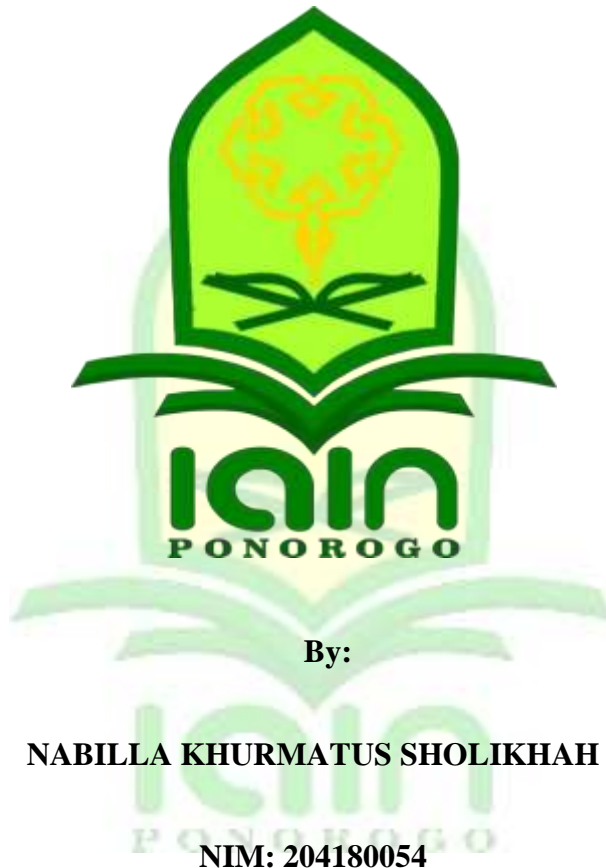


**THE EFFECTIVENESS OF DUOLINGO APPLICATION MEDIA
IN VOCABULARY MASTERY OF
SMK BP SUBULUL HUDA**

THESIS



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OCTOBER 2022**

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THESIS

Presented to

State Institute of Islamic Studies Ponorogo

in Partial Fulfillment of the Requirement

for the Degree of *Sarjana* in English Education



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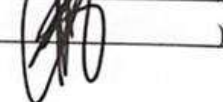
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ABSTRACT

SHOLIKHAH, NABILLA KHURMATUS. 2022. *The Effectiveness of Duolingo Application Media in Vocabulary Mastery of SMK BP Subulul Huda*. Thesis, English Education Department, Faculty of Tarbiyah and Teaching Training, State Institute of Islamic Studies Ponorogo. Advisor, Dr. Ahmadi, M.Ag.

Keywords: *Media, Duolingo Application, Vocabulary*

Media development is overgrowing, one of which is educational media. Media is one component of learning that is essential in teaching and learning activities. Media applications such as the Duolingo application are English vocabulary learning applications. Mastery of vocabulary is also necessary to learn English and foreign languages. The students find many obstacles in mastering vocabulary, such as remembering vocabulary, the minimum number of words mastered, memorizing the meaning of vocabulary and the minimum of media to learn vocabulary. Therefore, with Duolingo application media, it is hoped that students will be more interested in increasing their vocabulary mastery.

This study aims to determine whether Duolingo application media significantly affects vocabulary mastery in class X at SMK BP Subulul Huda. The importance of this research is expected to be helpful information for English teachers, especially in teaching vocabulary. In addition, it can also be used as a teaching medium to improve vocabulary mastery.

This research used a quantitative approach and used a quasi-experimental design. This study uses two classes, the experimental class, and the control class. The population in this study were students of class X SMK BP Subulul Huda. The research samples were 22 students in the experimental class and 21 students in the control class. This study used simple random sampling as a sampling technique. The research instrument with tests and documentation. The data were analyzed using the t-test formula.

The study results indicated that the mean post-test score in the experimental class is 87.86, and the mean score in the control class is 78.57. The data of this study were analyzed by using a t- test. Based on the statistical calculation with the significance level of 5%. The value Sig (2- tailed) of the equal variant assumed 0.000 and $\alpha = 0.05$. Based on data analysis and hypothesis testing, the calculation results obtained that the null hypothesis (H_0) was rejected, and the alternative hypothesis (H_a) was accepted. So, the calculation above can be assumed that there is an effect of the Duolingo application media in mastering the vocabulary of class X students at SMK BP Subulul Huda.

CHAPTER I

INTRODUCTION

In this chapter, the researcher discusses about background of the study, identification the problem, limitation of the study, statement of the problem, objective of the study, significant of the study and organization of the study.

A. Background of Study

The development of this modern era has become a concern for everyone in terms of communication and daily life. Humans are individual creatures who often communicate with other people to meet their daily needs. Humans need a way to communicate so that others can understand their goals. Almost everyone uses sophisticated communication tools. Everyone can easily access information and video applications with a device. The advancement in technology has changed how things used to be done traditionally.¹

Technology is developing very rapidly. Many people who use technology, not only young people but parents, also use technology in their daily activities. Even today's children spend more time playing with technology than studying. Technology has changed many lifestyles. One of them is in the field of education, which is increasingly advanced. The existence of advanced technology can advance methods and media in education.²

Education with advanced media will facilitate learning, increasing students' willingness to learn. Learning media in the learning process will determine students' success in mastering a learning material. Learning media is a tool used to deliver a learning message. The existence of learning media can minimize boredom in students in learning. The use of media in education is one of the efforts to improve student's education quality.³

¹ Amar Ahmad, "Perkembangan Teknologi Komunikasi Dan Informasi: Akar Revolusi Dan Berbagai Standarnya", Jurnal Dakwah Tabligh, Vol. 13, No. 1, Juni 2012, p.146

² R. Raja, P. C. Nagasubramani, "Impact of modern technology in education", Journal of Applied and Advanced Research, 2018: 3(Suppl. 1), p. S33

³ Hujai AH Sanaky, *Media Pembelajaran Interaktif-Inovatif*, (Yogyakarta:Kaukaba Dipantara, 2013), 3.

According to Gerlach and Ely, if a media is understood broadly, by humans, materials, or events, it can build conditions that enable students to get knowledge, skill or attitudes.⁴ The existence of developing educational media can make access to learning media accessible. One of them is electronic learning media. Electronic media are tools that use electromechanical energy in accessing the content inside. Other definition of electronic media is a tool that consists of an information that can be accessed or distributed through the media. There are many electronic learning media such as radio, computers, etc.

