Duolingo application and Cake application as the media in increasing their vocabulary knowledge. This experimental study employed a pre-test and post-test design with two intact classes which are control and experimental (Madadizadeh, 2022; Rogers & Revesz, 2019). It is used to find the effectiveness of implementation using Duolingo and Cake applications as media in increasing their vocabulary knowledge. The use of the Duolingo application and the Cake application as the learning media could potentially enhance students' vocabulary mastery. The Participants of this study is 2 high school students of 11th grade in one of the state high school in Bogor. Both of the participants are 17 years old. They started to learn English when they were in Elementary school. To find out the effectiveness of the of implementation in using Duolingo and Cake applications as media in increasing students' vocabulary knowledge, First of all, a pre-test was conducted with a

total of 15 questions prepared in line with the vocabulary questions for ninth grade was conducted in both control and experimental classes. The questions were in the multiple-choice format.

Secondly, though both students were taught in the same way, a different procedure was implemented in the experimental class. Student in the experimental class were required to download the Duolingo application as the media in this study. The tresearcher described how to implement Duolingo for Vocabulary learning, and the students followed it. After finishing it, the teacher interviewed the student about their perceptions of learning vocabulary through Duolingo, and also the advantages or disadvantages of duolingo application in their opinions. After several meetings, there will be a post-test with the control class and experimental class contributed. On the post-test, there will be 15 questions that the same as the pre-test to see if there's any improvement of both the students in control and experiment class.

3. RESULT AND DISCUSSION

Result

First of all, a pre-test was done in the very beginning of the research to figure out the current knowledge and level of the two students that concerned about the topics provided in Table 1.

Table 1. The Topics that Were Taught in Each Meeting

Meetings	Topics	Number of Question
1st	Noun	5
2nd	Adjective	3
3rd	Verb	3
4th	Preposition	2
5th	Conjunction	3

The number of right answers from the pre-test from students in control and experimental class is show in Table 2.

Table 2. The Number of Right Answers from The Pre-Test

Test	Control	Experimental
Pre-test	10 from 15 questions	8 from 15 questions

Base on Table 2 show the slight gap between the students the experimental and the control class in phrases of pre-test scores. The results indicated no tremendous difference between the experimental and the control group. As a result, both students had been statistically equally informed about the pre-test questions, which turned into also used as the post-test in the 6th meeting of implementation of Duolingo application in the experimental group. The number of right answers from the post-test from students in control and experimental class is show in Table 3.

Table 3. The Number of Right Answers from the Post-Test

Test	Control	Experimental
Pre-test	11 from 15 questions	12 from 15 questions

Base on Table 3 show the post-test showed that both students from the control and experimental class have improved from the last pre-test. The student from the control class in the previous pre-test answered 10 questions right, then on the post-test, she answered 11 questions right, even the improvement is not that significant but she still has improved her vocabulary mastery. For the student from the experimental class who used Duolingo as the learning medium, the result from the post-test has shown that improvement is quite big. On the pre-test, she answered 8 questions right and after using Duolingo, she have 12 questions answered right. Although the overall performance of the student is both great, the student from the experimental group is the better improvement.

Discussion

So, the outcomes of this study indicated that the academic use of Duolingo as a learning medium in enhancing students' vocabulary mastery completed higher than the ones who answered the exact same questions without the help from Duolingo as medium (Hidayati & Diana, 2019; Irawan et al., 2020). The results of this study lend support to the findings of a few studies in the existing literature in the field of General English in terms of

gamification mobile-assisted language learning has a positive impact to the language performance of the learners (Hwang et al., 2022; Taufiq et al., 2019; Yıldırım, 2016).

Students these days are regularly and kinda glued to using their smartphones in school for several reasons, such as communication and entertainment. But, we can't deny that smartphone also plays the role of a main disconcerting in the student's concertation in the classes as well (Çoban & Göksu, 2022; Nisa et al., 2020; Prieto et al., 2019). For this cause, in order to turn this bad factor into a pedagogical tool, Duolingo could be used as students have the comfort to use technology for their language learning. Although this research results cannot be generalized to all of the students due to the diverse nature of the students themselves, the experimental class result offers quite significant insights into the effective implementation of using gamification mobile-assisted language learning, specifically Duolingo (Buckley & Doyle, 2016; Rachma et al., 2020).

This research can make a positive contribution to increasing students' vocabulary skills. If the implementation of the Duolingo application proves effective, it can be hoped that consistent use of this application can improve students' vocabulary mastery. The results of this research can be a basis for developing more interactive and interesting learning methods using technology. The application of language learning applications such as Duolingo can be an example for teachers and educational institutions in designing effective learning strategies. The application of learning technology can be a relevant solution for various aspects of learning in various disciplines.

This research may have limitations in the generalizability of results, especially if conducted in one particular age group or type of student. Research results may not be directly applicable to different student populations. This research was conducted over a limited period of time, it may be difficult to measure the long-term effects of using the Duolingo app. Temporary increases in vocabulary mastery may not reflect long-term effects. In addition, this research may have limitations if the Duolingo application experiences significant changes during or after the research is conducted. These changes can affect the overall research results.

4. CONCLUSION

In conclusion of this research, using gamification mobile-assisted language learning, especially Duolingo may be used as a supplementary tool to enhance vocabulary mastery of English learners in the field of EFL students. Taking the results of the present study into teachers, course designers, and authors responsible can use Duolingo as their assistant in teaching English, especially in vocabulary engagement. Examing the effectiveness of using Duolingo in the results of this and many other studies, teachers may be could potentially to use them in their classes.

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