

Using *Duolingo* Application in Teaching Vocabulary at Seventh Grade of SMPN 3 Pitumpanua

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Abstract

This research aims to improve students' vocabulary mastery and to find out that the Duolingo application is effective for improving vocabulary. Based on the researcher's experience by using the Duolingo application in learning vocabulary, wants to find out that whether this application is effective in improving the students' vocabulary, and also in learning especially English learning students never used technological media as a media for learning language English. the subject of this research were seventh grade students of SMPN 3 Pitumpanua Kabupaten Wajo. The method of this research is quantitative method. The researcher used a pre-experimental design. To compare the students' score setelahdiberikan, after giving a treatment and post-test, there are an increase number of scores of researchers than the pre-test, The data show that student improve their understand and memorize English vocabulary. The result of the analysis showed a significant different, in the pre-test the students' mean score was 61.33 and post-test was 91.00. This is also seen in the results of the probability value is less than α ($0.000 < 0.05$), this indicates that the alternative hypothesis (H_1) is accepted, and the null hypothesis (H_0) is rejected. Based on the results of the research, it was concluded that the use of Duolingo application is effective to improve vocabulary mastery at seventh grade researcher of SMPN 3 Pitumpanua Kabupaten Wajo

Key word: English, Duolingo, Vocabulary

Introduction

Vocabulary cannot be separated from other faces of learning English. Vocabulary is a basic component that must be mastered by students in order to develop. Therefore, to have good English skills, learners should have enough vocabulary. Vocabulary takes a very important role in mastering English, to learn English that students must master, namely mastery of vocabulary so that it can be applied to the four main skills of English. Learning vocabulary is an important part of learning foreign languages as the meaning of new words is very often emphasized, both in books and in classrooms (Alqahtani, 2015). Vocabulary is very important in a language because vocabulary is one component of language in English. Supported by Wallace (1989, p.9), "Vocabulary is a vital aspect of language". As a component of language, learning vocabulary is necessary because the more words students know, the better the chance to understand them. The purpose of mastering vocabulary is so that students can master the language of understanding properly.

The era of globalization makes humans dependent on technology. Undeniable that technology plays an important role in various aspects of life. Technology comes from The Greek word Technology according to the Webster's Dictionary means systematic teaching or handling something systematically, according to Gary J Anglin, technology is the application of behavioral and natural sciences and other knowledge and a systematic way to solve human problems. Meanwhile, according to Jacques Ellul,

the definition of technology is a whole method that rationally leads and has the characteristics of efficiency in every human activity.

From the expert opinion, it can be said that technology has an important role in helping human activities in designing and producing something.

Talking about the smartphone, the first smartphone was invented on 17 October 1973 by Martin Cooper at that time the smartphone he found was 25 cm in size and weighed 1.1 kg but over time the smartphone today has had a shape and size that can be said to be ideal for a communication tool. Apart from using a smartphone as a communication tool, a smartphone can also be a tool to get information through an operating system that can be accessed in it.

Besides of operation system, there is an application in a smartphone, application is a computer program designed to run on mobile devices such as mobile phones/tablets, a smartphone is a mobile phone that has high-level capabilities, sometimes with functions that resemble a computer. In this century, the function of smartphone applications is very important in extracting all kinds of information for all of us, especially adults, teenagers, and even children, because smartphone applications can be a positive source of information and can also be used to explore the virtual world or the Internet.

Interactive media learning, Interactive learning media is a delivery system teaching that presents recorded video material with media control to the audience (students) who not only hear and see video and sound, but also provide an active response, and that response determines the speed and sequence of presentation by Seels & Glasgow (Arsyad, 2010).

The use of digital products and services (multimedia) is expected to be able to assist students in increasing motivation, exploration, and understanding of student's material taught by the teacher.

This virtual application enhances the learning environment as it is fully technology-based. Students will be technologically skilled while learning educational content. These changes can be described as progress in Information and Communication Technology (ICT). Duolingo is designed to feel like a game in the learning process and is scientifically proven to be effective in language learning. Duolingo is an app designed to help students learn languages in an easy and fun way. Each Duolingo lesson consists of a series of questions, which require the learner to type a translation, respond to voice commands, identify which image corresponds to a particular word or sentence, and select an answer from a multiple-choice list. Duolingo is chosen as one of the various media that is expected to improve vocabulary skills.

