



**THE EFFECT OF DUOLINGO APPLICATION
ON STUDENTS' ENGLISH VOCABULARY MASTERY**

THESIS

By

HUSNUR ROSYIDAH AULIA

NIM 150210401076

ENGLISH EDUCATION STUDY PROGRAM

LANGUAGE AND ARTS DEPARTMENT

THE FACULTY OF TEACHER TRAINING AND EDUCATION

JEMBER UNIVERSITY

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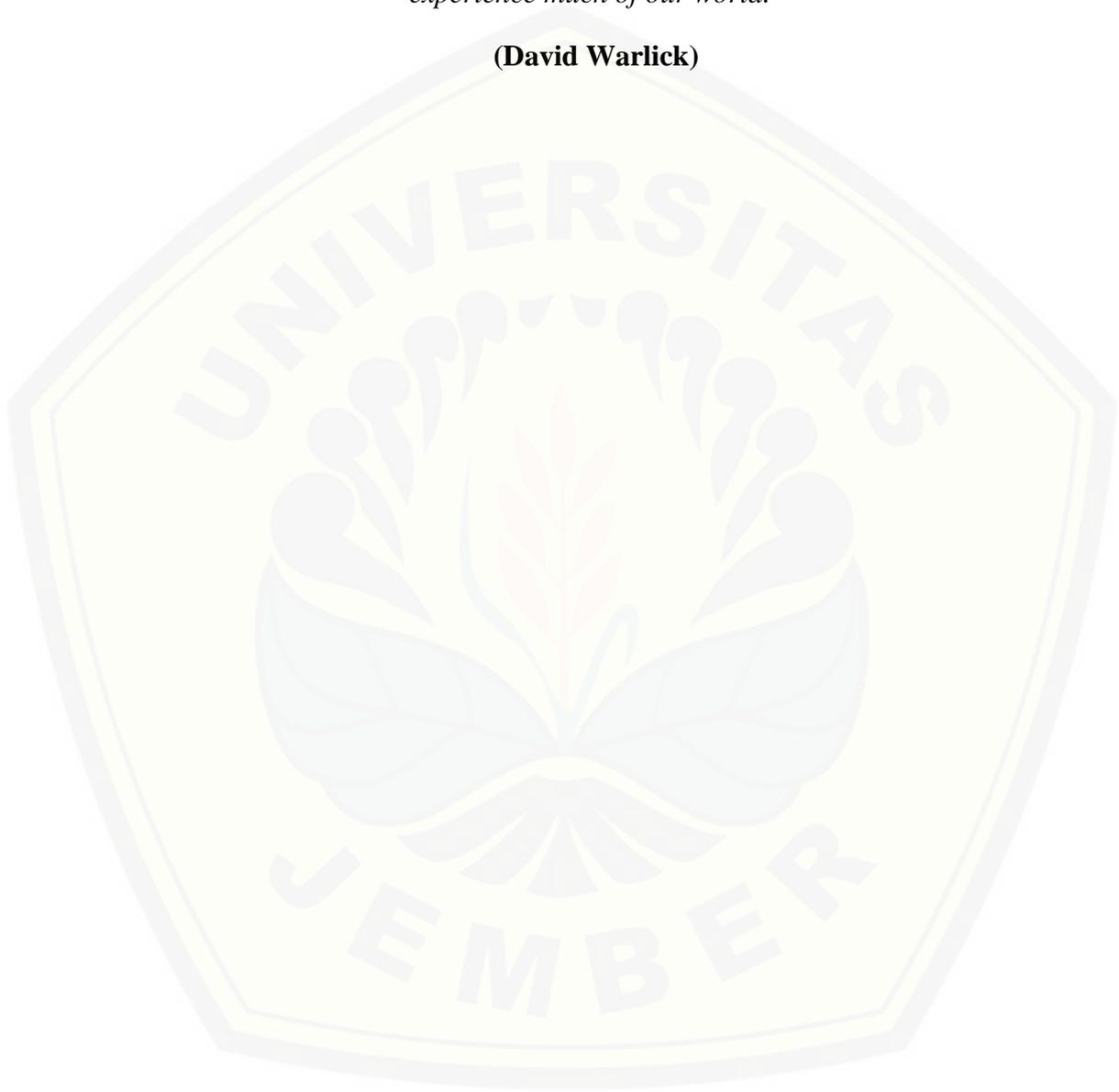
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MOTTO

“We need technology in every classroom and in every student and teacher's hand, because it is the pen and paper of our time, and it is the lens through which we experience much of our world.”

(David Warlick)



DEDICATION

This thesis is honorably dedicated to:

1. My beloved parents: Suyoko and Siti Habiba.
2. My lovely sister, Farah Tazkiya Aulia.



STATEMENT OF THESIS AUTHENTICITY

I certify that this research is an original and authentic piece of work by the author herself. All materials incorporated from secondary sources have been fully acknowledged and referenced.

I certify that this thesis is the result of work which has been carried out since the official commencement date of the approved thesis title; this thesis has not been submitted previously, in whole or in part, to quality award; ethics procedure and guidelines of the thesis writing from the university and the faculty have been followed.

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Husnur Rosyidah Aulia
NIM. 150210401076

CONSULTANTS' APPROVAL

**THE EFFECT OF DUOLINGO APPLICATION
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The Faculty of Teacher Training and Education

Jember University

Name : Husnur Rosyidah Aulia
Identification Number : 150210401076
Generation : 2015
Place and Date of Birth : Jember, December 15th 1996
Department : Language and Arts Education
Study Program : English Education

Approved by:

Consultant I

Consultant II

Eka Wahjuningsih, S.Pd., M.Pd.

NIP. 19700612 199512 2 001

Rika Andayani, S.Pd., M.Pd.

NIDN. 760012531

APPROVAL OF THE EXAMINATION COMMITTEE

The thesis is approved and accepted by the examination committee of the Faculty of Teacher Training and Education, University of Jember on:

Date : January 22nd, 2020

Place: The Faculty of Teacher Training and Education, Jember University

The Chairperson

The Secretary

Eka Wahjuningsih, S.Pd., M.Pd.

NIP. 19700612 199512 2 001

Rika Andayani, S.Pd., M.Pd.

NIDN. 760012531

Member I,

Member II,

Dra. Zakiyah Tasnim, M. A.

NIP. 196201101987022001

Dr. Annur Rofiq, M.A., M.Sc.

NIP. 196810251999031001

Acknowledgement by
Faculty of Teacher Training and Education
The Dean,

Prof. Drs. Dafik, M. Sc., Ph. D.

NIP. 19680802 199303 1 004

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I believe that this thesis might have some weaknesses. Therefore, any criticism from those who really want to improve this thesis will be wisely appreciated.

Jember, January 22nd 2020

The Writer

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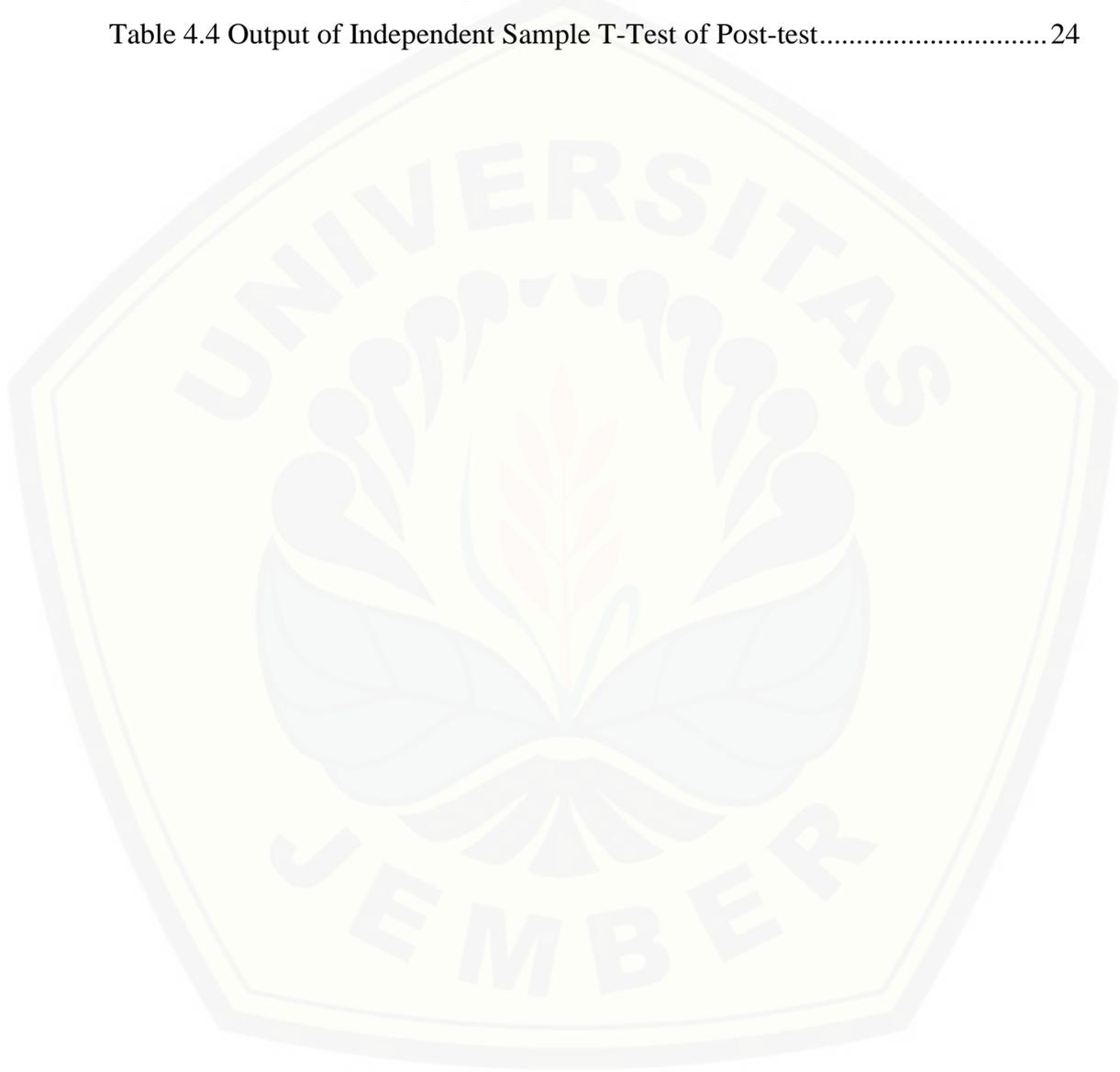
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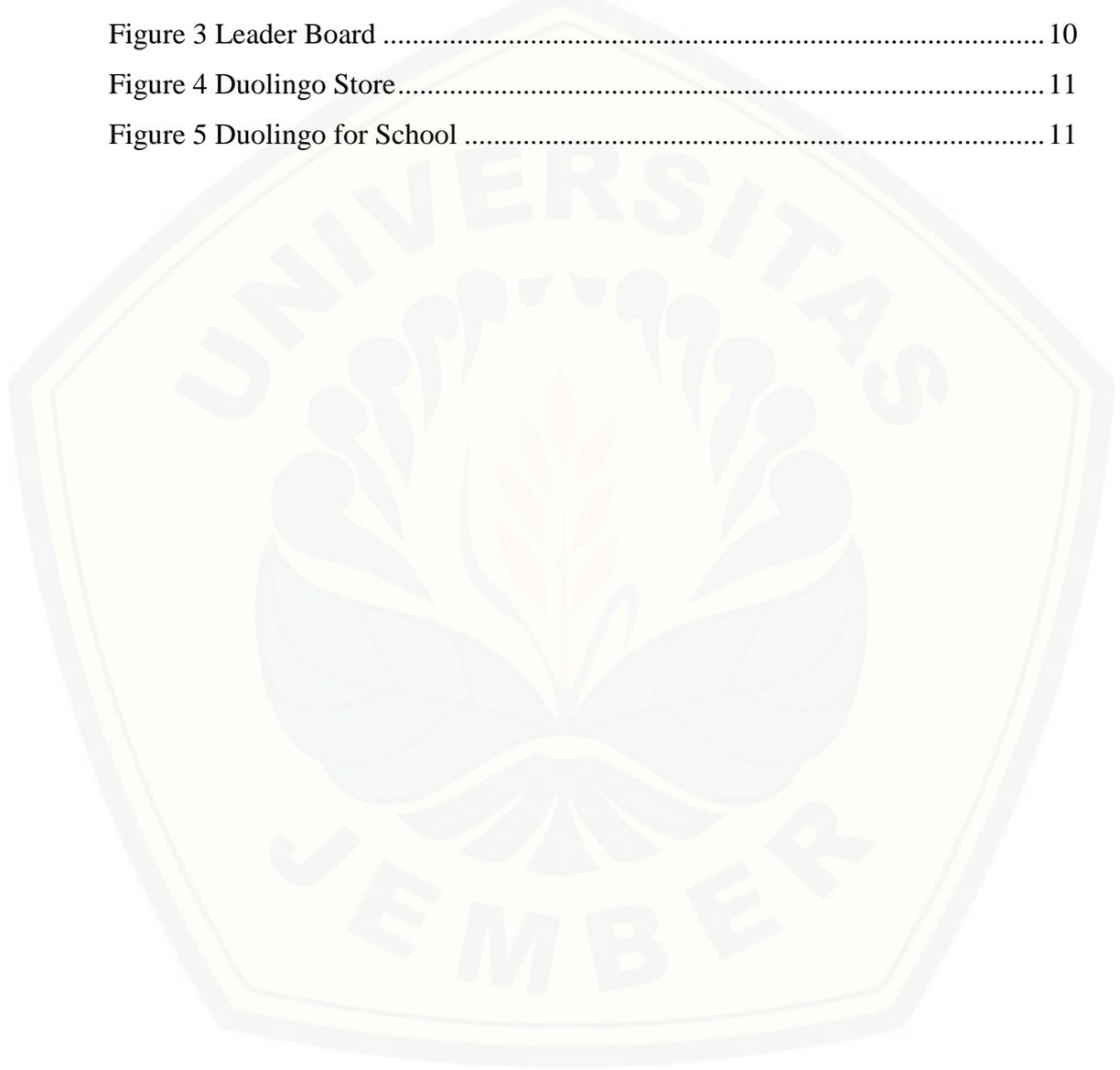
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SUMMARY