There are internet-based electronic learning media. This internet-based electronic learning media can be accessed anywhere and anytime. An internet network and computer equipment are needed in digital simulation learning. As a teaching support media, technology can do many things. Therefore, the world of education is influenced by technology.⁵

Talking about web-based electronic learning media, the internet, and software, learning a foreign language is not a tedious and challenging thing. Even with this media, it will be the most accessible platform and have many benefits and easy to reach, for example Duolingo application media. The Duolingo application media can help students learn foreign languages. This application is a game application while learning. This application can be used anywhere and for free. English and other foreign languages, such as Spanish, Indonesian, French, Italian, German, etc.

Duolingo application media is an application that can be used by technology users. The Duolingo application media can be accessed via the web and mobile phones. The Duolingo application media is an app designed to help students learn in an easy and fun way. Huynh, Zuo and Lida says this application is a collection of game elements used for different purposes without changing the existing system practices.⁶ This application has several popular language

⁴ Azhar Arsyad, "*Media Pembelajaran*", (Jakarta: Raja Grafindo Persada, 2010), 3.

⁵ Song I, "*New Methods for Collaborative Experimental Learning to Provide Personalised Formative Assessment*", (International Journal of Emerging Technologies in Learning (iJET), Vol. 14, No. 7), 179-195

⁶ Duy Huynh, Long Zuo, Hiroyuki Iida, "*An Assessment of Game Elements in Language-Learning Platform Duolingo*", (Japan Advanced Institute of Science and Technology: on 14 August 2018),

learning platforms and this application is the most downloaded application with approximately 300 million users of the Duolingo application. One of the languages studied in the Duolingo application media is English.

In language, one of the languages used to communicate globally is English. English is an international language that is widely used internationally. There are many countries where English is taught, for example, in Indonesia. Therefore, language is an important role used by humans to interact with fellow humans so that social life can be safe, peaceful, and peaceful. One of the important aspects in learning language is mastering vocabulary.⁷ When foreigners learn a new language without mastering the vocabulary of that language, they face the challenge of understanding it. In order to communicate well, students need to have sufficient vocabulary. Mastering other skills without good vocabulary mastery and comprehension is a challenge.

Vocabulary or collection of words of a language. Vocabulary is an essential thing in the process of improving aspects of language development. The more vocabulary you have, the more terminology will be used. Vocabulary is the most important key to communicating and forming sentences. If you don't know the vocabulary, you won't be able to translate the meaning of the word or read. When learning English, students should know vocabulary because once they know the words, they will try to use them to express and communicate their ideas. Vocabulary is one of the factors that helps students learn language skills.

Tarigan states that the quality of one language depends on the quality of the vocabulary one has. The more vocabulary you master, the more likely you will be skilled in the language. Thus, Tarigan's following statement explains that speech is essential in the role of language.⁸ Alqahtani explained that vocabulary acquisition is important for success in English because

⁷ Nurul Puspita and Nurlaily Sabiqoh, "Teaching Vocabulary by Using Crossword Puzzle", (English Education: Jurnal Tadris Bahasa Inggris, Vol 10 (2), 2017), 22.

⁸ H.G. Tarigan, "Pengajaran Kosakata", (Bandung: Angkasa, 1984), 286

without a broad vocabulary, students cannot communicate well using the structures and functions of the existing language.

There are several components of vocabulary mastery, including pronunciation, spelling, meaning, and grammar. Pronunciation is emphasized in production and pronouncing a word. It is crucial to master vocabulary because, in English, several vocabularies have almost the same accent and have different meanings. In addition to knowing how to pronounce a word and spell words, students must understand what certain words mean; grammatical patterns can also affect students' mastery of English vocabulary.⁹

Learning vocabulary in vocabulary mastery is considered difficult for students. It can cause students less interested with explanations given by the teacher to students. A teacher is expected to have media as a teaching system so students can be more active in learning. In learning English, students are expected to be able to speak English. But in reality, many students have difficulty understanding English and conveying their ideas. One of the reasons many students have problems learning English and expressing their opinions is the lack of English vocabulary. In teaching vocabulary mastery, a teacher must be able to create vocabulary teaching strategies. Teaching is creating an environmental system that allows the learning process to occur. The purpose of the learning delivery strategy is a way to convey learning to students and or receive and respond to input from students so that during the teaching and learning process, they do not feel bored.¹⁰

Students who do not understand vocabulary will create incomplete communication due to a lack of understanding. This aspect is partly due to the lack of learning media that enable students to master English vocabulary. From the following description, some factors cause students to have difficulty understanding English, especially in mastering vocabulary.

⁹ Elda Martha Sur, “*Improving Students’ Vocabulary Mastery by Using Songs at The Grade Sixth of State Elementary School of 45 Bungo Pasang Padang*”, (EDU RESEARCH; Jurnal Pendidikan Vol.1 No.1 Juli 2012), 11.

¹⁰ Dr. H. Mulyono dan Ismail Suardi Wekke, “*Strategi Pembelajaran di Abad Digital*”, (Bandung: Gawe Buku, 2018), 3

Therefore, this problem of the lack of students mastering language must be identified so that the problem can be solved and students' ability to master vocabulary can be fulfilled.

Based on the researcher interview at SMK BP Subulul Huda, the researcher found that the important factors which made students reluctant to learn English were weakness and vocabulary. Therefore, the researcher is interested in trying a media that can improve teaching media (especially in English lessons) to help students increase their vocabulary mastery, namely the “Duolingo Application Media”. The researcher want to see the effectiveness of the Duolingo application media if it is applied by a teacher in teaching students of SMK BP Subulul Huda. It aims so that there is a positive atmosphere in the classroom. It can also be an alternative way to maintain students' vocabulary. Based on this description, the researcher intends to conduct an quasi-experimental study with the title **“The Effectiveness of Duolingo Application Media in Vocabulary Mastery of SMK BP Subulul Huda”**.

B. Limitation of Study

In this quantitative study, the researcher focus on the effectiveness of Duolingo application media in vocabulary mastery of SMK BP Subulul Huda.

C. Statement of the Problem

Is there effectiveness of the Duolingo application media in vocabulary mastery of SMK BP Subulul Huda?

D. Objective of the Study

To find out if there is effectiveness of the Duolingo application media in vocabulary mastery comparison degree at SMK BP Subulul Huda.

E. Significances of the Study

In learning English, vocabulary is an essential component of students in their lives to communicate well. With vocabulary knowledge, master their vocabulary well. Therefore, this research will be helpful:

1. For the teacher

Based on the research, the researcher hopes Duolingo application media can be teachers' media in teaching english, especially regarding understanding and memorizing vocabulary. So that the learning process in class is more exciting and students will be active, especially in SMK BP Subulul Huda.