With the aim of educating users, using smartphone applications, various smartphone application managers design an English learning application for students to improve the English language skills of their users, as an English learning center, through the Duolingo application to increase vocabulary in English. , with many features of the Duolingo application, users can learn various languages in the world, but in this research, the researcher focused on learning English for beginners to improve their vocabulary in English through the Duolingo application, From the background described above and has made observations at the school that was being researched with students who are very weak in mastering vocabulary, the researcher is interested in examining

Kinds of vocabulary

Vocabulary can be divided into four types according to some experts They are receptive vocabulary and productive vocabulary or passive and active vocabulary

a. Receptive Vocabulary

Receptive vocabulary is phrases that learners recognize when they are used in context, however which they can't produce. It is vocabulary that freshmen recognize when they see or meet in the analyzing textual content however do not use it in speaking and writing (Stuart Webb, 2009).

b. Productive vocabulary

Productive vocabulary is the words that the learners apprehend and can pronounce correctly and use constructively in speaking and writing. It entails what is wanted for receptive vocabulary plus the potential to talk or write at the suitable time. Therefore, productive vocabulary can be addressed as a lively process, because the freshmen can produce the phrases to express their thoughts to others (Stuart Webb, 2005).

c. Active vocabulary

Active vocabulary is defined as the words by which listeners and writers usually use as they completely understood. Yet Laufer (1998) in his research divided them into two subgroups, namely controlled active and free active. In contrast with active vocabulary.

d. Passive vocabulary

passive vocabulary is defined as the word that not completely understood, so that they are infrequently used when writing and speaking. According to Laufer and Parabakht (2008).

Learning Media

Media, according to Wikipedia Media is a means of communication channels. The word media comes from Latin which is the plural form of the word medium. media means an intermediary, between the source of the message (a source) and the recipient of the message (a receiver). Some things that are included in the media are films, television, diagrams, print media (printed material), computers, and so on. Media is a tool that can help with needs and activities, and its nature can make it easier for anyone who uses it.

Media is needed when the material is considered to be abstract and ambiguous so the use of media is helpful in visual embodiment to explain abstract concepts to concrete. Media has a function as a link information from the source to the receiver. The importance of media in facilitating learning, the presentation is adjusted to the defined learning objectives. The presence of media in the learning process is very helpful for students in understanding things learned (Setyosari, 2005)

Learning Media, according to the Big Indonesian Dictionary (KBBI), the meaning of educational media is the tools and materials used in the teaching or learning process.

The learning process can occur because of the interaction in the delivery of information using information delivery tools or materials. These information delivery tools are said to be learning media. Learning media by applying technology is able to provide an overview in developing more interesting learning techniques. The development of technology can also be used as a solution to innovate in the development of learning media so that the learning process is more attractive to students. The use of learning media can help teachers in delivering learning materials. The success of learning is largely determined by two main components, namely teaching methods and learning media. The function of the media in the teaching and learning process is to increase the stimulation of students in learning activities. For this reason, it is necessary to conduct training in the manufacture of interactive learning media for

teachers. The perceived advantages of interactive learning media compared to traditional teaching methods. Media can be used successfully in formal conditions where students work in my opinion or instructors work with students.

Interactive Learning Media

Learning media is a collection various types of components that are in student environment so that they more stimulated to follow the lesson well (Ali, 1992). teachers can apply it and according to the students' thinking ability. After understanding the meaning of media of course, you just have to know anything examples of media that can be used for learning activities. The use of interactive learning media in the teaching and learning process basically provides many benefits for both teachers and students. the selection of good learning media can be very influential to improve the quality of the teaching and learning process in the classroom.

Types of Media

In determining the appropriate media in increasing English abilities, we need to understand the purpose of the media that can make our improving abilities are effective and successful. according to, Rudy Brets in *A Taxonomy of Communication Media* (1971), mentions the classification of media as follows:

- a. Audio-visual motion: sound films, films on television, television, and animation.
- b. Silent audio visual: slide.
- c. Semi-motion audio: writing moves with sound.
- d. Visuals in motion: silent film.
- e. Silent visuals: mute slides, printed pages, photos.
- f. Semi-motion visuals
- g. Audio: radio, telephone, audio tape.
- h. Print media: books, modules.