The Effect of Duolingo Application on Students' English Vocabulary Mastery; Husnur Rosyidah Aulia, 150210401076; 2020; 84 pages; English Language Education Study Program, Language and Arts Department, Faculty of Teacher Training and Education, Jember University.

As mobile phones are practically everywhere (Burston, 2014), the utilization of technology in teaching and learning process is still lacking despite its potential in aiding students to develop their skills and to learn a new vocabulary of a foreign language, especially English. In integrating smartphone as an aid in learning a foreign language, Connolly et al. (2012) proposed the use of gamification. It is the use of game-like elements into a non-game context to make greater user engagement and improve user experience (Giannetto et al., 2013). In this research, the researcher considered to use Duolingo as it is one of the well-known software that uses gamification to learn a foreign language.

Quasi-Experimental research with post-test only design was used in this research as the purpose of this research was to know whether there was a significant effect of using Duolingo application on students' English vocabulary mastery or not. The population of this research was eighth-grade students of SMPN 2 Jember. The research participants were determined based on the result of students' homogeneity test by using ANOVA formula, in which the result showed that the population of the research was homogeneous so that the experimental class and the control class were determined by using a lottery. The number of participants was 64 in total. The experimental group consisted of 32 students and so did the control group. The participants of this research were selected by cluster random sampling; VIII-E as the experimental group and VIII-D as the control group. The experimental group got treatment by using Duolingo, while the control group used flashcard as the media.

The data of this research were collected from students' post-test scores of vocabulary tests to compare students' vocabulary achievement of the two groups

after treatment. Then, the researcher analyzed the result of the test by using the independent t-test formula. The result of the t-test formula analysis showed that the value of the significant 2 tailed was 0.017, which means that it was lower than the significant degree (0.05). Therefore, the null hypothesis saying that “there is no significant effect of Duolingo application on students’ English vocabulary mastery” was rejected. Consequently, the alternative hypothesis saying that “there is a significant effect of Duolingo application on students’ English vocabulary mastery” was accepted. Also, from the test, it showed that the mean score of the experimental group (84,69) was higher than the mean score of the control group (80.78).

From the result above, it proved that there was a significant effect of using Duolingo application on students’ English vocabulary mastery and the mean score of the experimental group was higher than that of the control group.

CHAPTER 1. INTRODUCTION

This chapter consists of some aspects dealing with the research background, the research problem, the research objectives, and the research contributions.

1.1 Research Background

Nowadays, as mobile phones are practically everywhere (Burston, 2014), the majority of people have smartphones for their daily tasks and to communicate with other people no matter how old they are, including the junior high school students. However, the utilization of technology in teaching and learning process is still lacking where a smartphone is mostly seen as a means of communication or entertainment, despite its potential in aiding students to develop their skills and to learn a new vocabulary of a foreign language, especially English. If a teacher can use application that is within the reach of the students and make them attracted to use it, learning English can be viewed not just as a necessity, but a game with a constant challenge that awakens their motivation in learning.

To integrate smartphone as an aid in learning a foreign language, Connolly et al. (2012) stated that educators might be able to use gamification. It is the use of game-like elements into a non-game context to make greater user engagement and improve user experience (Giannetto et al., 2013). By using free-gamification-incorporated software for foreign language instruction, students can use it even when they are at home on any personal computer or mobile device. One of the well-known software or site that uses gamification to learn a foreign language is Duolingo. With its gamification nature, Duolingo can help students to increase their vocabulary mastery.

Researches about mobile learning applications have been a constant trend for years, especially, as technology keeps developing. On 2012, Vesselinov had studied that Duolingo as a free mobile language learning application was effective to improve someone's language as the participants' score increases from 162.5 points to 253.9 with around 91.4 points improvement after its use. Some

researchers (Huang & Huang, 2015; Chen et al., 2018) even constructed their applications. Yet, it still had some shortages, so did Duolingo. It doesn't have real interaction, even though it has a good effect on vocabulary development, as it motivates the learner to use Duolingo consistently (Finardi et al., 2016). It was also seen as less challenging for learners with intermediate or higher levels of language, despite its efficacy for beginner level-learner (Munday, 2016). Still, Duolingo had some major benefits for learners because it has extensive written lessons, dictation and oral practices that help them in learning (Chen, 2016).

Another research conducted by Rachels et al. (2017) showed that Duolingo has a good effect on students' language achievement. More evidence of Duolingo's positive impact comes from a study reported by Guaqueta et al (2018), where it was proved to help learners increase their vocabulary and developed a better attitude for language learning due to the fun and dynamic nature. All of the research above shows how Duolingo, with all of its useful features, various exercises, and also the fact that it is free and can be easily accessed by students, is an interesting and helpful tool in aiding student's learning.

Among the language skills that any learner needs to develop linguistic competence, vocabulary is a key component (Guaqueta et al, 2018). Schmitt (2000:155) said that "to master English skills such as reading, writing, listening and speaking, vocabulary mastery is necessary." Without mastering the vocabulary of the target language, it will be difficult for learners to understand the language where they need to hold an oral or written conversation, to comprehend a text, even to compose a text. That is why vocabulary should be taught the students since the beginning, in this case since junior high school as they know some basic English words, but not extensive enough to be called intermediate learners.

From the background above, the writer used Duolingo to facilitate students in learning vocabulary and conducted research entitled "*The Effect of Duolingo Application on Students' English Vocabulary Mastery.*"

1.2 Research Problem

Based on the background of the research and the rationale above, the problem of the research is formulated as follows: is there any significant effect of Duolingo Application on students' English vocabulary mastery?

1.3 Research Objective

Based on the problem of the research, the objective of this research is to know whether or not there is any significant effect of Duolingo Application on students' English vocabulary mastery.

1.4 Research Contributions

The results of this research are expected to be able to give contributions to the following:

1.4.1 Practical Contribution

The results are expected to show a practical example in implementing Duolingo to teach English vocabulary.

1.4.2 Empirical Contribution

The results are expected to be a useful basis and reference for future researchers who are interested in researching Duolingo by using other research method or different research participant.

CHAPTER 2. REVIEW OF RELATED LITERATURE

This chapter highlights the discussion of some literature related to the research. It covers the theoretical framework, conceptual framework, and previous studies.

2.1 Vocabulary

2.1.1 The Definition of Vocabulary

According to Thornbury (2002), vocabulary refers to words or terms that have meaning in it. It is used to communicate and understand an idea. Without knowing the word meaning, the speakers cannot understand any information given. This is the reason that vocabulary is important in language. Hatch and Brown (1995) state that vocabulary is a list of words from a particular language that is used by the speakers of a language. It means that every person who communicates in English must have English vocabulary because it is closely related to listening, reading, speaking, writing, and grammar.

From the definition above, vocabulary is a word that has meanings that are not isolated, but the meanings of those words depend on the context of the words. On the other hand, it can be said that vocabulary is a collection of words with meaning.

2.1.2 Vocabulary Classification

Vocabularies can be classified based on certain criteria. One of them is stated by Cameron (2001), there are three types of vocabulary, as follows: a.) Active vocabulary, i.e. the words that are customarily used in speaking and writing. b.) Reverse vocabulary, i.e. the words that are familiar but rarely used in daily conversation, instead people will use another word that has the same meaning but more common. c.) Passive vocabulary, i.e. the words that are customarily used in listening and reading.

Whereas Hatch and Brown (1995) classified vocabulary into the other two terms. The first is receptive vocabulary, in which learners can comprehend the words from reading or listening, but the learners have difficulties in recalling the

words to speak or write something. The second form is productive vocabulary, in which learners can use or recall the words while producing writing or in speaking.

In this research, the researcher focused on receptive vocabulary because it was focused on how the participants could understand and grasped the words, not how they could use the word to say or write something.

2.1.3 Aspect of Vocabulary Knowledge

Nation (2001) stated that vocabulary knowledge is aspect of knowing a word. He mentioned that there are three aspects in vocabulary knowledge: form, meaning and use.

a. Form

The “form” aspect of vocabulary covers three sub-aspects such as “spoken”, “written”, and “word parts”. The “spoken” aspect concerns with what the word sounds like and how the word is pronounced. The “written” aspect concerns with what the word looks like and how the word is written and spelled. The “word parts” aspect concerns with what parts are recognizable in the word and what word parts are needed to express the meaning. So, this aspect is about how the word looks like and how the word is spoken.

b. Meaning

This aspect covers three sub-aspects such as “form and meaning”, “concept and referents”, and “associations”. The “form and meaning” aspect concerns with what meaning does the word-form shows and what word-form can be used to express the meaning. The “concept and referents” aspect concerns with what is included in the concept and what items can the concept refers to. The aspect of “associations” concerns with what other words make us think of and what other words we can use instead of this one. So, this aspect is about how the word has a certain meaning and how it relates to other words.

c. Use

The use aspect of vocabulary covers three sub-aspects such as “grammatical function”, “collocation”, and “constraint on use”. The “grammatical function” aspect concerns with what patterns the word occurs and in what patterns we must

use this word. The “collocations” aspect concerns with what words or types of words occur with this one and what words or types of words can be used with this one. The “constraints-on-use” aspect concerns with where, when, and how often we would expect to meet the word and where, when, and how often we can use the word. Basically, this aspect deals with the use of the word itself in language.