2. For the student

For students, the researcher hopes that mastering English lessons using the Duolingo application media will make student interested when learning English at class or home. Students can also solve problems in understanding the meaning of words in sentences. Therefore, the Duolingo application media can be used anywhere and anytime because it can help them to memorize vocabulary and used in daily communication.

3. For the readers

This research is expected to provide new knowledge for readers and further researchers can conduct better teaching and learning case research, to be able to solve new vocabulary problems and teachers who have similar problems with this research.

F. Organization of the Study

In this research, the researcher uses organization of the thesis that consist of five chapters. The organization of this thesis are:

Chapter I provides introductions to the research. This chapter consists of the background

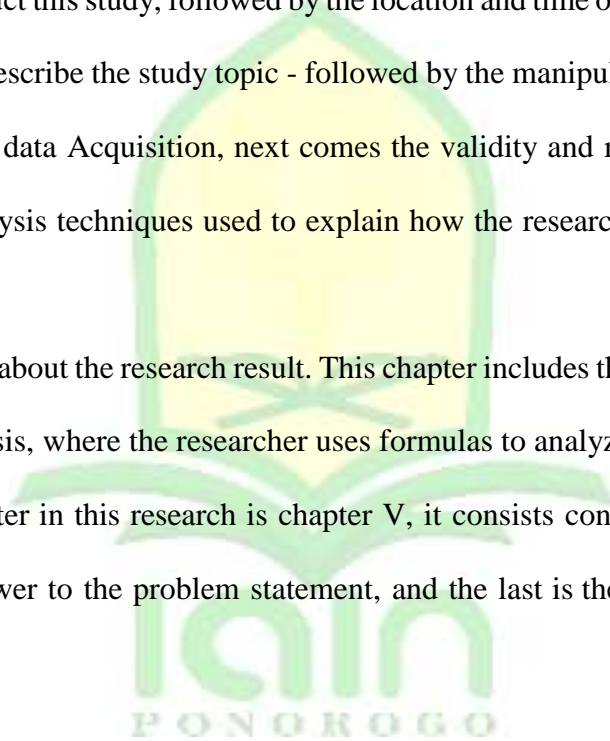
of the study to explain the keyword from this research and the limitation of the problem to the focus of this research. Next, the statement of the problem, objectives of the study, significance of the study, and the last organization.

Chapter II includes previous research to find similar issues from other research papers. Next, the theoretical background explains the key words of this research from some theories of some experts. Based on these previous studies and theoretical frameworks, the last one is a hypothesis to demonstrate whether the method works.

Chapter III consists of the study design, explaining how the researcher used the technology to conduct this study, followed by the location and time of the study, the population and the sample to describe the study topic - followed by the manipulation to define a variable, a research tool and data Acquisition, next comes the validity and reliability of the data; and lastly, the data analysis techniques used to explain how the researcher analyzes the research data.

Chapter IV is about the research result. This chapter includes the description of the study data and data analysis, where the researcher uses formulas to analyze the data appropriately.

The last chapter in this research is chapter V, it consists conclusion from the research results and the answer to the problem statement, and the last is the recommendation on the impact of the study.



CHAPTER II

REVIEW OF RELATED LITERATURE

In this chapter, the researcher discuss about theoretical background, conceptual framework, previous research finding and hypothesis.

A. Theoretical Background

1. Learning Media

a. Definition of Learning Media

Media is an essential factor in improving the quality of learning. The word media comes from the Latin “*Medius*,” which means middle, intermediary, or introduction. As in Arabic, the media is an intermediary or introductory message from the sender to the recipient of the message. Broadly speaking, media is defined as any tool that can be used as a vehicle for connecting learning information or distributing messages to achieve learning objectives. According to Gerlach and Ely, media, if the media is understood broadly, are humans, materials, or events that build conditions that enable students to acquire knowledge, skills, or attitudes.¹¹

There are limits that people place on media. The *Association of Education and Communication Technology* in America determines the media as the form and channel used to convey messages or information. Gagne states that the media are various components in the student's environment that can stimulate him to learn. In comparison, electronics are tools made according to the principles of electronics.¹² So, electronic media are media that use electromechanical energy. It can be concluded that electronic media is all information or data that is created, distributed, and accessed using electronic forms. In comparison, electronic learning media is a learning media that uses electronic tools. A helpful learning media for learning facilities in schools

¹¹ Djamarah, S. B, “*Strategi belajar mengajar*”, (Jakarta : Rineka Cipta, 2014), 11.

¹² Azhar Arsyad, “*Media Pembelajaran*”, (Jakarta: Raja Grafindo Persada, 2010), 3

aims to improve education quality and benefit teachers and students.¹³

Technology such as computers and smartphones can also put a role in education as a media. Media is anything that carries information to ease the communication between the source and the receiver in learning¹³. Media is divided into three, text, audio, and visual. Those are used as tools in learning to make it easier, not boring, and become more active. The technology used as media is called digital media, the newest media today. According to Shelly, what it means by digital media is any computer-based presentation or application software that uses multimedia elements.¹⁴ He also argued that the best strategy for curriculum integration is to put technology into the hands of trained teachers, make it easily accessible, and let them decide how best to use it at the point of instruction in their classroom. The end of Shelly's statement is that using technology in teaching should be handled well by the teacher, and more importantly, the use of it should be under the guidance of the teachers' instruction.¹⁴

b. Types of Learning Media

In determining the appropriate media for students' vocabulary knowledge, the teacher needs to understand the purpose of the media that can make language learning, especially vocabulary, effective and successful. Many media types can be used based on the time condition and learning objectives.

Each type of media have specific characteristics that should be understood for the teachers, so it can to determine the appropriate media based on their needs and conditions in the class room. Those classification types of media as follows:

1. Print Media: News Paper, Magazines, Digest, Journals, Bulletins, Handouts, Poster etc.

¹³ Kamus Besar Bahasa Indonesia (KBBI), <http://kbbi.web.id/elektronik>, 2016.

¹⁴ Sharon E. Smaldino, Deborah L. Lowther, dkk, "*Instructional Technology and Media for Learning*", (New Jersey: Pearson Education, Inc.2011), 7.