According to Rudi Bretz, the division of media is based on the senses involved, which consist of three main elements as the basis of the media, including sound, visual, and motion. No sound is an element that involves the sense of hearing. Visual elements are elements that involve the sense of sight. The visual form is divided into images, line graphics with recording media and print media.

the use of media can help us to improve our English skills in an interesting way and make the learning environment more accessible and more enjoyable. Also easily motivates us because it increases our attention. To make the learning process more effective.

The Advantage of Using Learning Media

Learning Media is everything that can be used to convey messages or information in the teaching and learning process so that it can stimulate students' attention and interest in learning. The use of the right media can affect the success or failure of learning, and there are many platforms that offer interesting learning applications to support the teaching and learning process. According to John Naisbitt, *Megatrends* there are some advantages of using media:

- a. **Meets the needs of students to be wise consumers of media**, managers of information, and responsible producers of their ideas using the powerful multimedia tools of a global media culture.
- b. **Engages students**. bringing the world of media into the classroom connects learning with "real life" and validates their media culture as a rich environment for learning.

- c. **Gives students and teachers alike a common approach to critical thinking** that, when internalized, becomes second nature for life.
- d. **Provides an opportunity for integrating all subject areas** and creating a common vocabulary that applies across all disciplines.
- e. **Helps meet state standards** while, at the same time using fresh contemporary media content which students love.
- f. **Increases the ability and proficiency of students** to communicate (express) and disseminate their thoughts and ideas in a wide (and growing) range of print and electronic media forms - and even international venues.
- g. **Media literacy's "inquiry process" transforms teaching** and frees the teacher to learn along with students -- becoming a "guide on the side" rather than a "sage on the stage."
- h. **By focusing on process skills rather than content knowledge**, students gain the ability to analyze *any* message in *any* media and thus are empowered for living all their lives in a media-saturated culture.
- i. **By using a replicable model for implementation**, such as CML's MediaLit Kit™ with its *Five Key Questions*, media literacy avoids becoming a "fad" and, instead, becomes sustainable over time because students are able to build a platform with a consistent framework that goes with them from school to school, grade to grade, teacher to teacher and class to class. With repetition and reinforcement over time, students can internalize a checklist of skills for effectively negotiating the global media culture in which they will live all of their lives.
- j. **Not only benefits individual students but benefits society** by providing tools and methods that encourage respectful discourse that leads to mutual understanding and builds the citizenship skills needed to participate in and contribute to the public debate.

Duolingo

Definition of Duolingo

Duolingo is a language learning application that uses games as a technique. It has a great how-to procedure so the app is easy to use even if it's a new user. The target users of this application are children, teenagers, parents, and others who want to learn a new language. Because Duolingo is easy and more interesting to use, learning media has the potential to succeed if applied in the classroom. Duolingo aims for users to understand the language well and can be useful in their lives. Not only that, Duolingo can be used by students as a medium of learning in learning foreign languages, especially vocabulary. As for teachers, this application can be used as a teaching medium so that students can master vocabulary in a fun way.

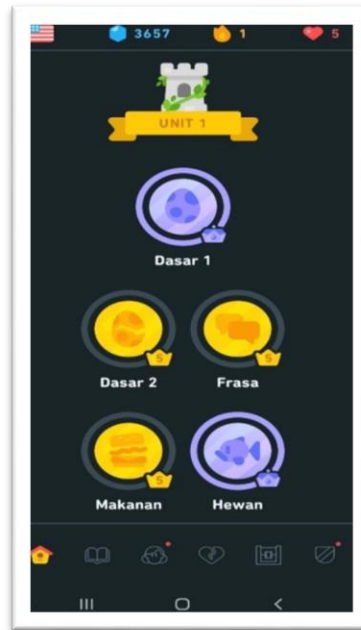
Duolingo is an English learning application that can be accessed on any media, Duolingo itself was developed by Luis and his partner, Severin Hacker, who founded Duolingo in 2009 and published it in 2012. At the beginning of its release, Duolingo only offered English, Spanish, and French. However, along with its development, Duolingo has now provided 66 different language courses and is available in 23 languages. Besides being available in the web version, the Duolingo application is also available on several operating systems, such as Android, iOS, and Windows Phone.