Based on the 2013 curriculum for eighth-grade students, one of the competencies is about descriptive text, where students describe something (in this case person). In order to do that, students need to know some vocabularies, especially the adjectives to describe their characteristics and verbs to describe what they usually do. These aspects of vocabulary knowledge can be used to measure how far the learners understand the vocabulary taught (adjective and verb). Thus, this research tried to asses students’ vocabulary knowledge, based on the three aspects, but it was focused on one sub-aspect from each aspect. The detail is as follows:

Vocabulary aspects	Sub-aspect	Indicator
Meanings	Associations	Students can identify synonym of the words
		Students can identify antonym of the words
Form	Written	Students can distinguish the root word and word with prefix or suffix.
Use	Grammatical function	Students can know in what context they can use the word
		Students can answer questions according to the context in the text or conversation

Taken from Nation (2001:40-41)

2.1.4 Vocabulary Mastery

Vocabulary, as discussed before, is the total number of words in a particular language as used by a person. Mastery, as stated by Procter (2001), is learning or understanding something and having no difficulty in using it. So, vocabulary mastery is someone’s ability to understand and use words in a particular language after having a learning process.

Vocabulary mastery or achievement will be known after implementing vocabulary teaching. Lodico et al. (2006) affirmed that an achievement test is generally associated with measuring what students have already learned in school. Therefore, vocabulary mastery in this research could be conducted after conducting vocabulary test, which was based on the aspects of vocabulary knowledge (identifying synonym or antonym, distinguishing root word, what word is used based on context and answering questions), after the students had been taught English vocabulary by using Duolingo for the experimental.

2.2 Mobile-Assisted Language Learning (MALL)

Mobile learning or m-learning is the possibility to learn independently no matter where and when, it is wireless and universal (Chen, 2013), as it is using supporting mobile-wireless information systems and mobile technologies. Bachore (2015) indicated that one of the main features of mobile learning is accessibility, which related to how easy it is for a learner to own or at least to gain access to a mobile device. Nowadays, learners have huge access to this technology, especially the young generation. A study by the Pew Research Center, in 2018 showed that 77% of the people in America had smartphones and the percentage is even higher for the younger generation. In 2015, 86% of people aged 18-29 had smartphones and increased to 94% in 2018. This shows how smartphones can be easily owned, even for the younger generation.

Due to the high percentage of smartphone ownership, it becomes the main choice among MALL application developers (Burstion, 2014). Kukulska-Hulme (2013) defined MALL (Mobile-Assisted Language Learning) as the use of mobile technologies in language learning, especially where the portability of the device becomes an advantage. It goes with Palalas (2011:76) statement, in which he proposed a definition, which incorporates both aspects of mobility: “MALL can be defined as language learning enabled by the mobility of the learner and...portability of handheld devices...” Thus, MALL is the use of devices that can be used to access learning material anywhere easily where it expands the

opportunities to learn and practice the language by adjusting the learning to the learner's needs, habit, and motivation.

This area has also been largely studied by many researchers for decades ago. Duman et. al. (2015) reviewed the studies released from 2000 up to 2012. which showed that the trend of this research steadily grew with the growth of cellular phone as the most often used media and vocabulary as the most researched topic. Then in 2017, Shadiev et al. reviewed the research on the same topic, where it shows how the trend grew even more in recent years. Shadiev et al. (2017) show that there is also the shift where smartphone replaces the cellular phone as the most often used media where 11 out of 37 technology-related research use smartphone as its media. Despite that, vocabulary is still the most researched topic among other language skills. In short, the major topics in MALL research are teaching vocabulary and the use of mobile devices as the media in the teaching process. That is why this research tried to see how smartphone applications as media affected language learners in learning vocabulary.

2.3 Gamification in Language Learning

Gamification, as defined by Kapp (2012), is a practice that uses game-based method and game thinking to engage people, motivate action, promote learning, and solve problems. Brigham (2015) also proposed the same idea where gamification is seen as the use of game-element in a non-game context to increase the motivation, engagement in learning. Yet, gamified applications are not fully-fledged games, where the activity is solely for entertainment purposes. This differentiates it from a serious game that is designed for playful interactions. Gamification is the implementation of the game element in a certain context; in this case, it is language learning.

The way gamification is used in language learning applications is explained by Ketyi (2016) where the study emphasized that the well-known mobile language learning application, such as Duolingo, uses the features of gamification (matching, pairing, and drills) to encourage the learner. Huynh et al., (2016) also stated that several websites, platforms, and applications have adopted

gamification to improve learners' performance and engage them in the lessons. It demonstrates how gamification has been widely used as a feature for language learning purposes.

2.4 Duolingo (Gamification Mobile Application)

Duolingo is a free language-learning platform, which can be accessed through the web (duolingo.com) or as an application on mobile devices. It is a very popular program for language learning, with around 300 million learners and still counting (Duolingo, 2019). With a feature that resembles a game, it will engage learners through motivation and competition in learning the language.

Duolingo has a *skill tree* (see Figure 1) that users can go advance through and a practice section where the learned words or phrases can be strengthened. This *skill tree* consists of many skills, such as *food*, *color*, *animal*, etc. and has different colors from grey (indicating that a skill has not been started) up to gold (all the lessons and vocabulary for that specific skill have been mastered). The skill is considered as achieved if all lessons are completed.



Figure 1 Skill Tree in Duolingo

Each lesson contains 10 to 16 exercises (see Figure 2) with various types of exercise (translation exercises, matching exercises, pairing exercises, listening exercises, and speaking exercises) and learners have a progress bar on the top of their screens. When they answer correctly, the bar will move forward. Then, when

they make a mistake, the bar will not move forward. Duolingo will point out the mistake and then repeat the incorrect question at the end of the exercises until the progress bar is completed.



Figure 2 Some Examples of Duolingo's Exercise

Another feature of Duolingo is the leader board (see Figure 3), which is activated if the user adds a friend to his list. The leaderboard shows how much experience points (XP) user and his friends earn in the form of a ranking. This functionality allows users to compete and thereby increases the desire to learn and beat their friends in the game.

Teman		TAMBAH
	Rossa...	13305 XP
	Rossa	110 XP

Figure 3 Leader Board

Duolingo has a store (see Figure 4) where users can purchase additional skills, bonuses such as freeze or customize the appearances of Duo, the owl mascot. The currency is called *Lingot*. To earn it, the user has to level up, complete a skill or maintain a streak for a total of seven or more days.



Figure 4 Duolingo Store

Duolingo also has a feature on the web called Duolingo for School (See Figure 5). By using this feature, the teacher can create virtual classrooms to see the Duolingo's curriculum content, to monitor students' progress and to set assignments for in-class activity or homework (Stringer, 2016).

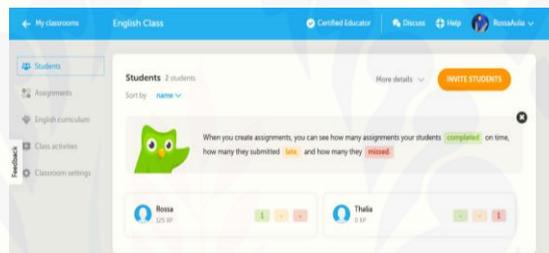


Figure 5 Duolingo for School

In this study, Duolingo is seen as an application with a gamification feature for learning a language. As it is the most well-known language-learning tool that can be used in mobiles and computers, the students can download it from google play or iTunes for free. Even the Duolingo webpage claims that this application uses gamification in its lessons and the company advertises their lessons as being addictive and having a game feel (Duolingo, 2013).

2.5 Previous Study

The popularity of game-based applications prompted many educators to explore its potentials as an educational tool and Duolingo is one of these educational applications that applies game elements in its concept. As reported by Shadiv et. al (2017) who reviewed literature from 2007 to 2016 (March) on mobile language learning, found that the research trend in mobile language learning was increasing with various methods and analysis tools.

According to Vesselinov & Grego (2012), the motivation for learning a new language plays a primary role in the progress of the learners' levels. 196 participants from the US in this study were evaluated to know the level of language knowledge. The participants had to learn Spanish for two months by depending on Duolingo and took a test before and after the use of Duolingo. The test used was WebCAPE test (Web-Based Computer Adaptive Placement Exam), a reputable university placement created by Brigham Young University with high validity correlation coefficient (0.91) and reliability (test-retest) value of 0.81. The findings displayed that on average, learners improved 91.4 WebCAPE points from the average 162.5 to 253.9 points even without any external sources or assistance.

Garcia (2013) analyzed how Duolingo worked by assessing the method of Duolingo that set it apart from others, which is based on the translation. The researcher reviewed the translation in Duolingo to see how good it is and how much it helps the learner. In the end, the researcher pointed out that the translation for the basic stage was good and sounds natural, but for the more advanced stage with longer sentences, the translation still sounded like machine translation and unnatural. Also, by using this method, the learners detected that their knowledge in the language improved, especially for the beginner, as they could remember more words than before.

Huang & Huang (2015) developed a mobile game to assist students with vocabulary learning. This game employed scaffolding strategies, which means that the higher the game level, the higher the difficulty is to widen the player's vocabulary. This research used quasi-experimental on 65 college freshmen and showed that the game was useful to assist low-achieving students to improve their knowledge in vocabulary as the results of the low-achievers in the experimental group (mean = 4.69, SD = 0.80) were significantly higher ($p = 0.03 < 0.05$) than those in the control group (mean=3.56, SD =1.03). It concludes that students who learned using mobile with scaffolding method had a better improvement from the other group. Chen et al. (2018) also developed a mobile game to assist vocabulary learning. While Huang & Huang's used scaffolding strategies to know how an English vocabulary application with SRL (self-regulated learning) affected

students' learning performance and motivation, the result of Chen's quasi-experimental study which focused on the 4th and 5th graders showed that both learning performance ($p = 0.02 < 0.05$) and motivation ($p = 0.034 < 0.05$) reached the level of significance. This indicated that learners who use vocabulary application with SLR had better learning performance and motivation than those who did not.

Chen (2016) developed a study that evaluated many language-learning applications for second language learners, to know their benefits for adult learners. The researcher studied eight language-learning applications including Duolingo and evaluated them by using these criteria: content quality, pedagogical coherence, feedback, motivation, usability, customization, and sharing. The evaluation presented how Duolingo scored 50 out of 70, higher than other applications which range from 47.5 – 36. Therefore, it can be said that Duolingo was a decent application to learn a language with its extensive written lessons, dictation and oral practices. Duolingo also provided tips and feedback in each lesson.

Finardi et al. (2016) tried to analyze how MALL (Mobile Assisted Language Learning) could be used to assist language learning by using a mixed-method where he surveyed 80 participants and interviewed 28 participants. The data showed that 41.6% of the participants preferred the combination of face-to-face interactions and online activities. It also mentioned that 40% of the participants used many mobile applications for learning, where Duolingo was one of them. Then, it was also revealed that out of 28 participants, 24 participants used their mobile devices to learn a language with many different reasons, such as improving vocabulary, communication and translating. However, they perceived that Duolingo still had limitation especially in the real interaction for the authentic use of the language. Yet, in general, they were sure that Duolingo was beneficial to help to support and to improve their learning.

Munday (2016) examined how efficient Duolingo was when it is integrated with the traditional teaching method. This research was employed in university courses, including two levels; beginners and intermediate. The

researcher asked the participants (46 beginner level and 16 intermediate level participants) to use Duolingo, then they completed a survey to collect the data. The results showed that Duolingo was more entertaining (80.4% of beginner levels agree with the claim and only 43.8% of intermediate levels agree with the claim) and advantageous (82% of beginner levels agree with the claim and only 70.3% of intermediate levels agree with the claim) in their learning progress for basic level learners than the intermediate levels.

Rachels et al. (2017) conducted quasi-experimental research with pretest-posttest to 164 students in the 3rd and 4th grade using Duolingo as a gamification application to see its effect on students' foreign language achievement; in this case, it is Spanish. The participants are native English speakers. The result showed that the significance between the experimental group and the control group did not differ much as the value shows 0.60 which is higher than 0.05. Despite that, there is a notable difference in score improvement between the experimental and control group, where the mean score for the control group increased from 11.78 to 20.94 and the experimental group increased 11.78 to 21.47. It shows that Duolingo is a good tool to be implemented in language learning to help learners improve their language achievement.