2. Graphics Media: Overhead transparency Charts, Graphs Models, Dioramas, Maps, Globes
3. Photographic Media: Still Pictures, Slides, Filmstrips, Motion Pictures, Multi-images etc.
4. Audio Media: Audiotape, Audiocassettes, Records, Radio, Telecommunication
5. Television/Video: Broadcast Television, Cable Television, (Videotape, Video Cassettes, Videodiscs, Teletext, Videotext) etc.
6. Computers: Minicomputer, Microcomputer etc.
7. Simulations and Games: Boards, Written, Human, Interaction, Machine etc.¹⁵

Learning support media can help teachers provide knowledge in an exciting way for language teaching in the classroom and make the learning environment more enjoyable.

c. The Advantages of Learning Media

Teaching the English language through media is as a pedagogical tool to aid the learning process. Using media in the learning process can increase the motivation and new desire of the students. Generally, the advantages of media are to smooth the interaction between teachers and students, so it will be more effective and efficient. According to Kemp and Dayton¹⁶, here are some advantages of using media, there are:

1. Delivering of subject materials can be equalized.
2. Learning process becomes more clear and interesting.
3. Learning process becomes more interactive.

¹⁵ Ahsan Akhtar, Rafaqat Ali, "Use of Media for Effective Instruction its Importance: Some Consideration", 2014, 114-116

¹⁶ Wan Falahudin, "Pemanfaatan Media dalam Pembelajaran", Jurnal Lingkar Widyaiswara, Edisi 1 No.4

4. Efficiency in time and energy.
5. To improve the quality of the result of the learning process.
6. Using media can be used in learning process wherever and whenever.
7. Using media can improve students' positive attitude toward the material and learning process.
8. To change the role of the students in a more positive direction and productive.
9. Media can make abstract material become more concrete.
10. Media can also overcome the limitations of space and time.
11. Media can help to cope the limitations of the human senses.

Related to the explanation above, media can be utilized for learning purposes.

Media is one component of the learning process, the use of media should increase students attention in every learning process. Through various media, students will be able to interact actively to achieve educational goals.

2. Duolingo Application Media

a. Definition of Duolingo Application

Technology is developing rapidly. Those discoveries are unavoidable and make big changes in our life, as in the industrial, communication, and even educational aspects. In the world of education, there have been changes in teaching after the technology entry. It can help teachers in teaching, assessing and evaluating.

Technology such as computers and smartphones can also put a role in education as a media. Media is anything that carries on information to ease the communication between the source and the receiver in learning.¹⁷ Media is divided into three, text, audio, and visual. Those are used as learning tools to make

¹⁷ Sharon E. Smaldino, Deborah L. Lowther, dkk, *"Instructional Technology and Media for Learning"*, (New Jersey: Pearson Education, Inc.2011), 7. Jersey: Pearson Education, Inc.2011), 7.

it easier, not boring, and become more active.

Duolingo is the world's largest online language learning platform.¹⁸ Duolingo app is a language learning app. In 2011, Luis Von and Severin Hacker created the Duolingo app to provide free education. More than 30 million users of the Duolingo app are currently learning. Duolingo in the application provides several services to users, such as learning English and other foreign languages.¹⁹ Moreover, Duolingo provided vocabulary practice and gave opportunities for students to evaluate their knowledge and identify the need to continue improving.²⁰

The Duolingo application features are very diverse and convenient for beginners who are learning a new language from the ground up. It's straightforward to use because it's simple to use. Because Duolingo's goal is to be used by people of all ages. According to Munday, the Duolingo app is preferred over regular assignments and media because of the convenience it provides.²¹ In conclusion, the Duolingo application is more interesting, so it has become one of the media used in teaching.

The Duolingo app is a game app, but not a game like a classic game. The games in the Duolingo application are very closely related to education, especially in learning foreign languages. On its use, five hearts will be given whose function is for the user's life. The user will lose one life on the wrong answer, and when the energy runs out, the user will have to repeat the lesson. Based on the explanation above, the author can conclude that Duolingo is an online platform and mobile

¹⁸ Vasselinov, R., and Gergo, J, “*Duolingo Effectiveness Study*” (USA: City university of NewYork, 2012),2.

¹⁹ Munday, P, “*The case for using DUOLINGO as part of the language classroom experience*”, (Revista Iberoamericana de Educación a Distancia, 2016, 19(1)), 83- 101.

²⁰ Guaquet, Cesar, & Castro, Angela Yicely, “*The use of learning apps a didactictool for EFL Vocabulary Building*”*ERIC Journal* Vol 11, No.2 : 2018,29.

²¹ Munday, P, 96

application that offers users a free and innovative way to learn new languages.

b. Characteristics of Duolingo Application

There are several characteristics in the Duolingo application, including:

1. Achievements is a Duolingo application feature given out when the learners or users has been completed the lessons through best effort.²²



Figure 2.1 Achievements of Duolingo

2. Lingots is a small jewel icons that the learners have completed the activities and level successfully to get “lingots”. It can be changed for bonus practices.



Figure 2.2 Lingots of Duolingo

3. Crown Levels are new feature in Duolingo application. Each skill has a

²² Duolingo Guide for Leaders in Education, Document accessed on <https://schools.Duolingo.com> on 30 January 2021. 49

“Crown Levels”. When you have completed a skill, you will get a crown, and continued to new skills.



Figure 2.3 Crown of Duolingo

4. Daily Goal is about appreciation for the learners who have completed a daily goal. Duolingo application gives a rewards to them with surprising sounds and unique pictures and make the learners feel more enjoyable.



Figure 2.4 Daily Goal

5. Duolingo application also provides the learners with various types of exercises within a lesson or unit, such as:
 - a. Vocabulary, in which the users see a picture and be asked to choose it with correct answer.

- b. Pronunciation, in which the users will be asked to repeat or say asentences what they hear.
- c. Listening, in which the users will hear an audio clip of word or sentence and have to type it correctly.
- d. Translation in which the users will be asked to translate a word or asentence into the language they want to know or learn.



Figure 2.5 Various Types of Duolingo

c. Advantages Duolingo Application

There are several advantages to using the Duolingo application. The advantages include:

1. Duolingo application is a language learning media that can be used to increase student activity in the learning process. Because the Duolingo application incorporates several game design techniques in learning, and can motivate and engage students in learning Duolingo.²³
2. Duolingo can create a homework so besides learning in classroom, Duolingo also can support to make students practice to improve their vocabulary with Duolingo at their home. Based on research which done by Munday.²⁴
3. The Duolingo application can be accessed anywhere and anytime, making it easier for students to learn anywhere and anytime.

²³ Munday, P, 88.

²⁴ Munday, P, 93.

d. Disadvantages Duolingo Application

The disadvantages that exist in the Duolingo application include:

1. Duolingo is an online media learning, so it is hard to implement in classroom if there is no internet connection.
2. If they want to use the Duolingo app in class, they have to set up a projector. So that students are more active and they will participate more in lessons.
3. Using the Duolingo app in class and using a projector can hinder lessons and waste class time.
4. In listening, the way sentences are pronounced is not that of representing the native speaker. The machine can never really provide the learners with a great listening activity when it is automatic.

e. Teaching Vocabulary by Using Duolingo Application

This Duolingo application can help students to develop their English vocabulary knowledge. Students must have good skills in building vocabulary.