There are 4 English skills that users can develop through the Duolingo application including reading, writing, listening, and speaking. And also, there are various language tests that are brought by this application from matchmaking, filling in the missing words, completing sentences, translating, and speaking. and also, with

various interesting features in this application, it can help students in developing language learning in an easy and fun way

Description of Duolingo

For Duolingo operation, android/iOS users can download Duolingo from google play store/apple store, When the Duolingo app is first opened by new users they will be given various options to choose languages such as Francis, Spanish, Italian, Dutch, Portuguese and others another, but that regardless of the user which language they will learn, after determining the language to be studied the application will set a daily target for learning.

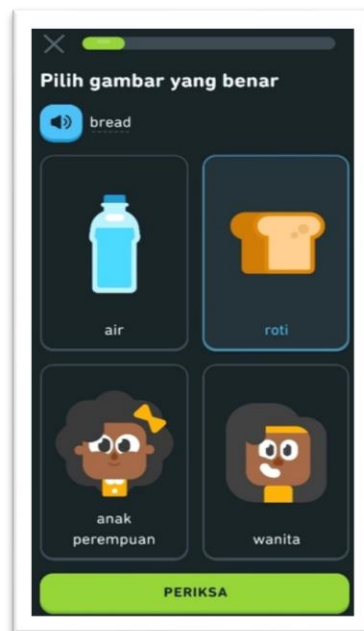


Picture 1. Duolingo

Then the application asks the new user if they already have the basics of the language they have chosen or really don't know about the language they have chosen. Duolingo also implements a replacement system so that Duolingo users who choose the same language will be contested to rank in the Duolingo application. This is a motivation for Duolingo users to compete with each other to learn a foreign language. Then the application will provide basic tests of various subjects and exercises. That is:

Matching Exercises

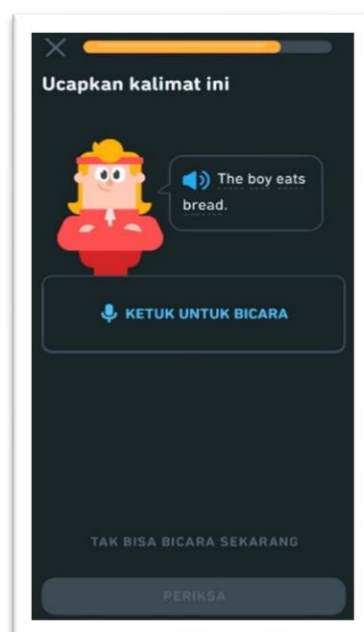
in which the application provides several pictures and students try to match the picture with its meaning in English or the language learned by the user.



Picture 2. Duolingo, matching

Speaking/Pronunciation Exercises

Well-provided and user-understandable directions, in some of the stage where the user or the students have to say a sentence out loud in the language, they are already choosing learning.



Picture 3. Duolingo, Translation exercise

Listening Exercises

In the listening session, students will be given a test in the form of audio to listen to and try to write down what they have heard according to what is given by the audio in Duolingo itself.



Picture 4. Duolingo, listening exercise

Fill the Blank Exercise

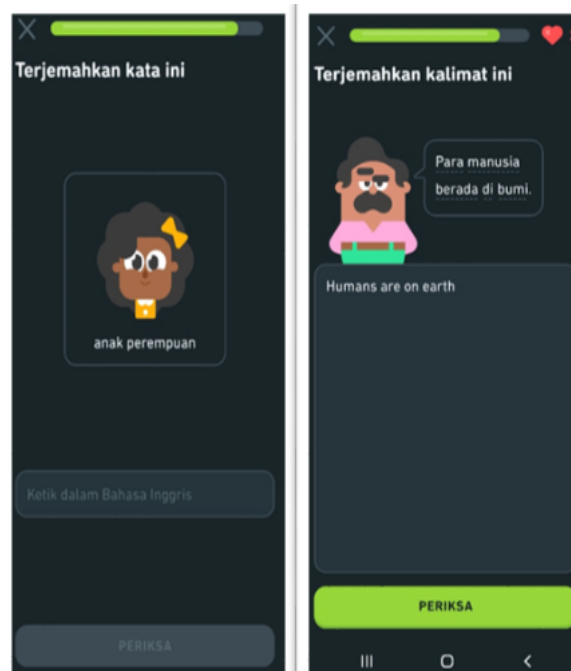
In this exercise students will be given a sentence that is not and try to complete the sentence with the word options that have been provided



Picture 5. Duolingo, Speaking/Pronunciation exercise

Translation Exercises

In the Duolingo application for translation exercises the user or student is given a sentence or an image in English or the native language of the speaker and tries to translate the sentence or image shown by the application into the student's native language or mother tongue and vice versa translates the original language sentence user to English.