A study by Guaqueta et al (2018) tried to investigate the effects of using language-learning applications to foster vocabulary building in an EFL context. They employed the mixed method to the 10th graders that focused on two applications, Duolingo, and Kahoot in turns. The findings presented that the use of both applications had a positive outlook on students' vocabulary building, as the average group test score increased from 36.7 (initial test before the treatment) to 73.45 (final test after treatment). The survey, which was held after the treatment, showed that students view technology as a useful tool that makes the learning process more enjoyable and dynamic.

Another study by Karjo & Andreani (2018) tried to compare the efficacy between Duolingo and Memrise, within two months. This qualitative study found out that through Duolingo, the learners tended to remember 80-100% of words when they did a repetition of the exercise after 24 hours. In comparison, Duolingo

presented more words at the same time spent than Memrise. Shortly, it seemed that Duolingo had a good effect on language learning development either used as a stand-alone or used simultaneously with other applications.

All of these researches above reported that Duolingo is a useful tool to learn a language. The majority of the research proposed that Duolingo, as a mobile learning app, has a good effect on students' English skills, including vocabulary as it engages them in the learning process. Despite some challenges in the implementation, it still is an interesting topic to be breached about, as through the year, the research about the mobile applications in language learning keeps growing with the appearance and innovation in technology.

However, the researches mostly are conducted in the USA, Canada, Taiwan, China, Colombia, etc. There is still limited research regarding this topic in Indonesia although the development of mobile technology has developed in Indonesia. Besides, the researches usually focused on English skill as a whole, not specific to a particular skill or component, such as vocabulary, as it is the foundation in language learning. That is why this research tried to fill the study gaps by researching the effect of Duolingo application on students' vocabulary mastery.

2.6 Research Hypothesis

Based on the research problem and the theories of related literature above, the hypothesis was formulated as follows: “there is a significant effect of Duolingo application on students' English vocabulary mastery”.

CHAPTER 3. RESEARCH METHOD

This chapter presents the research methods applied in this research. They are research design, research context, research participants, data collection methods, and data analysis method.

3.1 Research Design

This research used quasi-experimental design following the statement by Creswell (2012:309) that “quasi-experimental design is used to establish possible cause and effect between independent and dependent variables when the availability of the participants or the setting disallows researcher to form particular groups, instead, the researcher needs to use intact groups.” As the purpose of this research was to know whether or not there was a significant effect of Duolingo application on students’ English vocabulary mastery and the participant was in the form of an intact group (class), instead of in a conditioned sample, a quasi-experimental design with posttest only was implemented as its research design.

For this research, the writer had two groups; one as an experimental class, which received experimental treatment with Duolingo, and the other one as a control class, which did not receive treatment with Duolingo, but using flashcard instead. Flashcard was used because it had been used by the teacher in the classroom for teaching-learning process. At the end of the research, post-test was conducted to measure whether Duolingo has a significant effect on students’ English vocabulary mastery.

The design of the study with posttest-only group design followed the pattern:

	Posttest-Only Design	Time	→
Control Group	No Treatment	Posttest	
Experimental Group	Treatment by Duolingo	Posttest	

(Creswell, 2012:310)

The research procedures are as follows:

1. Administering a homogeneity test to all the eighth-grade students to be analyzed by using Analysis of Variance (ANOVA) in SPSS as a way to see if it was homogenous or not. The result was 0.967, which was more than 0.05. It means that the mean difference was not significant, so the H₀ that said there is no mean difference was not rejected and the population was homogenous, so cluster random sampling by lottery was used to choose the classes that became the experimental group and control group. They were VIII D (control group) and VIII E experimental group).
2. Giving the treatments to the experimental group (on September 27th and 30th) by teaching vocabulary by using Duolingo. The control group is taught vocabulary by using flashcard because it had been used by the teacher before. (on September 30th and October 2nd). In giving the treatment to experimental group, the researcher was helped by two teachers to monitor students while using Duolingo.
3. Giving post-test to both groups after giving the treatments to know the result of the treatment.
4. Analyzing the results of the vocabulary post-test by using t-test formula of 5% significance in SPSS to know whether the mean difference is significant or not.
5. Concluding the result of the data analysis to answer the research problem.

3.2 Research Context

This research took place on SMPN 2 Jember because Duolingo had never been used in teaching English in this school. Besides, the school had adequate facilities when it came to technical aspects such as the Wi-Fi connection and the fact that students were allowed to use a smartphone in class for educational purposes.

3.3 Research Participants

The participants of this research were the eighth-grade students of SMPN 2 Jember. The researcher took two classes as participants of the study. One as an experimental class, while the other as a control class.

3.4 Data Collection Method

In this study, the data were collected from the vocabulary test.

3.4.1 Vocabulary Test

The vocabulary test was used to gain data on the students' vocabulary mastery. In conducting the vocabulary test, the researcher developed a teacher-made-test with guidance from the English teacher and the advisors based on the indicators (students can identify synonym or antonym, distinguish root word, what word is used based on context and answer questions). In this research, there were two types of tests: homogeneity test and post-test.

a. Homogeneity Test

The homogeneity test was conducted on September 23-25th 2019 know whether the population was homogenous or not. In this homogeneity test, there were 20 test items in the form of multiple choices. The result of the homogeneity test was analyzed by using Analysis of Variance (ANOVA). The result of the ANOVA is presented below:

Table 3.1 The Output of ANOVA (Analysis of Variance)

ANOVA					
SCORE	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	57,292	5	11,458	,189	,967
Within Groups	11304,688	186	60,778		
Total	11361,979	191			

The result of the ANOVA analysis above showed that the F value was 0.189 with the value of the variance 0.967. As the value of the variance (0.967) was higher than 0.05, it means that the population was homogeneous. Therefore, the researcher used cluster random sampling by using a lottery to determine the experimental and control groups. Those classes were VIII-E as the experimental group and VIII-D as the control group.

b. Post-Test

Before giving the post-test to the experimental group or the control group, the test was given to a class that did not belong to the experimental group or the control group (on October 1st, 2019). As found from the homogeneity test, the vocabulary ability of the eighth-grade students of SMPN 2 Jember was homogeneous. Therefore, one of the classes was chosen randomly by the researcher that was VIII F.

This try-out test was done to know the reliability coefficient, the difficulty index of the vocabulary test, whether the students understood the instruction of the test or not and whether the time allocation for doing the test was enough or not. The tryout test consisted of 30 items with 12 matching tests and 18 multiple choices in which each item had four options. The time allocation given was 40 minutes. The result of the try out test can be seen in Appendix 5 (on page 39).

1) Validity

According to Hughes (2003), a test is valid if it measures what is claimed to measure. This test tried to measure student's vocabulary knowledge by using indicator based on Nation (2001), students should be able to identify and analyze the words (the synonym or antonym, distinguish root word, what word is used based on context and answer questions). In this test, the researcher established content validity based on the 2013 curriculum for eighth-grade students to construct the test which is shown in the table below.

Basic Competence		Indicator
3.6 Menerapkan fungsi sosial, struktur teks, dan unsur kebahasaan teks interaksi transaksional lisan dan tulis yang melibatkan tindakan memberi dan meminta informasi terkait keberadaan orang , benda, binatang, sesuai dengan konteks penggunaannya.	Descriptive Text (Verb and Adjectives)	Students can identify synonym of the words
		Students can identify antonym of the words
		Students can distinguish the root word and word with prefix or suffix.
		Students can know what word should be used in the context
		Students can answer questions according to the context in the text or conversation

One of the competencies for the eighth-grade students is about descriptive text, where students described person. In order to do that, students needed to know some vocabularies, especially the adjectives to describe their characteristic and verbs to describe what they usually do, so the students should be able to identify and analyze the words based on the indicator above.

Regarding to the validity of the test, this research fulfilled the requirement of the content validity since it was constructed based on the materials stated in the institutional based curriculum and the syllabus used for teaching English and the indicators to be measured.

2) Reliability

To know the value of the reliability coefficient, the split-half odd-even technique was implemented by using the Spearman-Brown formula on SPSS. The researcher signed (X) for the odd number and (Y) for the even numbers. The result of the test can be seen in the table below:

Table 3.2 The Output of the Spearman-Brown Split-Half Technique

Reliability Statistics			
Cronbach's Alpha	Part 1	Value	1,000
		N of Items	1 ^a
	Part 2	Value	1,000
		N of Items	1 ^b
	Total N of Items		2
Correlation Between Forms			,557
Spearman-Brown Coefficient	Equal Length		,715
	Unequal Length		,715
Guttman Split-Half Coefficient			,715

From the result above, it can be seen that the result of the full score reliability was 0.715. According to Sudijono (1998), the interpretation scale of reliability is as follow:

0.90 – 1.00	Very High
0.70 – 0.89	High
0.50 – 0.69	Fair
0.30 – 0.49	Low
< 0.30	Very Low

Taken from Sudijono (1998:219)

From the data above, it was considered high in reliability (Sudijono, 1998:219). Therefore, the test could be regarded as reliable. It means that the researcher did not have to make any changes in the test items and the post-test could be administered.

3) Difficulty Index

The analysis of the difficulty index of the test items was done to know whether the test items were too difficult or too easy for the students. The tryout test consisted of 30 test items (12 matching exercises and 18 multiple choice exercises). The test was administered within 40 minutes. The test items were analyzed by using the following formula by Heaton (1995:178):

$$FV = \frac{R}{N}$$

Notes:

FV= Faculty of Value (The difficulty index); R= The number of correct answers; N= The number of students who take the test

From the result of the difficulty index analysis of the test items, it was known that the range of the difficulty index was from 0.19 to 0.89 (see Appendix 8 on page 43). To see the difficulty index, the criteria of difficulty index as follows:

0.00 – 0.19	Difficult
0.20 – 0.80	Fair
0.81 – 1.00	Easy

Djiwandono (1996:141)

From the result, numbers 2, 6, 8, 11, 19, 21, 26 and 30 were categorized as easy, while number 16 was categorized as difficult and the rest of the test items were categorized as fair items. Since there were 21 test items categorized as fair items and the researcher just needed 20 test items in the vocabulary post-test, the researcher did not need to revise the test items. The researcher could use the test items which were categorized as fair items. Thus, the researcher used 20 fair items in the post-test.

3.5 Data Analysis Method

To find out how significant the score differences between that of the experimental group and the control group were, the writer used the statistical calculation of independent samples t-test with 5% significant level of the last score of the post-test. The analysis was conducted using SPSS, which was a computer program used to make statistical analysis. The reason for using SPSS was that it was easier and more accurate to calculate the data.

The steps of using t-test in SPSS are as follows:

1. Inserting the scores of the experimental group and the control group.
2. Giving a label (1) for the experimental group, and (2) for the control group.
3. Calculating the significance difference by clicking analyze, compare-means, and independent-samples t-test.
4. Giving an interpretation of the output of independent sample t-test calculation.

CHAPTER 5. CONCLUSION AND SUGGESTION

This chapter presents the conclusions of the findings and suggestions for the English teachers, the students, and the other researchers.

5.1 Conclusion

Based on the result of the data analysis of the t-test by using SPSS computing system and the discussion in the previous chapter, it could be concluded that there was a significant effect of using Duolingo Application on the eighth-grade students' vocabulary mastery at SMPN 2 Jember in the 2019/2020 academic year. It was indicated by the significant value in the independent sample t-test. The significant value (0.017) was lower than (0.05) and the mean score of the experimental group (84.69) was higher than the mean score of the control group (80.78). It means that the students who were taught vocabulary by using Duolingo got better results rather than those who did not. The evidence shows that using Duolingo Application has a significant effect on students' vocabulary mastery at SMPN 2 Jember.

