



# **The Use of Duolingo Application to Improve Students' Vocabulary Size at University Level**

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## Abstract

This study purposely conducted to improve student vocabulary size by using language learning app duolingo. This research adapting pre-experimental design. The population were the university students of IAIN Fattahul Muluk Papua with focus sample of the students of 6<sup>th</sup> semester by purposive sampling focus on one experimental group by giving tests and treatment. The instruments of the research were vocabulary tests. The data was analyzed using IBM SPSS Statistics 24. As the data the post-test of the experiment group mean score (53,61) which is significantly higher than the mean score of the pre-test (45,28), while deviation standard score of the post-test (23,314) which also higher than the deviation standard score on pre-test (18,429). Another supporting indicator is the t-test value is higher that the t-table value ( $7.186 > 2.109$ ). According to the result the hypothesis 1 that duolingo can improve students vocabulary size is accepted. it means that duolingo can help on improving students' vocabulary size and also can be a handy way to learn language therefore the researcher suggesting the use of duolingo as a constant use for every language learning.

**Keywords:** Duolingo, Vocabulary, University student

## A. Introduction

Language is one of the communication tools to help us to delivering and to receive information or argument to the others. English is an international language and one of the language that have big influence in the world. Learning more than one language in today's world is important at least learning English from early stage is important (Muthmainnah, et al., 2022). In Indonesia even though English is consider as a foreign language but English is a major subject the teach in the class student who learn English in the class but students often to find it hard to understand it then let them to hate studying it. One of the difficulties that student have when learning English is the lack of vocabulary. When vocabulary is an important part of language that need to mastery. (Richards & Renandya, 2002) stated that Vocabulary is a core component of language proficiency and provides much of the basic how well learners speak, listen, read, and write. While Thornby as stated in (Utami, 2014) he says that that without grammar very little can be conveyed but without vocabulary nothing can be conveyed. It means, vocabulary takes more impact in conveying meaning of a language rather than grammar. This is shows that in order to improve students vocabulary the teacher



need to find a fun and easy way to study vocabulary and one of the learning media that can use is by using an application called Duolingo.

Research regarding the use of duolingo application in order to improve vocabulary mastery has been conducted before. One of the reseracrh by (Ajisoko, 2020) “The Use of Duolingo Apps to Improve English Vocabulary Learning” shows that uses of duolingo in order to improve students of borneo university of tarakan resulted that there is an improvement on the score test after the usage of duolingo, another research done by (Hafifah, 2019)“improving vocabulary through duolingo application in call at university student” shows that duolingo can be used to improve student vocabulary by looking at improvement of the score. This research in conducted in order to adding more references from the past research by implementing the use of duolingo to improve students of IAIN Fattahul Muluk Papua vocabulary size.

The particular reason for the circumstance in this research the author aimed to improve vocabulary of EFL students in IAIN Fattahul muluk papua by using easy and fun way to learn by using duolingo. This study also expected for the student and teachers to use duolingo as a conventional learning app. The researchers hope that duolingo can be used for the new English education student as a tool to be familiar with English.

Vocabulary as an important component of English language to master. Finding a good learning media to study in order to overcome bored and laziness by using application. And so with (H0) duolingo cannot improve university students vocabulary size and (H1) that duolingo can be use to improve students vocabulary size. Using duolingo can improve students vocabulary size and to motivate student to learn English or a new language.

## **B. Literature Review**

### 1. Duolingo

Language learning app has been developing for the much few years there are many language learning app and one of the popular language learning app is Duolingo .(Munday, 2016) defined Duolingo as a free app created by Louis Van Ahn and Severin Hacker in November 2011 with slogan “free language education for the world”. (Ajisoko, 2020) stated that duolingo is an open language learning application in play store. (Budiharto & Syahroni, 2020) described duolingo as a part of mobile assisted language learning (MALL)



that can be used to learn vocabulary and grammar. Duolingo's mission in order to make a personalized education for everyone by creating the most effective educational system tailor by each student, making learning fun to motivate the learners through gamification, and universally accessible without premium content and hidden fees (Duolingo About Us Mission, 2022).