Picture 6. Duolingo, fill the blank exercise

When the user has completed one daily exercise, Duolingo gives xp to increase the user's level so that they can continue the lesson to a higher level in addition to giving up to go to a high level Duolingo also provides motivation at the end of the daily task to continue learning English with interesting way to learn a language and fun animations.

Duolingo is also an artificially intelligent application, for example, when a student mistypes a word such as “aple”, which should be “apple”, in that case the application knows that and provides examples of the right word so that students can learn from their mistakes, there is also something interesting about this Duolingo application. a Dumbbell illustrated feature that can be used by students to strengthen their language skills weaknesses that have been recorded by the Duolingo smart application.

The Advantages of Duolingo

There are several advantages of Duolingo as an Enhancement medium English language skills. The advantages include:

- a. Duolingo can be accessed anywhere and anywhere and anytime, A distinct advantage for the Duolingo application is that students can access it at will wherever and whenever they want.
- b. Duolingo is a language for recognizing media that can be used for improve the stages of the active beginner learning process. Because Duolingo combine some elements of gamification in recognizing, it can inspire and interact students in learning Duolingo, the game nature in the form of a language test from Duolingo itself is very effective for practicing English language skills.
- c. Duolingo has its own feature, namely notifications that will remind students to achieve daily targets that have been set by the students themselves.

The Disadvantage of Duolingo

Every learning application platform must have some shortcomings, no exception is no application that is truly perfect, according to the circumstances and conditions of learning. There are several drawbacks that Duolingo itself has as a medium for improving English skills based on researcher experience of using Duolingo:

- a. A. Duolingo cannot be accessed When students or users cannot connect to the internet "offline" this application can only be accessed when the user has an internet network connection.
- b. In terms of grammar, Duolingo does not provide a more specific explanation of grammatical usage. Whereas grammar is the essence of a language that must be learned by students so that they can use the language properly and correctly of course. so, a teacher's job is to explain the correct grammar when there are some mistakes from the Duolingo application.
- c. the Duolingo app has a fatal flaw because recently they started adding an ad after the student learning is over and the only way to get rid of the ads from Duolingo itself is that the student has to pay.

Duolingo Teaching Method

The Duolingo application is focused on improving the user vocabulary so that Duolingo teaching method is translation method, In Duolingo, this method succeeded primarily for beginners, but as levelling. Thus, it was proven that Duolingo is one of the leading programs that help the users learn the language effectively. This study gives evidence of the limitations of language learning applications though they have improved recently. These programs are a valuable step to improve the teaching methods and to give the learners an incentive to learn since they are accessible.

Research Methodology

Research Method

The method in this research used a pre-experiential analysis method to measure whether the Duolingo Application used was effective or not by determining the results of the pre-test and post-test. According to Priyono (2008), Quantitative research is systematic scientific research on the parts and phenomena and their relationships. The purpose of quantitative research is to develop and use mathematical models, theories, and/or hypotheses related to natural phenomena. The process is a crucial part of quantitative research. This provides an overview or answers to the basic relationship of quantitative relationships. Quantitative research is usually carried out with the number of samples determined based on the existing population. Calculation of the number of samples is done using a certain formula. The selection of the formula to be used is then adjusted to the type of research and population homogeneity.

The Pre-experimental designis:

- | | Pre-test | Treatment | Post-test |
|----|--|------------------|------------------|
| | X1 | 0 | X2 |
| 1. | X1 is a preliminary test given before teaching or treatment. The goal is to find out the lackness of the vocabulary of the student and know the average score of students in vocabulary test before being given treatment. | | |
| 2. | T is considered a given treatment. using Duolingo application as a teaching media in teaching vocabulary. | | |
| 3. | X2 is a Post test given after receiving treatment. Post test to measure a student's vocabulary score using the Duolingo after the T trial. Compare X1 and X2 to find out | | |

whether there is a change in students' vocabulary mastery after treatment using the Duolingo application.

Time and Location of the research

1. Time and location

This research was carried out in March 2023. SMPN 3 Pitumpanua, Kecamatan Pitumpanua, Kabupaten Wajo, Sulawesi Selatan.