5.2 Suggestion

Since there is a significant effect of using Duolingo on students' vocabulary mastery, Duolingo can be used in teaching English especially teaching vocabulary. Thus, the researcher proposes some suggestions for the following people:

5.2.1 The English Teachers

The English teachers of SMPN 2 Jember are expected to use Duolingo application to help the students mastering the vocabulary. The teacher could adapt the activities in this study to make teaching-learning more fun for the students.

5.2.2 The Students

It is suggested that the students of SMPN 2 Jember use Duolingo in mastering their vocabulary and improving their English skills because Duolingo application can be easily accessed by students and is also fun.

5.2.3 Other Researchers

The following recommendations are made for further research on this topic. One, this study focused on the study of foreign language in eight grade of junior high school. It is recommended that this study be reproduced at other educational levels including other level of junior high school, senior high school and the college level. Two, this study only did the treatment in two meetings. So, it will be more beneficial to do the treatment longer to see its effect better. Three, this study had 64 participants. A study with a larger sample size would increase the strength and reliability of the research. Four, in doing the treatment, the researcher found that students, who are not high-achievers, seemed to enjoy this application more. This can be used as a basis to see how high achiever and low achiever students' behavior towards Duolingo application. Also, as this research has weakness is the fact that not all the vocabulary learned by the students are tested, there is the need for further research with more thorough test that tested all the vocabulary learned.

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Appendix 1. Research Matrix

Title	Problem	Variables	Indicator	Data Resources	Research Method	Hypothesis
The Effect of Duolingo Application on Students' English Vocabulary Mastery	Is there any significant effect of Duolingo Application on students' English vocabulary mastery?	<p>Independent Variable: The use of Duolingo Application as media in teaching.</p> <p>Dependent Variable: The students' English vocabulary mastery.</p>	<p>1. The use of Duolingo in teaching vocabulary:</p> <ul style="list-style-type: none"> • Translating the words • Listening and writing down the words <p>2. The scores of students' vocabulary achievement test based on the aspects of vocabulary knowledge:</p> <ul style="list-style-type: none"> • Meaning • Form • Use 	<p>1. Vocabulary Test</p> <p>The students' English vocabulary test score</p>	<p>1. Research Design Quasi-experimental posttest only design</p> <p>2. Area Determination Method Purposive sampling</p> <p>3. Data Collection Methods Vocabulary Test</p> <p>4. Data Analysis Method: Independent samples t-test by using SPSS. (Creswell, 2012:325)</p>	There is a Significant effect of Duolingo Application on students' English vocabulary mastery.

Appendix 2. Homogeneity Test

Subject	: English
Language Component	: Vocabulary
Level	: Eighth-grade Students of Junior High School
Time	: 30 minutes

Choose the correct answer by crossing (x) a, b, c, or d on the answer sheet provided!

1. We can find a pearl in the...
 - a. air
 - b. ground
 - c. forest
 - d. sea
2. The birds use their to fly.
 - a. bodies
 - b. wings
 - c. heads
 - d. feet
3. London is the of the United Kingdom.
 - a. center
 - b. main
 - c. middle
 - d. capital
4. We use our to see something.
 - a. lungs
 - b. eyes
 - c. heart
 - d. ears
5. You can look at the ... to know the time.
 - a. vas
 - b. table
 - c. clock
 - d. shoes
6. To play Snake and Ladder game, a player should roll the to begin the game.
 - a. box
 - b. rope
 - c. dice
 - d. marble
7. Anita got a sports shoe from her mother last weekend. It is too tiny for her feet. She feels
 - a. recomfortable
 - b. incomfortable
 - c. uncomfortable
 - d. encomfortable
8. Doni was absent in his English course today due to his as a film actor.

- a. activities c. reactions
b. actions d. activations
9. Our class leader often forgets to submit the attendance report to the school office. He is so
- a. careless c. uncared
b. careful d. decare
10. Andi has a big bag. He can put all his stuff in it.
The underlined word means.....
- a. huge c. tiny
b. wide d. long
11. Roni is a diligent boy. He always helps her mother to clean the house every weekend.
The **antonym** of the underlined word is.....
- a. lazy c. annoying
b. greedy d. impolite
12. During break time, some students play football in the school's field. They look very happy.
The **synonym** of the underlined word is....
- a. sad c. worried
b. glad d. frightened
13. My sister sells clothes, shoes, and any other products on the internet.
The **antonym** of the underlined verb is
- a. take c. borrow
b. buy d. give
14. Chandra is always frightened if a blackout happens in the night.
The underlined word means....
- a. thankful c. afraid
b. sad d. frowned
15. Our Headmaster gives a special reward to anyone who can get the best score in the final test.
The **antonym** of the underlined word is...
- a. present c. price
b. prizes d. punishments

16. Ratna : What is Rona's job?

Juwita : She is a She serves food and drink to the guests in the restaurant.

- a. stewardess
- b. waitress
- c. cook
- d. servant

17. Anisa : Rahma, where is the place to read or borrow a book?

Rahma : it is

- a. mosque
- b. toilet
- c. students' board room
- d. library

18. Sandra : What's that?

Dewi : Oh, it's cotton.

Sandra : Do we need it?

Dewi : Yes, we need it to make

- a. houses
- b. food
- c. roads
- d. clothes

19. Andre : How did you go to Paris?

Sule : By plane.

Andre : Was the kind?

Sule : Yes, he was. He helped what we needed to board the plane.

- a. steward
- b. pilot
- c. passenger
- d. driver

Every December 22, we celebrate Mother's Day. This year I want to write something as a prize with a beautiful poem inside to show my love to my mom.

20. What will the writer write to her mother?

- a. letter
- b. newspaper
- c. magazine
- d. scientific journal

Distribution of the test items

Vocabulary aspects	Indicator	Kind of test	Number of question	Total
Meanings	Students can identify synonym of the words	Multiple choices	10, 12, 14	3
	Students can identify antonym of the words		8, 13, 18	3
Form	Students can distinguish the root word and word with prefix or suffix.		7, 8, 9	3
Use	Students can know what word should be used in the context		1, 2, 3, 4, 5, 6	6
	Students can answer questions according to the context in the text or conversation		16,17, 18, 19, 20	5
Total				20

$$\text{Scoring} = \frac{\text{the number of the correct answer}(s)}{\text{the number of test items}} \times 100$$

Answer Key

1	D	6	C	11	A	16	B
2	B	7	B	12	B	17	D
3	D	8	A	13	B	18	D
4	B	9	A	14	C	19	A
5	C	10	A	15	B	20	A

Appendix 3. The Result of Homogeneity Test

No	VIII A	VIII B	VIII C	VIII D	VIII E	VIII F
1	90	75	80	85	85	90
2	80	95	80	90	80	75
3	80	80	85	95	90	95
4	85	80	75	80	90	100
5	75	75	80	90	80	80
6	100	90	95	95	75	80
7	80	90	75	80	90	85
8	90	80	70	75	95	80
9	95	85	85	85	85	90
10	85	85	85	85	90	75
11	85	90	90	80	80	95
12	80	70	70	90	80	85
13	90	95	80	75	90	80
14	80	100	80	80	75	80
15	70	80	75	85	85	90
16	100	80	90	100	80	80
17	80	95	85	90	90	85
18	95	85	75	90	90	70
19	90	75	90	85	95	75
20	75	80	85	70	80	90
21	95	90	80	95	80	95
22	80	85	85	100	85	90
23	85	75	95	80	100	85
24	85	80	95	80	75	80
25	75	65	85	95	70	70
26	85	85	90	75	80	90
27	80	85	90	70	95	75
28	90	95	75	100	70	85
29	85	80	80	95	85	80
30	75	90	75	80	75	80
31	90	80	90	80	75	85
32	80	85	85	75	80	100
SUM	2710	2680	2655	2730	2675	2695
Mean	84,6875	83,75	82,96875	85,3125	83,59375	84,21875

Appendix 4. The Names of the Participants (Initials)

No	VIII E Experimental Group	No.	VIII D Control Group
1	AAPAS	1	ARTPA
2	AQS	2	AMZ
3	ARS	3	ANY
4	AFZ	4	AFJ
5	ARA	5	ARAF
6	BPA	6	CAT
7	DFA	7	DAW
8	DMZ	8	DAR
9	DSF	9	FJ
10	DFA	10	FAG
11	FAN	11	INF
12	GTW	12	IVFK
13	MAQF	13	JB
14	MRH	14	KNA
15	MSF	15	KNICA
16	MZIR	16	LNW
17	NRG	17	MAW
18	NMPG	18	MAAS
19	NR	19	MMN
20	NAM	20	MAA
21	NFS	21	NRA
22	QLIS	22	NCL
23	RTH	23	NAM
24	RIIG	24	NDN
25	SEL	25	RDD
26	SM	26	RSM
27	TSK	27	RFN
28	VPN	28	SRK
29	WNK	29	TFS
30	ZS	30	YANH
31	ZAP	31	ZAN
32	ZAA	32	ZZPW

Appendix 5. The Result of the Try Out Test (VIII F)

No.	Students' Name (Initials)	Score
1	AMK	73
2	ANDY	64
3	ARAP	70
4	ARM	64
5	AFZ	64
6	ANM	61
7	BNA	70
8	DSF	73
9	DNRSP	61
10	DDH	70
11	FFM	70
12	FOF	67
13	GTW	82
14	JIP	76
15	KFY	67
16	KMFAH	67
17	MRGK	88
18	MMAP	70
19	MTH	70
20	NK	85
21	NCS	70
22	NRPL	64
23	NKTS	73
24	NRR	88
25	NRP	70
26	PAC	67
27	RTH	88
28	SAD	61
29	TG	82
30	TSK	67
31	ZKK	91
32	ZRA	67

Appendix 6. The Distribution of Odd and Even Numbers

Try Out Result of Odd Numbers (X)																
No.	1	3	5	7	9	11	13	15	17	19	21	23	25	27	29	Total
1	1	0	1	1	0	1	0	1	1	1	0	1	0	1	1	10
2	0	1	1	0	1	1	0	0	0	1	1	0	1	1	1	9
3	0	1	1	1	0	1	1	1	1	1	0	0	0	0	1	9
4	1	0	1	0	0	0	1	0	1	0	1	1	1	1	0	8
5	0	0	0	1	0	1	0	0	1	1	1	0	1	1	1	8
6	1	1	0	0	1	1	1	1	1	1	0	0	1	0	0	9
7	1	1	1	1	1	1	0	0	0	1	1	1	0	0	0	9
8	1	1	1	1	1	1	0	1	0	1	1	0	0	1	1	11
9	1	0	0	0	1	1	1	1	1	1	1	1	0	0	0	9
10	1	1	1	1	0	1	0	1	1	0	1	0	0	1	0	9
11	0	1	1	1	0	1	1	1	0	1	1	1	1	0	1	11
12	1	1	1	1	1	0	1	0	1	1	1	0	0	0	0	9
13	1	1	1	1	1	1	0	1	0	1	1	1	1	1	1	13
14	0	1	1	0	1	1	1	1	1	1	0	0	0	0	1	9
15	0	1	0	0	0	1	1	1	1	1	0	1	1	1	1	10
16	1	1	0	1	1	1	0	0	0	1	1	0	1	1	0	9
17	1	1	1	1	1	1	1	1	0	1	1	1	1	0	1	13
18	0	1	1	1	0	0	0	1	1	1	1	1	1	1	1	11
19	1	1	0	0	1	1	1	1	1	0	1	0	1	1	0	10
20	1	1	1	0	1	1	1	1	1	1	1	1	0	0	1	12
21	1	0	1	1	1	1	0	1	1	1	1	1	0	1	0	11
22	0	1	0	1	0	1	0	1	0	0	1	1	1	1	1	9
23	1	1	1	0	1	0	1	0	1	1	1	0	1	1	1	11
24	1	1	0	1	1	0	1	1	1	1	1	1	1	1	1	13
25	1	0	1	0	1	1	0	1	1	1	1	1	0	1	1	11
26	0	1	0	1	0	1	0	1	0	0	1	1	1	1	1	9
27	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	14
28	1	1	0	1	0	1	1	1	0	1	0	0	1	0	0	8
29	1	0	1	0	1	1	1	1	1	1	1	1	0	1	1	12
30	0	1	1	1	0	1	1	0	1	0	1	0	1	0	1	9
31	1	1	0	1	1	1	1	1	1	1	1	1	1	1	0	13
32	1	1	1	1	1	0	0	1	0	1	1	0	1	0	1	10
Total	22	25	21	21	20	26	18	23	21	26	26	18	20	20	21	328