At least, students can get three useful advantages when using the Duolingo application. First, increasing students' motivation in learning by using the Duolingo application. Second, there are interesting features in the Duolingo application so that students like and don't get bored using the application. In addition, this application can be used to understand the meaning of words. The Duolingo application can be played individually in the classroom after the delivery of material from the teacher. There are several practical steps that students can use in learning new vocabulary. Teachers can select and customize played individually in the classroom after the delivery of material from the teacher. There are several practical steps that students can use in learning new vocabulary. Teachers can select and customize materials based on the existing

curriculum. There are several steps to teach vocabulary using the Duolingo application, namely:

1. Provide students with materials based on English book without using Duolingo application. Students can identify the words used in the text.
2. After the student understand the words, provide the students with some exercises. The students can be asked to put the words and detail from the text.
3. After the materials have been delivered to the students, they should be ready to learn new vocabulary by using Duolingo application.

To simply help the readers to understand the function of each part of Duolingo application, there are several steps can be conducted in the classroom learning activities as follows:

First, to use this application, students can open a website for the Duolingo application, namely (<https://www.duolingo.com>). Users can create an account in advance or access activities without an account. However, users can only save their progress by creating an account.²⁵



Figure 2.6 Menu of Duolingo

²⁵ Duolingo Guide for Leaders in Education, Document accessed on <https://schools.Duolingo.com> on 12 June 2021, 11.34.

Next, after creating an account, the students can choose the English language to study and immediately begin activities.²⁶



Figure 2.7 Various Language of Duolingo

Then, the students are able to take a quiz to progress to more advanced units. The learning experience is broken up into themed units which start from “Basics” and can range from thematic vocabulary sections such as “Food” or “Family” to more advanced grammar topics such as “Past Perfect” and “Subjunctive Past”.



Figure 2.8 Quiz of Duolingo

Finally, the students can access their progress through the quiz. Each quiz is around 10 to 20 questions that focus on improving vocabulary through pronunciation skills, translation, listening comprehension, and vocabulary knowledge. There are several levels in the Duolingo application, namely:

1. Level 1: basic 1, basic 2, Phrases, Food, Animals, Plurals, Possessions, Object Pronouns, Clothing, Present Verbs 1, Colors, etc.

²⁶ Duolingo Guide for Leaders in Education, 12 June 2021, 11.34.

2. Level 2: Questions, Conjunctions, Prepositions, Date and Time, Family, Occupation, Adjectives 1, Present Verbs 2, Adverbs, Places, Objects, etc.
3. Level 3: Abstract nouns 1, Comparison Degree, Infinitive Verbs 2, Connecting Verbs, Gerund Verbs, Art, Communication, etc.

When each lesson has completed well, the lesson is leveled-up to the next lesson and is then unlocked and get a crown.²⁷

3. Vocabulary Mastery

a. Definition of Vocabulary Mastery

The difficult subject for students is English, this is due to the lack of sufficient mastery of vocabulary and limited knowledge of students so that students find it difficult to understand the meaning. According to Webster, vocabulary is the total number of word which makes up language, range of words to us by a person in a trade and profession, and book containing a list of words with their meaning.²⁸ According to Liu Yu Vocabulary is a basic aspect of language mastery.²⁹ Vocabulary knowledge is important in language learning because limited vocabulary in the language will hinder complete communication and vocabulary is a big role for students in acquiring vocabulary. So, there will be complete communication if we know the meaning of the sentence. David Wilkins 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.³⁰

²⁷ Duolingo Guide for Leaders in Education, 12 June 2021, 11.34.

²⁸ Webster, *The New International Webster's Comprehensive Dictionary of The English Language* (United States:Trident Press International, 2003), 1407.

²⁹ Liu Yu, *Vocabulary Recognition and Memorization A comparison of Two Methods* (Spring : Kristiantad University,2011), 32

³⁰ Dina Amalia, “The Effect Of Duolingo Application On The Students' Achievement In Vocabulary”, (Medan: FacultyOf Teacher Training And Education University Of Muhammadiyah Sumatera Utara, 2019, 39.

From the point of view of the use of vocabulary can vary from the field of class, profession and social status. In academics, Wessel on Arina believes that vocabulary is very important for students' academic success. Difficulties in understanding the content of the text can occur if students do not master the meaning of words in the text.³¹ Academic books consist of many dictions to avoid saturation of the readers. Therefore, students are required to be able to master vocabulary so that it is not difficult to understand information from books.

Therefore, we can assume that vocabulary is an important component of the English language which carries meaning to use in communication. It is a must to master it in order to acquire English language. According to Anderson, vocabulary mastery includes knowing the meaning of words, whether students can place the words they get with synonyms, dictionary type definitions or equivalent words in their own dictionaries.³² Mastery of vocabulary is very important for people learning English for a foreign language or for a second language. Vocabulary mastery is an important aspect of language two and foreign language acquisition and can be a measure of students' ability to understand English words, how far students understand English words and how far they can relate the language to their first language.

Cremer, Dingshoff, de Beer and Schoonen claim that vocabulary knowledge does not only involve knowing a multitude of words, but also necessitates

³¹ Arina Afyanti Shadikah, Endang F, dkk, "The Effect of Vocabulary Learning Strategies on Vocabulary Mastery Based on Gender Differences", (Proceeding of 2nd International Conference of Arts Language and Culture), Published Journal, 496.

³² J. Charles Alderson, Lyle F. Bachman., "Assessing Vocabulary", (Cambridge: Cambridge University Press, 2000), 16.

acquiring various types of knowledge regarding each word and creating semantic networks among multiple lexical items.³³ Alqahtani cites that, vocabulary mastery as a complete knowledge or complete skill. From this explanation, mastery means complete knowledge or great skill that makes someone master a certain subject.³⁴

These are some of the assumptions of experts about vocabulary mastery. Vocabulary relates to words and their meanings, while vocabulary mastery is comprehensive knowledge to recognize, understand and produce words and their meanings.

b. Kinds of Vocabulary

Hatch and Brown indicate there are two kinds of vocabulary those are:

1. Receptive Vocabulary

Receptive vocabulary is vocabulary that is recognized and understood by the learner in a context. This receptive vocabulary is only rote. In this case, vocabulary mastery is closely related to the knowledge gained from listening (listening skills) and reading (reading skills).