1. Sample

The sample of the research was VII grade student of SMPN 3 Pitumpanua.

Research Instrument

To collect data the researcher used test and assessment instruments. The test consists of pre-test and post-test. A pre-test is given before the treatment to find out the student's knowledge in Vocabulary mastery. The post-test aims to find out the achievement of students in to find out students' vocabulary mastery. In analyzing data related to students' vocabulary mastery, researcher used a multiple choice consist 10 number and matching for the test consist 10.

Findings and Discussion

Findings

Scoring Classification of Students' Pre-Test and Post-Test

The result of students' score in pre-test

Classification, frequency and percentage of student scores on the Pre-test can be seen in the table below.

Table 1. Students Pre-Test score and Classification

NO	CLASSIFICATION	Score	frequency	Percentage (%)
1	Excellent	96-100	0	0
2	Very good	86-95	0	0
3	Good	76-85	2	13
4	Fairly good	66-75	3	20
5	Fairly	56-65	3	20
6	Poor	36-55	7	47
7	Very poor	0-35	0	0
Total				100%

On the table 1 before researcher gives a treatment to student by using Duolingo as a media, it can be seen that there is no student got excellent and very good score then, only 2 students' (13%) can reach "Good score" and 3 students' (20%) can reach "Fairly good" score, 3 students' (20%) reach "Fairly" score, and 7 students' (47%) can reach "Poor" score classification. according to this table it is possible to say that the students have weakness in vocabulary mastery.

The result of students' score in post-test

Classification, frequency and percentage of student scores on the Post-Test can be seen in the table below.

Table 2. Students Post-Test score and Classification

NO	CLASSIFICATION	score	frequency	Percentage (%)
1	Excellent	96-100	5	33
2	Very good	86-95	6	40

3	Good	76-85	3	20
4	Fairly good	66-75	0	0
5	Fairly	56-65	1	7
6	Poor	36-55	0	0
7	Very poor	0-35	0	0
Total				100%

On the table 2 after giving a treatment to students by using Duolingo as a media to improve the students' vocabulary, it shows that there are no students' reach "Fairly good" and "poor" score, only 1 student reach "Fairly" score (7%), 3 students' reach "Good" score (20%), 6 students can reach "Very good" score (40%) and there are 5 students' (33%) can reach an "Excellent" score.

Mean score and standard deviation of the students' pre-test and pot-test

		N	Mean score	Standard. Deviation
Pair 1	Pre-test	15	61.33	13.020
	Post-tets	15	91.00	11.370

Based on the students' mean score and standard deviation shows that different score in pre-test and post-test. The data is based on the SPSS. The mean score of the pre-test were different after giving a treatment the table above shows that the pre-test mean score is 61.33, with a standard deviation of 13.020. and the mean score of students' post-test is 91.00 and the standard deviation is 11.370. so, there is a different mean score of the post-test is higher than pre-test after giving treatment to students.

Mean rank and Sum of ranks pre-test and post-test

The Wilcoxon test is used on data that is not normally distributed from the paired sample t-test or it can be said that the Wilcoxon test is an alternative to the t-test. The purpose of the Wilcoxon test is to determine whether there is a difference in the mean of two paired samples. It can be seen in the table below.

Table 3. mean rank and sum of ranks

		N	Mean Rank	Sum of Ranks
post-test - pre-test	Negative Ranks	0 ^a	.00	.00
	Positive Ranks	15 ^b	8.00	120.00
	Ties	0 ^c		
	Total	15		

a. post-test < pre-test

b. post-test > pre-test

c. post-test = pre-test

The table shows that the positive ranks (positive) between pre-test to post-test learning outcomes on 15 positive data (N) so that means 15 students show an increase in learning outcomes where the average score or the mean rank is 8.00 while the total the positive ranking is 120.00. and in the ties column there is no the same value between the pre-test and post-test the value is only 0.

Test statistics² or Hypothesis testing

The Hypotheses were tested by using SPSS 20. the researcher used t-test (testing of significance) to know the significance difference between the student result of students' mean score in pre-test and post-test.