Try Out Result of Even Numbers (Y)																
No.	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	Total
1	1	1	1	1	1	1	0	0	0	1	1	1	1	0	1	11
2	1	1	0	1	1	0	1	0	1	1	0	0	0	1	1	9
3	0	1	1	1	1	1	0	1	0	0	1	1	1	1	1	11
4	1	0	1	1	0	1	1	0	0	0	1	1	1	1	1	10
5	1	1	1	0	1	1	1	0	1	1	0	1	0	0	1	10
6	1	0	1	1	1	1	0	0	1	0	0	0	1	1	0	8
7	0	1	1	1	1	0	1	0	1	1	1	1	1	0	1	11
8	0	1	0	1	1	1	1	0	0	1	1	1	1	0	1	10
9	1	1	1	1	0	1	0	0	1	1	0	0	0	1	0	8
10	1	1	1	0	1	1	0	0	1	0	1	1	1	1	1	11
11	1	0	1	1	0	1	1	0	0	1	0	1	1	0	1	9
12	1	1	1	1	0	1	1	0	1	0	0	1	1	0	1	10
13	1	0	1	1	1	0	1	0	1	1	1	0	1	1	1	11
14	1	1	0	1	1	1	1	1	1	1	0	1	1	1	1	13
15	1	1	0	1	1	1	0	0	1	0	1	1	1	0	0	9
16	1	0	1	1	0	1	0	0	1	1	1	0	1	1	1	10
17	1	1	0	1	1	1	1	1	1	1	0	1	1	1	1	13
18	0	1	1	1	1	1	1	0	0	0	1	1	0	0	1	9
19	1	1	1	0	1	0	1	0	1	0	1	0	1	1	1	10
20	1	0	1	1	0	1	1	1	1	1	1	1	1	1	1	13
21	1	0	1	1	1	0	1	0	1	0	0	1	1	0	1	9
22	1	0	1	1	1	1	0	0	0	1	1	0	1	0	1	9
23	1	1	1	1	1	1	0	0	1	1	0	1	0	1	0	10
24	1	1	1	0	1	1	1	1	1	1	0	1	1	1	1	13
25	1	1	1	1	1	0	1	0	0	1	0	0	1	0	1	9
26	1	1	0	1	0	1	1	0	1	0	1	0	1	1	1	10
27	1	1	1	1	1	1	1	0	0	1	1	1	1	0	1	12
28	1	1	1	0	1	1	0	0	0	0	1	1	1	1	0	9
29	1	1	1	1	0	1	1	0	1	1	1	1	1	0	1	12
30	1	1	1	1	1	1	0	0	0	0	1	1	1	0	1	10
31	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	14
32	1	1	1	1	1	0	0	0	0	0	1	1	1	0	1	9
Total	28	24	26	27	24	25	20	6	20	19	20	22	27	17	27	332

Appendix 7. Division of Odd and Even Numbers

No.	Test Items		X2	Y2	XY
	Odd (X)	Even (Y)			
1	10	11	100	121	110
2	9	9	81	81	81
3	9	11	81	121	99
4	8	10	64	100	80
5	8	10	64	100	80
6	9	8	81	64	72
7	9	11	81	121	99
8	11	10	121	100	110
9	9	8	81	64	72
10	9	11	81	121	99
11	11	9	121	81	99
12	9	10	81	100	90
13	13	11	169	121	143
14	9	13	81	169	117
15	10	9	100	81	90
16	9	10	81	100	90
17	13	13	169	169	169
18	11	9	121	81	99
19	10	10	100	100	100
20	12	13	144	169	156
21	11	9	121	81	99
22	9	9	81	81	81
23	11	10	121	100	110
24	13	13	169	169	169
25	11	9	121	81	99
26	9	10	81	100	90
27	14	12	196	144	168
28	8	9	64	81	72
29	12	12	144	144	144
30	9	10	81	100	90
31	13	14	169	196	182
32	10	9	100	81	90
Total	328	332	3450	3522	3449

Appendix 8. The Difficulty Index

No.	R	N	FV	Criteria
1	22	32	0,6875	Fair
2	28	32	0,875	Easy (Deleted)
3	25	32	0,78125	Fair
4	24	32	0,75	Fair
5	21	32	0,65625	Fair
6	26	32	0,8125	Easy (Deleted)
7	21	32	0,65625	Fair
8	27	32	0,84375	Easy (Deleted)
9	20	32	0,625	Fair
10	24	32	0,75	Fair
11	26	32	0,8125	Easy (Deleted)
12	25	32	0,78125	Fair
13	18	32	0,5625	Fair
14	20	32	0,625	Fair
15	23	32	0,71875	Fair
16	6	32	0,1875	Difficult (Deleted)
17	21	32	0,65625	Fair
18	20	32	0,625	Fair
19	26	32	0,8125	Easy (Deleted)
20	19	32	0,59375	Fair
21	26	32	0,8125	Easy (Deleted)
22	20	32	0,625	Fair
23	18	32	0,5625	Fair
24	22	32	0,6875	Fair
25	20	32	0,625	Fair
26	27	32	0,84375	Easy (Deleted)
27	20	32	0,625	Fair (Deleted)
28	16	32	0,5	Fair
29	21	32	0,65625	Fair
30	27	32	0,84375	Easy (Deleted)

Appendix 9. Lesson Plan

School	: SMP Negeri 2 Jember
Subject	: Bahasa Inggris
Level/Semester	: VIII / I
Text type	: Descriptive Text
Language component	: Vocabulary
Time Allocation	: 4x40 minutes (4 JP)

A. CORE COMPETENCE

- KI 1: Menghargai dan menghayati ajaran agama yang dianutnya
- KI 2: Menunjukkan perilaku jujur, disiplin, tanggung jawab, peduli (toleransi, gotong royong), santun, percaya diri, dalam berinteraksi secara efektif dengan lingkungan sosial dan alam dalam jangkauan pergaulan dan keberadaannya
- KI 3: Memahami pengetahuan (faktual, konseptual, dan prosedural) berdasarkan rasa ingin tahunya tentang ilmu pengetahuan, teknologi, seni, budaya terkait fenomena dan kejadian tampak mata
- KI 4: Mencoba, mengolah, dan menyaji dalam ranah konkret (menggunakan, mengurai, merangkai, memodifikasi, dan membuat) dan ranah abstrak (menulis, membaca, menghitung, menggambar, dan mengarang) sesuai dengan yang dipelajari di sekolah dan sumber lain yang sama dalam sudut pandang/teori

B. BASIC COMPETENCE AND INDICATORS

Basic Competence		Indicators	
3.6	Menerapkan fungsi sosial, struktur teks, dan unsur kebahasaan teks interaksi transaksional lisan dan tulis yang melibatkan tindakan memberi dan meminta informasi terkait keberadaan orang, benda, binatang, sesuai dengan konteks penggunaannya.	3.6.1	Matching words with its synonym and antonym
		3.6.2	Answering gap-filling exercise with the correct form of the word
		3.6.3	Completing the sentences with the right word by choosing the provided choices

C. LEARNING OBJECTIVES

After the lesson, students are able to:

1. Match the word with the synonym and antonym exercise
2. Answer gap-filling exercise with the correct form of the word
3. Complete the sentences with the right word by choosing the provided choices

D. LEARNING MATERIAL

Enclosed

E. TEACHING-LEARNING METHOD

Approach : Scientific Approach
 Learning Model : 5M
 Technique : Mengamati, menanya, mengumpulkan informasi, mengasosiasi dan mengomunikasikan.

F. MEDIA

LCD, Laptop, Speaker, Video, Smartphone (Experimental Class),
Flashcard (Control Class).

G. LEARNING RESOURCES

- Buku peserta didik dan buku guru: **Bahasa Inggris When English Rings a Bell kelas VIII**, Jakarta: Kementerian Pendidikan dan Kebudayaan, 2017
- Duolingo vocabulary list (schools.duolingo.com)
- Video: <http://youtu.be/4c6FyuetSVo>

H. TEACHING-LEARNING ACTIVITIES**Meeting 1**

Set Induction			Time
1. Teacher greets the students 2. Teacher checks students' attendance 3. Teacher gives leading question related to the material. 4. Teacher gives motivation to students 5. Teacher states the learning objectives of the lesson. 6. Teacher states the coverage of the material that is going to be learned			5'
Main Activity			Time
Teaching-Learning Model	Description		
	Experimental Class	Control Class	
Observing	Students read the descriptive text example (Text 1) that is given by the teacher and read it aloud.	Students read the descriptive text example (Text 1) that is given by the teacher and read it aloud.	15'
Questioning	Students are guided to ask what they do not understand about the text.	Students are guided to ask what they do not understand about the text.	5'
Collecting Information	1. Individually, students are asked to make a Duolingo account and join the virtual class. (see Appendix 14 on page 66)	Students learn new vocabulary about verb using flashcard	25'

	2. Students are asked to work on the <i>lesson tree</i> “Kata Kerja: Sekarang” in Duolingo. (see Appendix 15 on page 67)		
Associating	Students are asked to do the exercise in a group. (Exercise 1)	Students are asked to do the exercise in a group. (Exercise 1)	15’
Communicating	Students discuss their answers in the class guided by the teacher.	Students discuss their answers in the class guided by the teacher.	10’
Closure			Time
<ol style="list-style-type: none"> 1) Teacher guides the students to make a conclusion 2) Teacher gives feedback to the students about the lesson 3) Teacher tells the students about the next meeting material 4) Teacher gives the students some assignments to be done in home 5) Teacher closes the lesson 			5’

Meeting 2

Set Induction			Time
<ol style="list-style-type: none"> 1. Teacher greets the students 2. Teacher checks students’ attendance 3. Teacher gives leading question related to the material. 4. Teacher states the learning objectives of the lesson. 			5’
Main Activity			
Teaching-Learning Model	Description		Time
	Experimental Class	Control Class	
Observing	Students observe the video about adjectives that is shown by the teacher.	Students observe the video about adjectives that is shown by the teacher.	15’
Questioning	Students are guided to ask what they do not understand about the material.	Students are guided to ask what they do not understand about the material.	5’
Collecting Information	1. Students are asked to work on the <i>lesson tree</i> “Kata Sifat 1” in Duolingo. (see Appendix 16 on page 69)	Students use a flashcard to learn vocabulary about adjectives and write down the vocabulary they get.	20’

	2. Students are asked to write down the vocabulary they get from the lesson.		
Associating	In a group, students are asked to do Exercise 2 and make a short description using the vocabulary they've written before.	In a group, students are asked to do Exercise 2 and make a short description using the vocabulary they've written before.	15'
Communicating	Students discuss their answers in the class guided by the teacher.	Students discuss their answers in the class guided by the teacher.	15'
Closure			Time
<ol style="list-style-type: none"> 1) Teacher guides the students to make a conclusion 2) Teacher gives feedback to the students about the lesson 3) Teacher closes the lesson 			5'

INSTRUCTIONAL MATERIALS

Leading Questions

MEETING 1	MEETING 2
1. What is “deskripsi” in English?	1. Do you still remember what we learned about the last meeting?
2. What do we talk about when describing someone?	2. Does anyone know what’s “kata sifat” in English?
	3. So, in describing someone, we need some words to express how they look like? What’s it called?

Text 1. Observe and then read aloud the text below.



My father is a good man. He loves his family. He does not get angry easily. He talks to us, his children, about many things. He and my mum often go out together to enjoy the evening. He is friendly to the neighbours.