2. Productive Vocabulary

This productive vocabulary is closely related to receptive vocabulary. Productive vocabulary is words that are learned by the learner and spoken by the learner correctly and used constructively in speaking and writing. This involves what is used for receptive vocabulary plus speaking or writing skills. Therefore, productive vocabulary can be considered as an active

³³ Cremer M, Dingshoff D, De Beer M, & Schoonen, R, "Do word associations assess word knowledge? A comparison of L1 and L2, child and adult word associations" *International Journal of Bilingualism*, 2011, 15(2), 187-204

³⁴ M Alqahtani, p.21-34

process because learners can produce words to express thoughts to others.³⁵

Vocabulary mastery has various types. Types of vocabulary mastery according to Thornbury namely as following:

a. Word Classes

Word classes are language or word usage related to morphology. However, this type is often referred to as parts of speech which can be in the forms of nouns, verbs, pronouns, adverbs, adjectives, prepositions, and conjunctions.

The parts of word classes are as follows:

1) Nouns

Nouns are defined as words that denote people, animals, things, or place. The types of nouns are Proper nouns (Adam, Suraj, Pia, Kareen, Kapoor, America, January, Monday, etc.), Common nouns (boy, girl, man, woman, city, country, state, village, etc.), Concrete nouns (whale, table, teacher, television, tiger, etc.), Abstract nouns (fear, excitement, freedom, pain, etc.), Compound nouns (breakfast, bedroom, blackboard, etc.), Uncountable and countable nouns (table, chair, pencil, door, rice, sand, flour, knowledge, etc.), Collective nouns (A troupe of dancers, A hive of bees, A pair of shoes, etc.), Material nouns (gold, wood, iron, etc.), Possessive nouns (students' grade, Shiva's bag, Dito's shoes, etc).

2) Pronouns

Pronouns are a word that replaces a noun or a noun phrase in a sentence. The types of pronouns are Personal pronoun (I, you,

³⁵ M Alqahtani, p. 25

they, we, she, he, it, us, him, her, them), Relative pronoun (who, whose, whom, which, that), Demonstrative pronoun (this, that, these, those), Reciprocal Pronouns (each other and one another), Indefinite Pronoun (any, all, anyone, everybody, few, none, etc.), Interrogative pronouns (who, whom, what, which, whose), Reflexive and intensive pronouns (myself, yourself, himself, itself, themselves, etc).

3) Verbs

Verbs are words that show what a person or thing is doing. The types of verbs are Auxiliary (is, am, are, was, were, been, grow, prove, remain, turn etc.), Modal verbs (can, could, will, would, etc.), Linking verb (be, am, is, are, been, become, seem, etc.), Main verb (act, agree, ask, attack, appeal, etc.), Finite verbs (he eats, she eats, it eats, etc.). Nonfinite verbs (gerund, infinitives, participles). Transitive verbs (I kicked the ball, he loves her), Intransitive verb (she cried, I coughed), Regular verbs (acted- acted, accepted- accepted), Irregular verbs (begin- began begun, draw- drew- drawn).

4) Adjectives

Adjectives are words used to describe nouns to limit or characterize the noun. The types of adjectives are Descriptive adjectives (big body, beautiful girl, bad boy), Distributive adjectives (every, each, either, neither, etc.), Possessive adjectives (My, our, your, him, etc). Demonstrative adjective (this, that, those, these). Interrogative adjectives (what, when, which, where, etc) quantitative adjectives (many, much, a few, little, etc).

5) Adverbs

Adverbs are a word used to explain/modify an adjective, verb, or define another adverb. The types of adverbs are Simple adverb (before, ahead, go there, in the office, twice a day, quickly, almost, etc.), Interrogative adverbs (when, how long, seldom, how soon, how often.), Relative adverbs (I asked him how he went, I asked him where he went, etc.). Adverb of Probability (perhaps, may be, possibly), Adverb of negation (No, I can't do it, he has never been to London), Inversion (never again shall I listen to such people, I didn't stop time, and neither did he).

6) Prepositions

Prepositions are words usually used before a noun and pronoun to show the relationship between the noun and pronoun and other words in the sentence. The types of prepositions are preposition of time (at four o'clock, in the afternoon, on Monday, etc.), Preposition of place (at Batu Malang, in London), Preposition of movement/direction (running past my house, get into the car, etc.).

7) Conjunction

Conjunction are used to connect or combine words, phrases, or clauses in a sentence. The types of conjunction are Coordinating conjunction (or, but, for, and, yet, so, etc.) and Subordinate conjunction (after, before, whether, as, how, then, although, since, that, if, because, etc).

b. Word Formation

Word formation is the method of how existing words are formed and how new words are created. The types of word formation is Derivation, Compounding, Inflection, Internal change, Suppletion, Reduplication, Cliticization, Conversion, Clipping, Blending, Back formation, Acronym, Onomatopoeia, and Coinage.

c. Word Families

Word families are groups of words that have a common pattern or groups of letters with the same sound. For example the “ain” word family includes brain, chain, gain, pain, rain, and so same sound.

d. Multi-word Units

Multi-word units are a type of English vocabulary skill that forms a verb phrase or as an idiom. Multi-word units are multi word, conventional, and frequent units that vary in length and cross lexicon and syntax. For example: look after, look at, for, etc.

e. Collocation

A natural combination of words is referred to as collocation, and it relates to the way English words are strongly related to one another. For example, do and homework go together, as do make and mistakes, tall goes with man/woman and high with mountain.

f. Homonym

We use the term homonym when one form (written or spoken) has two or more unrelated meanings. For examples bank (of a river) – bank (financial institution), pupil (at school) – pupil (in the eye).³⁶

³⁶ Scott Thornbury, “*How to Teach Vocabulary*”, Jeremy Harmer (England: Pearson Longman, 2002), 89.

c. Aspects of Vocabulary Mastery

1. Pronunciation

Pronunciation refers to the way in which these words are formed verbally (using different speech sounds). Phonetic transcription is linked to pronunciation. Because the phonetic transcription captures speech sounds, it can be utilized as a dependable guide for controlling spoken language. Sounds, syllables, and words are the primary components of pronunciation.³⁷

2. Spelling

Spelling refers to the way we structure words visually (using letters of the alphabet). There are a few crucial considerations to keep in mind (pronunciation and spelling) the learner must understand how a word sounds, as well as its spelling and pronunciation.