Duolingo's teaching approach as cited at their website (Duolingo About Us Approach, 2022) by free, bite-sized lessons feel more like a game than a textbook, and that is by design : learning is easier by having fun. The app started with choosing your language that the learners want to learn, then pick on the lesson portion like how long the regular learning will be held, after that selecting the purpose why we learn the language, continued with choosing the start point, after that the learners will held a test to determined their understanding regarding the language picked, then the learners can start their lessons (Budiharto & Syahroni, 2020).(Redjeki et al., n.d.) describe how is duolingo works by combined machine learning, psycholinguistics, and innovate education tools to help learners learning a new language. The types of lesson duolingo use are : multiple choices, fill in the blank, translating language vice versa, write what you hear, and speaking using the microphone (Redjeki et al., n.d.)(Hafifah, 2019).(Budiharto & Syahroni, 2020).

## 2. Vocabulary

According to Merriam Webster dictionary Vocabulary can be defined as collection or list of words or phrases usually alphabetically arranged and defined. Vocabulary is a multidimensional intermediate component between oral and written language (i.e. from decoding to comprehension)(E. Dujardin et al., 2021). A research conducted by (Dakhi & Fitria, 2019) showing the found of vocabulary to be more functional as a basis of communication, emotion booster, and academic ability predictor. (Hakim, 2019) in his research stated that vocabulary has become a crucial aspect of learning a new language.(Thornbury, 2002)(Thornbury, 2001).

There has been many research conducted regarding on improving vocabulary size. (Chavangklang et al., 2019) did research on using online multimedia-based extensive reading in order to develop EFL university students vocabulary size and reading comprehension shows that online multimedia based extensive reading can greatly improve student vocabulary size. Another research on improving vocabulary by (Nurmala Sari & Aminatun, 2021) resulting in using english movies can help student on improving their vocabulary and



writing skills. (Fithriani, 2021) research on improving vocabulary by utilizing a mobile assisted gamification result in benefiting learning outcomes, enjoyment, and motivation.

### 3. University student

The age of the university student are around age 18 to 25 where according to (Hansman & Mott, 2010) are early adult learners. Adult learners have unique developmental and social characteristics when compared to their traditional counterparts in higher education institutions (Reay, 2008). The adult learner characteristics also contribute to a set of different educational goals and focus. Not only are adult learners' needs changing, but their learning process is evolving as well. As noted by Merriam and Brockett, there is a need to better understand and know the adult who "opts to assume primary responsibility for planning, implementing, and evaluating his/her own learning"(Batista-Taran et al., 2008).(Al Arif, 2019)(Muhammed, 2014).

(Ross-Gordon, 2003) describing adult learners that The adult learner is responsible for making personal decisions in day-to-day life, in many cases decisions that also affect others. Similarly, adults are assumed to prefer self-direction in determining the goals and outcomes of their learning. Regarding the role of the learners' experience. Adults bring a vast reservoir of experience to the learning situation that should be capitalized on. They also value learning through direct experience. Regarding readiness to learn. Adults are presumed to become ready to learn when they experience a need to know or do something to perform more effectively. Orientation to learning. Because adults typically enter a learning situation after they experience a need in their life, they are presumed to bring a task- or problem-centered orientation to learning. This is in contrast to the subject-centered approach associated with traditional, pedagogical approaches to education. Regarding motivation to learn. The andragogical model presumes that although adults will respond to external motivators such as a job promotion, the most potent motivators are internal.

### C. Method

This research will be a quantitative experiment. This research was pre-experimental design that will focus on one group(Gay et al., 2011). This group received treatment of duolingo. In this experiment the pre-test was held to the group before the application treatment is used the post-test was given after the treatment applied to the group. The experimental design is to test and prove whether the hypostasis is accepted or the hypothesis is rejected (Muthmainnah, M., 2023)



The source data of this study was from the university student of IAIN Fattahul Muluk Papua. A university which is located on the most east of Indonesia to be exact in Jayapura, Papua. This research will be held on the student of Tadris Bahasa Inggris.

The population of this research was the university student of IAIN Fattahul Muluk Papua English educational study program which recorded to be 64 students . The sample of this study is the student of 6<sup>th</sup> semester which consist of 18 students. This sample was chosen based on purposive sampling technique.

To collect data, the researcher used a simple vocabulary test as the instrument. The test consisted of 20 items which was designed into multiple choice form and short answer. The vocabulary test was given to the student as pre-test and post-test (Hughes, 2003). The purpose of giving pre-test is to know the students vocabulary size. Then after the pre-test the researcher can conduct the treatment by using duolingo in order to improve their vocabulary size that took place in 5 meeting and consist of 10 minutes each meeting. The post-test given after the treatment in order to see the improvement of the students vocabulary size.