Aunt Dina is very healthy. She is rarely sick. She is married and has two children. She is more than 40 years old, but her skin is smooth and her face always looks young and beautiful. Oh ya, she exercises almost everyday. She works at a bank. It is almost 2 kms from her home. She has a motorcycle, but she goes to work on foot.



I'm proud of my English teacher. She is smart and very friendly. Her English is very good and very clear. She speaks English to us, and we speak English to her too. She often reads us good stories from different parts of Indonesia. She knows many stories from other countries too.



My brother is very smart. He is also a good football player. He is generous. He is funny, too. I love him very much. But I don't like some things about him. His room is always messy. He puts his things everywhere. Sometimes he is smelly because he is sweaty but he doesn't take a bath straight away. He drinks too much soft drink. He does not like fresh water. I'm often worried about his health.

(When English Rings a Bell kelas VIII, revisi 2017: 77-78)

DUOLINGO VOCABULARY LIST (Experimental Class)from <http://schools.duolingo.com>

Lesson Tree “Kata Kerja: Sekarang”					
1	Write	10	Cook	19	Listen
2	Like	11	Sleep	20	Touch
3	Pay	12	Run	21	Say
4	Walk	13	Want	22	Tell
5	Play	14	Use	23	Make
6	Swim	15	Love	24	Find
7	See	16	Go	25	Work
8	Know	17	Design		
9	Take	18	Show		

Lesson Tree “Kata Sifat 1”	
1. Beautiful	2. Famous
3. Sad	4. Little
5. Wrong	6. Tired
7. Expensive	8. Sad
9. Interesting	10. Final
11. Ugly	12. Possible
13. Happy	14. Different
15. Right	16. Important
17. Cheap	18. Responsible
19. Boring	20. Convenient
21. Popular	22. Afraid

FLASHCARD WORDS LIST (Control Class)**MEETING 1**

1	Write	10	Cook	19	Listen
2	Like	11	Sleep	20	Touch
3	Pay	12	Run	21	Say
4	Walk	13	Want	22	Tell
5	Play	14	Use	23	Make
6	Swim	15	Love	24	Find
7	See	16	Go	25	Work
8	Know	17	Design		
9	Take	18	Show		

MEETING 2

Beautiful	X	Ugly
Sad	X	Happy
Wrong	X	Right
Expensive	X	Cheap
Interesting	X	Boring

Popular	Possible
Famous	Different
Little	Important
Tired	Responsible
Sad	Convenient
Final	Afraid

EXERCISE 1 (MEETING 1)**A. MATCH THE WORDS WITH THEIR ANTONYMS**

No	A
1	Work
2	Love
3	Sleep

B	
A	Hate
B	Like
C	Awake
D	Play

B. MATCH THE WORDS WITH THEIR SYNONYMS

No	A
4	Say
5	Listen
6	Walk

B	
A	Run
B	Talk
C	Quiet
D	Hear

C. COMPLETE THE SENTENCE USING THE CORRECT FORM OF THE WORD IN THE BRACKET

7. She a letter to her friends in Surabaya. (write)
8. He practices swimming every week because he wants to be a (swim)
9. Rara so many people in the field today. (see)
10. Brendon is aso he runs very fast. (run)
11. She buys many candies because she....them. (like)
12. My brother always ... me by phone every week. (call)

D. CHOOSE A, B OR C TO COMPLETE THE SENTENCE.

13. My mother always ... some delicious foods.
 - a. builds
 - b. cooks
 - c. designs
14. I ...to school every morning.

- a. go b. read c. use
15. We a beautiful craft for the school task.
- a. play b. make c. hear
16. An architecta house.
- a. write b. designs c. runs
17. They the answer of the questions.
- a. know b. show c. sleep
18. Youyour book and then put it away.
- a. walk b. see c. take

E. CHOOSE A, B OR C TO COMPLETE THE SENTENCE.

19. Andi : What are you doing?
Firda : I lost my key, I cannot it in my bag.
- a. find c. shout
b. hold d. borrow
20. Abby : I got a headache, please me the medicine box in my bedroom.
Rendy : Sure, wait a minute.
- a. buy c. bring
b. lend d. make

Table of Specification

Vocabulary aspects	Indicator	Kind of test	Number of question	Total
Meanings	Students can identify synonym of the words	Matching	4, 5, 6	3
	Students can identify antonym of the words	Matching	1, 2, 3	3
Form	Students can distinguish the root word and word with prefix or suffix.	Fill in the blank	7, 8, 9, 10, 11, 12	6
Use	Students can know what word should be used in the context	Multiple choices	13, 14, 15, 16, 17, 18	6
	Students can answer questions according to the context in the text or conversation		19, 20	2
Total				20

$$\text{SCORING: Exercise 1} = \frac{\text{the number of the correct answer(s)}}{\text{the number of test items}} \times 100$$

Answer Key

- | | | |
|------|------------|-------|
| 1. D | 7. Writes | 13. B |
| 2. B | 8. Swimmer | 14. A |
| 3. C | 9. Sees | 15. B |
| 4. B | 10. Runner | 16. B |
| 5. D | 11. Likes | 17. A |
| 6. A | 12. Calls | 18. C |
| | | 19. A |
| | | 20. C |

EXERCISE 2 (MEETING 2)**A. MATCH THE ADJECTIVES WITH THEIR ANTONYMS**

No	A
1	Beautiful
2	Sad
3	Wrong
4	Expensive
5	Interesting

B	
A	Right
B	Mistake
C	Boring
D	Happy
E	Ugly
F	Cheap

B. MATCH THE ADJECTIVES WITH THEIR SYNONYMS

No	A
6	Popular
7	Little
8	Tired
9	Sad
10	Final

B	
A	Exhausted
B	Unhappy
C	End
D	Famous
E	Soft
F	Small

C. COMPLETE THE SENTENCES USING A WORD FROM THE BOX BELOW

- 11- He doesn't like watching horror movies because he is of ghost.
- 12- There are a blue book, a red book, and a green book. All of them are
- 13- She is..... because she failed her maths exam.
- 14- The children never do their homework. They are very
- 15- He is..... because he always tells the truth.

DIFFERENT

HONEST

EXHAUSTED

LAZY

SAD

AFRAID

Table of Specification

Vocabulary aspects	Indicator	Kind of test	Number of question	Total
Meanings	Students can identify synonym of the words	Matching	6, 7, 8, 9, 10	5
	Students can identify antonym of the words	Matching	1, 2, 3, 4, 5	5
Form	Students can distinguish the root word and word with prefix or suffix.	Short Essay	16, 17, 18,	3
Use	Students can know what word should be used in the context	Fill in the blank	11, 12, 13, 14, 15	5
	Students can answer questions according to the context in the text or conversation	Multiple choices	19, 20	2
Total				20

SCORING:

$$\text{Exercise 2} = \frac{\text{the number of correct answer(s)}}{\text{the number of test items}} \times 100$$

Answer Key

- | | |
|-------|-------------------|
| 1. E | 11. Afraid |
| 2. D | 12. Different |
| 3. A | 13. Sad |
| 4. F | 14. Lazy |
| 5. C | 15. Honest |
| 6. D | 16. Impossible |
| 7. F | 17. Inconvenient |
| 8. A | 18. Irresponsible |
| 9. B | 19. B |
| 10. C | 20. C |

Appendix 10. Try Out Test

Subject : English
 Language Component : Vocabulary
 Level : Eighth-grade Students of Junior High School
 Time : 40 minutes

A. MATCH THE WORDS IN COLUMN A WITH THEIR ANTONYMS IN COLUMN B

A	B
1. Wrong 2. Sleep 3. Happy 4. Boring 5. Like 6. Ugly	A. Hate B. Awake C. Right D. Interesting E. Beautiful F. Glad G. Love H. Sad I. Mistake

B. MATCH THE WORDS IN COLUMN A WITH THEIR SYNONYMS IN COLUMN B

A	B
7. End 8. Famous 9. Tired 10. Hear 11. Unhappy 12. Small	A. Exhausted B. Sad C. Start D. Popular E. Little F. Big G. Final H. Listen I. Sleepy

C. CHOOSE A, B, C OR D AS THE CORRECT ANSWER

13. She a letter for her friend in Surabaya.
 a. finds b. write c. writes d. find
14. My brother always ... me by phone every week.
 a. call b. comes c. calls d. come
15. Rara so many people when she goes out to the field.
 a. touches b. sees c. tastes d. listens
16. He can't ... anything because he closes his eyes.
 a. see b. feels c. feel d. sees
17. Tom is very..... He never does his homework.
 a. diligent b. responsible c. famous d. irresponsible

18. Money seems when sets beside the joys of family life.
a. popular b. unimportant c. convenient d. important
19. My mother always ... some delicious foods in the kitchen.
a. buy b. cook c. buys d. cooks
20. We a kite for the school task.
a. play b. find c. hear d. make
21. She is..... because she failed her math exam.
a. sad b. fine c. glad d. happy
22. They ... the answer of the questions on the internet.
a. know b. hear c. want d. find
23. There are blue book, red book, and green book. All of them are ...
a. same b. different c. exhausting d. strange
24. He doesn't like watching horror movies because he is of ghost.
a. brave b. lazy c. afraid d. fine
25. He is ... because he always tells the truth.
a. different b. honest c. dishonest d. sad
26. An architect a house.
a. uses b. designs c. buys d. knows

D. ANSWER THE QUESTION BELOW BY CHOOSING A, B, C OR D

- Andi : What are you doing?
Firda : I lost my key, I cannot it in my bag.
27. What's the appropriate word to complete the sentence?
a. find b. hold c. get d. borrow
- Abby : I got a headache, please me the medicine box in my bedroom.
Rendy : Sure, wait a minute.
28. What's the appropriate word to complete the sentence?
a. buy b. take c. bring d. make
- Lala : Have you seen the new Avenger Movie?
Andi : Not yet, but everyone is talking about it lately.
Lala : I've watched it and I enjoyed the movie so much. You should watch it!
Andi : I will, maybe this weekend.
29. Why is everyone talking about the movie? Because it is....
a. old b. new c. popular d. traditional
30. Why does Lala recommend Andi to watch the movie? Because it is....
a. bad b. interesting c. boring d. plain

Distribution of the test items

Vocabulary aspects	Indicator	Kind of test	Number of question	Total
Meanings	Students can identify synonym of the words	Matching	1, 2, 3, 4, 5, 6,	6
	Students can identify antonym of the words		7, 8, 9, 10, 11, 12,	6
Form	Students can distinguish the root word and word with prefix or suffix.	Multiple choices	13, 14, 15, 16, 17, 18, 19,	7
Use	Students can know what word should be used in the context		20, 21, 22, 23, 24, 25, 26	7
	Students can answer questions according to the context in the text or conversation		27, 28, 29, 30	4
Total				30

Scoring = $((\text{the number of the correct answers} \times 3) + 10)$

Answer Key

1	C	6	E	11	B	16	A	21	A	26	B
2	B	7	G	12	E	17	D	22	D	27	A
3	H	8	D	13	C	18	B	23	B	28	C
4	D	9	A	14	C	19	D	24	C	29	C
5	G	10	H	15	B	20	D	25	B	30	B

Appendix 11. Post-Test

Subject : English
 Language Component : Vocabulary
 Level : Eighth-grade Students of Junior High School
 Time : 30 minutes

A. MATCH THE WORDS IN COLUMN A WITH THEIR ANTONYMS IN COLUMN B

A	B
1. Wrong 2. Happy 3. Boring 4. Like	A. Hate B. Right C. Interesting D. Glad E. Love F. Sad G. Mistake

B. MATCH THE WORDS IN COLUMN A WITH THEIR SYNONYMS IN COLUMN B

A	B
5. End 6. Tired 7. Hear 8. Small	A. Exhausted B. Start C. Big D. Little E. Final F. Sleepy G. Listen

C. CHOOSE A, B, C OR D AS THE CORRECT ANSWER

9. She a letter for her friend in Surabaya.
 a. finds b. write c. writes d. find
10. My brother always ... me by phone every week.
 a. call b. comes c. calls d. come
11. Rara so many people when she goes out to the field.
 a. touches b. sees c. tastes d. listens
12. Tom is very..... He never does his homework.
 a. diligent b. responsible c. famous d. irresponsible

13. Money seems when sets beside the joys of family life.
a. popular b. unimportant c. convenient d. important
14. We a kite for the school task.
a. play b. find c. hear d. make
15. They ... the answer of the questions on the internet.
a. know b. hear c. want d. find
16. There are blue book, red book, and green book. All of them are ...
a. same b. different c. exhausting d. strange
17. He doesn't like watching horror movies because he is of ghost.
a. brave b. lazy c. afraid d. fine
18. He is ... because he always tells the truth.
a. different b. honest c. dishonest d. sad

D. ANSWER THE QUESTION BELOW BY CHOOSING A, B, C OR D

Abby : I got a headache, please me the medicine box in my bedroom.