3. Meaning

Nation and Cameron argue ways to explain the meaning of new words in the young learner classroom that is by using an object, a cut-out figure, gesture, performing an action, photograph, drawing or diagram on the board, and picture from story book.³⁸ Actually, finding the meaning for the new foreign language word is the amount of mental work done by the learner. Affects well a new word is engraved in memory, the students have to think it's about word and meaning, the more likely they are to remember it. Ur says that to find the meaning it can be done through translation that is word

³⁷ Penny Ur, "A Course in Learning Teaching" (Cambridge New York: Cambridge University Press, 1996), 77.

³⁸ Cameron, Lynne, "Teaching Language to Young Learner. Cambridge Language Teaching Library" Cambridge: Cambridge University Press, 2001, 109.

in learners' mother tongue that are equivalent in meaning to the item being taught.³⁹

4. Grammar

Grammatical information is tied into words, and learning words can take students along the way into grammar. This suggests that if we give a high priority to vocabulary, we are not there by abandoning grammar.⁴⁰ The grammar of vocabulary need to be taught if this is not obviously covered by the grammatical rules. When teaching a new verb, for example, we might give also its past form.⁴¹

d. Problems of Vocabulary Mastery

For EFL students, especially Indonesia. They will definitely find it difficult to remember and understand vocabulary. There are many factors that can cause the mastery of the vocabulary to be hampered. One of them is, the students are bored with the teacher's explanations and strategies.

Many students recognize a word in written or spoken form and think they have understood it, but they may not be able to use the word correctly in a different context or pronounce it correctly.⁴² There are several steps in mastering vocabulary, using productive ways such as writing or speaking is a way to master vocabulary. However, it was found that students were afraid to express their thoughts through words they knew. Furthermore, there are another factors that

³⁹ Penny Ur, "A Course in Language Teaching: Practice and Theory", Cambridge: Cambridge University Press, 1997.

⁴⁰ Cameron, Lynne, "Teaching Language to Young Learner. Cambridge Language Teaching Library", Cambridge: Cambridge University Press, 2001.

⁴¹ Penny Ur, "A Course in Language Teaching: Practice and Theory", Cambridge: Cambridge University Press, 1997.

⁴² Ali Sorayaie Azar, "The Effect of Games on EFL Learners' Vocabulary Learning Strategies", (International Journal of Basic and Applied Science. Vol. 01, No. 02 2012). p.252.

often make the students get difficulties to learn vocabulary. As stated by Thornbury, the problems are: ⁴³

1) Pronunciation

For students, words that sound foreign have the potential to be words that are difficult for students to understand. Research shows that the more difficult the words are to pronounce, the more difficult they are to learn.

2) Spelling

Words that contain silent letters are particularly problematic, such as foreign, listen, honest, etc.

3) Length and complexity

Long words are usually no more difficult to learn than short words. But, as a rule of thumb, high-frequency words usually tend to be short in English, and therefore learners tend to run into them more often, a factor favouring their „learnability“. The word “odd” may be chosen by students rather than using word “peculiar”, even though both have same meaning.

4) Grammar

Another problem is the grammar associated with words, especially if these are different from their first language equivalents.

5) Meaning

When two words overlap in meaning, learners are likely to confuse them.

e. Teaching Vocabulary Mastery

There are several techniques in teaching vocabulary, but there are some things that some English teachers must keep in mind in presenting new vocabulary. That is, the English teacher wants students to remember the new vocabulary taught which will then be practiced to prevent students from forgetting

⁴³ Scott Thornbury, p. 27-28

the techniques used by the teacher.

Here are some techniques of teaching vocabulary as stated by Brewster, Ellis, and Girard: a) Using illustration and pictures b) Drawing c) Using objects d) Contrast) Enumeration f) Mime, expression and gesture g) Guessing from context h) Eliciting.⁴⁴

4. Mobile Assist Language Learning

a. Background of Mobile Assisted Language Learning (MALL)

When, in 1973, the mobile devices were invented for the first time, no one ever thought someday they would become an important part of routine life. As soon as mobile phones became a crucial part of our lives, there felt a need for using them in language learning tasks.

Learning through the mobile phone or m-learning provides the learners with the opportunity to learn where they are on the bus, outside or at work doing part-time jobs. In fact, they can learn every time and everywhere they are.⁴⁵

According to Trifanova et al. in *The Open University, UK Journal*, by Agnes Kukulska-Hulme & Lesley Shield define the mobile device as "...any device that is small, autonomous and unobtrusive enough to accompany us in every moment". Typically, m-learning is identified both by being available, "anywhere, anytime".⁴⁶

Mobile Assisted Language Learning (MALL) is a merging language teaching methodology which can effectively integrate listening, reading and speaking activities. It can also develop the academic study, critical thinking and

⁴⁴ Takac, v and Singloten D, "*Vocabulary Learning Strategies and Foreign Language Acquisition*", (Canada: Multilingual Matters Ltd, 2008), 26.

⁴⁵ Tayebeh Mosavi Miangah and Amin Nezarat, "Mobile-Assisted Language Learning", *International Journal of Distributed and Parallel System (IJDPSS)*, Vol III, No. 1, (January 2012), 310.

⁴⁶ Agnes Kukulska-Hulme & Lesley Shield, "An overview of Mobile Assisted Language Learning: Can Mobile device support collaborative practice in speaking and listening ?" *The Open University, UK Journal*, (September 2007), p. 3.

research skills.⁴⁷

Mobile Assisted Language Learning (MALL) deals with the use of mobile technology in language learning. Students do not always have to study a second language in a classroom. They may have the opportunity to learn it using mobile devices when they desire and where they are. As learning English is considered the main factor for professional a criterion for being educated in many communities, providing a more convenient environment for people to learn English is one of the educational goals towards improving the students' achievement and supporting differentiation of learning needs.

The materials can phone to improve English language learners' vocabulary acquisition and critical thinking skills. Students can read the definitions of words, sentences, improve pronunciation skills, and develop their thinking skills.

The learners may download dictionaries on the PDA1 with sound functions so that they can learn the correct pronunciation of unfamiliar or new words to be able to fulfil their learning needs.⁴⁸ This way give the learners the opportunity to record their own voice. Then, teachers are able to make a better assessment of the students' weaknesses in pronunciation. This way, by enhancing various functions of the system like providing a dictionary for looking up unfamiliar words and their correct phonetic form, the pronunciation, as well as speaking skills of the learners, can be well improved.

In summary, Mobile Assisted Language Learning (MALL) is one method developed by Computer Assisted Language Learning. Mobile Assisted Language Learning (MALL) which help the student to learn all of the

⁴⁷ Javad Gholami and Ghader Azami, "An Introduction to Mobile Assisted Language Learning", *International Journal of Management, It and engineering (IJMIE)*, Vol II, NO. 8, (August 2012), 1.