The data of this study will be analyzed using the SPSS. To see the percentage of the student's score, the mean score difference between pre-test and post-test, the deviation standard of the data, and significant difference between student's pre-test and post-test by using t-test (Gay et al., 2011).

## D. Findings

This study using duolingo as a media treatment to improve student vocabulary size. In order to know the improvement, the writer tested using pre-test and post-test after the treatment given. The findings of the student's classification score on vocabulary test, the component of the data is, the mean score, deviation standard, and the t-test of pre-test and post-test

The mean score and deviation standard of student's pre-test and post-test presented in the following table:

**Table 1.1 mean score and deviation standard**

Test	Experimental Group	
	Mean	Deviation Standard
Pre-Test	45.28	18.429
Post-Test	53.61	23.314



Table 1 show that the mean score and the deviation standard of the pre-test was 45.28 and 18.429. in the post-test mean score and deviation standard was 53.61 and 23.314 which shows that there is a significant improvement of the students vocabulary size based on the score above.

The t-test of the pre-test and post-test presented in the following table :

**Table 2.1 T-test value of students**

Group	T-test	T-table
N-Gain	7.186	2.109

Table 2 above show the t-test value was 7.186 and the t-table value 2.109. it shows that the t-test value is higher than the t-table value which indicate that there was a significant improvement in experiment group between pre-test and post-test. It shows the improvement of student's vocabulary size using the treatment. The null hypothesis (H<sub>0</sub>) is rejected and the alternate hypothesis (H<sub>1</sub>) is accepted. The alternate hypothesis said that there was a significant improvement of students vocabulary size using duolingo.

## E. Discussions

Based on the result of the study showing that duolingo can be used to improving students vocabulary size. By the result of mean, deviation standard and the t-test value It shows the improvement of students vocabulary size using duolingo. By using duolingo every day by minimal time of 10 minutes. Means that duolingo can be used as a tool to improve student vocabulary size and also can motivate students to learn language with fun and easy. The result of this study have similarity with other pas studies like (Ajisoko, 2020), (Matra, 2020), (KARMIATI & Kurniawati, 2018), (Tuti & Diana, 2019)(Loewen et al., 2019)(Jiang et al., 2020)

(Ajisoko, 2020) studied the use of duolingo apps to improve students vocabulary learning resulting a significant improvement shown by the difference between the pre-test and post-test also according to the questionnaire given that students were more motivated in learning, more skillful, more interest in learning, and understand the material easier.



Duolingo application as vocabulary learning tools studied by (Matra, 2020) showing that duolingo can be a effective application to use for vocabulary learning and duolingo can be an alternate media for student to learn english language.

(KARMIATI & Kurniawati, 2018) studies about teaching listening using duolingo application ended with improvement of students listening skills. It's showed that duolingo not only able to improve vocabulary but also other skills such as listening and can also be able to make the teaching list motivate student.

(Tuti & Diana, 2019) on students' motivation to learn English using mobile application the case of duolingo and hello English however said that student's motivation has a very little influence despite the time the apps is used. Which the researcher recommends further study.

## **F. Conclusions**

The use of duolingo in improve of student vocabulary size helps the student of IAIN Fattahul Muluk Papua in develop vocabulary size. It was proven with the total mean score of the post-test (53.61) is higher than the total mean of pre-test (45.28) by (5.33). in addition, the t-test value is higher than t-table ( $7.186 > 2.109$ ). the result indicates there is an improvement on students' vocabulary size. And duolingo is a convenient app to use every day.

This research hoped to added more reference to the field study of duolingo. Duolingo can be a convenient way to learn English. Teacher can teach their student using duolingo and student can learning English with easy and fun using this app. So that duolingo can help and motivate people into learning language.

For suggestion, teacher can consider to use duolingo for exercise or to brainstorm before giving an actual lesson so that student are able to learn new words and ready to learn before the real lesson start. Or student can use duolingo consistently every day with short period of times as an practice to learn language. This research only limited on the improvement of the vocabulary size. The researcher hope the study of duolingo can explore in other elements of English or other language learning.





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