Rendy : Sure, wait a minute.

19. What's the appropriate word to complete the sentence?
a. buy b. take c. bring d. make

Lala : Have you seen the new "Avenger" Movie?

Andi : Not yet, but everyone is talking about it lately.

Lala : I've watched it and I enjoyed the movie so much. You should watch it!

Andi : I will, maybe this weekend.

20. Why is everyone talking about the movie? Because it is....
a. old b. popular c. boring d. traditional

Distribution of the test items

Vocabulary aspects	Indicator	Kind of test	Number of question	Total
Meanings	Students can identify synonym of the words	Matching	1, 2, 3, 4	4
	Students can identify antonym of the words		5, 6, 7, 8	4
Form	Students can distinguish the root word and word with prefix or suffix.	Multiple choices	9, 10, 11, 12, 13	5
Use	Students can know what word should be used in the context		14, 15, 16, 17, 18	5
	Students can answer questions according to the context in the text or conversation		19, 20	2
Total				20

$$\text{Scoring} = \frac{\text{the number of the correct answer}(s)}{\text{the number of test items}} \times 100$$

Answer Key

1	B	6	A	11	B	16	B
2	F	7	G	12	D	17	C
3	C	8	D	13	B	18	B
4	A	9	B	14	D	19	C
5	E	10	C	15	D	20	B

Appendix 12. The Result of the Post-Test

No.	VIII E
	Experimental Group
1	85
2	80
3	85
4	90
5	85
6	80
7	95
8	95
9	90
10	85
11	80
12	85
13	90
14	75
15	95
16	75
17	90
18	85
19	95
20	85
21	80
22	85
23	95
24	85
25	75
26	85
27	90
28	75
29	85
30	75
31	80
32	75
Total	2710

No.	VIII D
	Control Group
1	75
2	85
3	80
4	85
5	75
6	80
7	80
8	70
9	80
10	90
11	80
12	85
13	80
14	75
15	85
16	90
17	90
18	85
19	80
20	75
21	85
22	90
23	80
24	75
25	85
26	75
27	70
28	90
29	85
30	80
31	75
32	70
Total	2585

Appendix 13. Statement Letter for Accomplishing the Research from SMPN 2 Jember



PEMERINTAH KABUPATEN JEMBER
 SMPN 2 JEMBER
 Jalan PB. Sudirman 26 Jember, 68118, Telp. 0331- 484878,
 Fax. 0331-426884, website : www.smpn2jember.sch.id,
 E-mail : info@smpn2jember.sch.id



SURAT KETERANGAN

Nomor: 415.42/108 /413.01.20523857/2019

Yang bertanda tangan di bawah ini Kepala SMP Negeri 2 Jember menerangkan bahwa :

Nama : Husnur Rosyidah Aulia
 NIM : 150210401076
 Program Studi : Bahasa Inggris
 Fakultas : Fakultas Keguruan dan Ilmu Pendidikan Universitas
 Jember
 Jurusan : Bahasa dan Seni

yang tersebut di atas telah selesai melaksanakan penelitian yaitu pada tanggal 23 September 2019 sampai dengan 5 Oktober 2019 dengan judul "The Effect of Duolingo Application on Students' English Vocabulary Mastery" di SMP Negeri 2 Jember Tahun Pelajaran 2019/2020. Demikian surat keterangan ini dibuat untuk dipergunakan sebagaimana mestinya.

10 Oktober 2019
 Kepala SMP Negeri 2 Jember

 M. SUBAKYO, S. Pd. M. Pd
 NIP. 19630813 198602 1 006

Appendix 14. Students' List on Duolingo Virtual Class

https://schools.duolingo.com/classroom/3372680

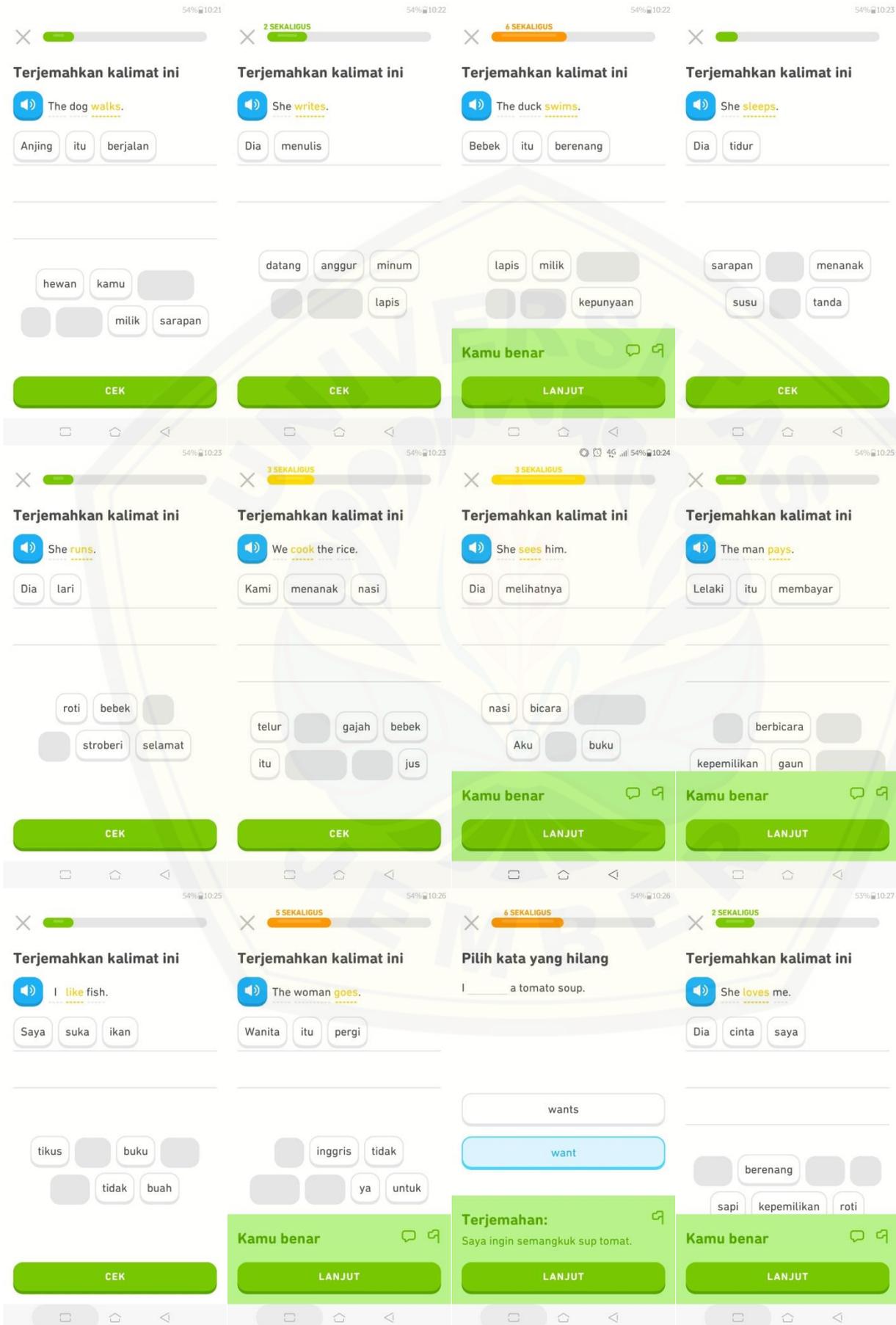
ENGLISH CLASS 8E

Students 32 students More details INVITE STUDENTS

Sort by name

Alif Qodry 391 XP	alqisth soeharto 214 XP
Amel r 35 XP	Aurel rizki 55 XP
Ayuana 35 XP	Bagas Tamvan 190 XP
Dhafina 95 XP	Dyah Fara 35 XP
farhan 153 XP	FARREL 325 XP
Gisa Tattahida 1507 XP	joko 453 XP
MSyaidan Fauzi 129 XP	Muhammad Rafy 169 XP
Muhammad Zaky Irsyad Rabbani 403 XP	mutia
Nadia Ghaniya 2799 XP	Nahwa R 35 XP
NAUFAL A M 55 XP	Nazriel Firdaus S 220 XP
Q'sha lintang 54 XP	R Ibad 35 XP
Rafi tsagif 35 XP	selena 486 XP
Sevina Maharani 720 XP	Tarno Ganteng 349 XP
Thalia Salsabila 231 XP	Viola 793 XP
Wednasandi	Zahra Salini 677 XP
zevana 325 XP	zhalfi aulia'ulhaq ahmad 303 XP

Appendix 15. Students' Activity on Duolingo (Kata Kerja: Sekarang)



The screenshot displays a mobile application interface for English to Indonesian translation practice. The screen is organized into a grid of 20 practice cards, arranged in four rows of five. Each card features an English sentence, a set of Indonesian word options, and a 'LANJUT' (Next) button. The cards are arranged in four rows of five. The interface includes a progress indicator at the top of each card, a speaker icon for audio playback, and a keyboard at the bottom. A large watermark of the Universitas Jember logo is visible in the background.

Row 1:

- Card 1: English: "I use sugar." Options: Saya, menggunakan, gula. Correct: menggunakan.
- Card 2: English: "I play." Options: Saya, bermain. Correct: bermain.
- Card 3: English: "I touch my plate." Options: Saya, menyentuh, piring. Correct: menyentuh.
- Card 4: English: "The children listen." Options: Para, anak, itu, mendengarkan. Correct: mendengarkan.

Row 2:

- Card 5: English: "You say yes, I say no." Options: Kamu, mengatakan, ya, saya, mengatakan, tidak. Correct: mengatakan.
- Card 6: English: "You tell him." Options: Anda, beritahu, dia. Correct: beritahu.
- Card 7: English: "I find it." Options: Saya, menemukannya. Correct: menemukannya.
- Card 8: English: "You work." Options: Anda, bekerja. Correct: bekerja.

Row 3:

- Card 9: English: "We make clothes." Options: Kami, membuat, pakaian. Correct: membuat.
- Card 10: English: "Design it." Options: Desain, itu. Correct: desain.
- Card 11: English: "I take it." Options: Saya, mengambilnya. Correct: mengambilnya.
- Card 12: English: "You show them." Options: Anda, menunjukkan, mereka. Correct: menunjukkan.
- Card 13: English: "I know a woman." Options: Saya, mengenal, seorang, per, mengetahui, tahu. Correct: mengenal.

Row 4:

- Card 14: English: "We make clothes." Options: Kami, membuat, pakaian. Correct: membuat.
- Card 15: English: "Design it." Options: Desain, itu. Correct: desain.
- Card 16: English: "I take it." Options: Saya, mengambilnya. Correct: mengambilnya.
- Card 17: English: "You show them." Options: Anda, menunjukkan, mereka. Correct: menunjukkan.
- Card 18: English: "I know a woman." Options: Saya, mengenal, seorang, per, mengetahui, tahu. Correct: mengenal.

Appendix 16. Students' Activity on Duolingo (Kata Sifat 1)