Table 4. Test of Statistics²

Test Statistics ^a	
	post-test - pre-test
Z	-3.415 ^b
Asymp. Sig. (2-tailed)	.001

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

Based on the SPSS test results, it can be seen that the asymp.sig 2 tailed value is 0.01. means it is smaller than 0.05, then the accepted hypothesis is that H_0 is rejected and H_1 is accepted because the Asymp. It can be said that the average score of student learning outcomes has a significant difference in the pre-test and post-test, it can be concluded that the use of the Duolingo application for learning Vocabulary in 7th grade at SMPN 3 Pitumpanua.

Discussion

In this research, the researcher used an experimental method in order to know the students' how far is students' vocabulary mastery by using Duolingo as a learning medium to improve the students' vocabulary mastery. because vocabulary is the basic thing in learning a language especially the English language, without ample vocabulary mastery students cannot develop English language skills, vocabulary is the basic part of the English language. learning a new language seems difficult to students', so the teacher of English subject should find the right method and efficient method to teaching vocabulary.

The description of data collected through the test as explained in the previous section shows the students' teaching vocabulary was good. students' score after treatment is better than before the treatment was given. the fact was the score from the Pre-test and post-test. after the researcher gives the students a test (pre-test) most of the students do not even know about the meaning of the word.

After calculating and analyzing the data, the researcher presents the discussion of the students' data. this section presents the result of data analysis and relates it to the theory in chapter II. furthermore, this section aimed at describing the effectiveness of Duolingo in teaching vocabulary the students at the SMPN 3 Pitumpanua

According to Scrivener (1998) "vocabulary is a much more powerful carrier of meaning compared to grammar because we can get our message over with vocabulary and without grammar, but we cannot communicate unless we use the necessary words in our patterns and structures." So, we can communicate with other if we know the meaning although we do not sure to communicate with sentences structurally. David Wilkins (in Thornbury 2002:13) have claimed that "without grammar very little can be conveyed, without vocabulary nothing can be conveyed". This is according to his statement that learning vocabulary is very important. Meanwhile, Jean & Geva (2009) have stated that vocabulary or knowledge of the meaning words is perhaps the most obvious language skill that influences reading development. This is quite clear if we try

to understand a sentence in which most of words that we do not get the meaning, perhaps the page from an advanced physics text. In reading, vocabulary knowledge has an important role, it is starting in the early grades when it influences the development of word reading skills.

In this research the researcher conducted the treatment 4 times, in the first meeting of the treatment researcher introduce the students about the English language and the part of the English (Part of Speech) language which is word, vocabulary, verb and simple present, the second treatment researcher gave the material about to be and how to use the "to be", the third treatment is about "have, has and had" and the last treatment the researcher combines all the materials that have been given. in the end all of the treatment researcher used Duolingo in order to evaluate the students' understanding of the material.

In the pre-test 2 students' (13%) reach "Good" score, 3 student (20%) reach "Fairly good" score, 3 students' (20%) and 7 students' (47%) reach "Poor" score and no one of the student reach very poor, very good and excellent score, while the post-test 5 students' (33%) can reach the "Excellent" score, 6 students' (40%) reach "Very good" score, 3 students' (20%) reach "Good score", 1 student (7%) reach "Fairly" score and no one of the students' reach the fairly good score, poor score, and very poor score. it shows that the score between two tests have a significant different. it implies that the students' vocabulary mastery is improved after being given treatment.

The mean ranks of the pre-test and post-test is 8.00 and the sum of ranks of the pre-test and post- test was 120.00, it shows that the mean rank and sum of ranks of the students show significant different whether, Asymp.Sig (2-tailed) is 0.001. based on the result of the t-test value the researcher found that there was a significant difference between the results pre-test and post-test. it is concluded that the null hypothesis (H_0) is rejected while the alternative hypothesis (H_1) is accepted. so, the using of Duolingo as a media to improve the students' vocabulary mastery is effective.

Referring to the discussion above, it can be concluded the application of using Duolingo is effective to teaching vocabulary students at the seventh-grade student of SMPN 3 Pitumpanua.

Conclusion

The Duolingo apps can improve the students' vocabulary mastery of SMPN 3 Pitumpanua. It is proven by the student Mean score result. mean score of the students' post-test (91.00) is higher than pre-test (61.33). It shows significant difference between the result of the both tests. meanwhile the p-value is smaller than α ($0.00 < 0.05$). It indicates that the alternative hypothesis (H_1) is accepted and null hypothesis (H_0) is rejected.

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