⁴⁸ Nezarat, *Mobile-Assisted Language Learning*, Vol III, 314.

material, especially in learning English and provide the free time when the students need (they can learn every time and everywhere they want).

b. Types of Mobile Assisted Language Learning (MALL)

There are three types of Mobile Assisted Language Learning can be used as a learning tool and to support in teaching and learning process in the classroom.

1. Mobile Phones

In the last decade, the development of mobile phone industry, associated with the parallel development in Mobile Internet has been explosively swift: from the earliest voice phone to the current 3G smartphone which can serve as a mini-computer, telephone, or camera, and transfer data as well as audio and video files.

Mobile Phones are one of the most important communication tools as well. They are the most important technology products which young people use very commonly recent years because they have voice, text, and video communication support and connect to the internet.⁴⁹ In this era, we can easily communicate with others in this world by using a mobile phone. E-mail, Facebook, WhatsApp, Twitter, Instagram, Skype, and so on, are the application provided by mobile phone to connectively each other. Not only for communication but also we can use the mobile phone to get all information about everything, one of them about education, one of them, we can combine with accessories such as good application to support the strategy of learning.

⁴⁹ Nilgun Tosun, "The Effect of the Internet and Mobile Phones On The Habit Of Teacher Candidates' Using the Turkish Language As Written Language", *Procedia-Social and Behavioral Sciences*, No. 55, (2012), 768.

2. Personal Digital Assistants (PDAs)

Personal Digital Assistants (PDAs) is a small hand-held computer for downloading and storing information such as documents, databases and calendar entries.⁵⁰ Personal Digital Assistants (PDAs) is a small mobile device that has address and calendar management functions as standard.⁵¹

Based on the definition above, the writer concludes that a Personal Digital Assistants (PDAs) is a small mobile device for downloading and storing information, the types of digital media consisting of episodic series of audio, video, pdf or ePub files, file subscription and download via web syndication or streaming online to a computer or mobile phone.

3. Podcast and Media Players

One of this new technology that has gained popularity and special action in education recently is podcast. The podcast is a phenomenon which has seen a huge development in the last few years. Podcast became popular in late 2004. Within popular culture, podcasting has become an innovative way of broadcasting information on a range of subjects, from new-based items to educational subjects. However, within an educational context, podcast provides innovative and creative opportunities to support learning more.

The podcast is a new media of Web 2.0 era, it is personalized internet radios, which with video upload, download, on-demand, subscription

⁵⁰ Ken Beatty, *Teaching and Researching Computer-Assisted Language Learning*, 2nd Edition (British: British Library, 2010), 81.

⁵¹ Thames and Hudson, *Designing for Small Screen: Mobile Phones, PDAs, Navigation System, MP3 Players, Game Consoles* (Switzerland: AVA Publishing SA, 2005), 24-25.

and interactive discussion functions, and its communication advantages and interactive function have been widely used in commercial fields.⁵²

A podcast refers "to any automatically downloadable audio or audio/video file (commonly in mp3 format)". These mp3 files can be downloaded on the computer or any portable device such as mobile phones or laptop. Students can easily listen to these files in any location according to their needs.⁵³

From the definition above, the writer concludes that podcasts are an audio file in the mp3 format that can easily be downloaded from the internet. One significant feature of a podcast is that it provides a situation in which a teacher can expand the borders of the classroom by delivering on-demand audio files via the web.

c. **Characteristic of Mobile Assisted Language Learning (MALL)**

There are several characteristics of MALL. The characteristics are taken from Kljunic and Vukovac (2015). The listed the characteristics of MALL is listed below:

1. Place, MALL is not tied in a particular place.
2. Ubiquity, MALL is spontaneous and can be accessed anytime, anywhere. This is the most recognizable feature in MALL.
3. Portable size, smartphone is small and portable. The students even could use smartphone with one hand and fit into a pocket.
4. Privacy, only one student use one smartphone.

⁵² Wang Lin, Wang Daping and Hao Lingling, "The Design Implementation of University Video Resources Platform Based on Podcast", *Procedia Engineering*, No. 15, (2011), 2186.

⁵³ Mehrak Rahimi and Fatemeh Asadollahi, "Iranian students' readiness for using podcasting in higher education: Access, familiarity, and experience", *Procedia Computer Science*, No. 3. (2011), 197.

5. Instant information accessibility, the information from the teacher could be accessed by the students spontaneously.

MALL provides quick, spontaneous, and instant engagement between the teacher and the students. Therefore, it is different than any other media used by the teacher in the classroom.

d. Advantage and Disadvantage of MALL

According to Pahmi using MALL in language class could enable the students to learn English in a variety of ways. For example, the students can access online dictionary, developing their pronunciation by watching native video, improve their listening skill by listening to podcast. Moreover, the communication between the teacher and the students or among the students will be more effective and efficient. This communication can be conducted through a chat application, WhatsApp. Then, MALL enables the students to experience individual and collaborative learning. The students could learn autonomously and discuss their learning with their group. Finally, the students can experience an informal learning setting through MALL.

In addition, MALL can provide pedagogical change. voice instructions, picture, video, and animations are available in smartphone. Furthermore, the communication between the teacher and the students is actively engaged because audio and video are available. The students could make a presentation video at a different place from the teacher. MALL offers a new level of teaching and learning process. Based on its characteristic, the last one in particular, the process of teaching and learning will be digital. The students may not be at the same place and time with the teacher. The teacher will use the students' field of expertise, the digital world.

On the other hand, MALL also has its disadvantage. Based on Kljunic and Vukovac theory, MALL possesses a negative aspect. For example, the students may have a diverse smartphone model. The different model may have its uniqueness and specifications. Thus, the students may have different experience in the teaching and learning process. Then, the availability of mobile networks may become the obstacle.

Despite its disadvantage, MALL could be a potential media in teaching and learning process. The advantage of using MALL in classroom is better than its disadvantage. Based on its advantage, the students will experience a new level of teaching and learning process.

B. Previous Research Findings

The First research entitled, *The Effect of Using Duolingo Application Through Students' Vocabulary Mastery (A Quasi-experimental Study at the Eighth Grade Students of MTs Negeri 3 Jakarta in the Academic Year 2018/2019)* was conducted by Muhamma Faiq Zamzami from English Education at Faculty of Educational Sciences of State Islamic University of Syarif Hidayatullah Jakarta, 2019. The aim of the writer is to find out whether there is effectiveness in using the Duolingo application to improve vocabulary mastery. This study uses a quasi-experimental research that takes 2 classes, namely the experimental class and the control class. For the data collecting, the writer applies several techniques including observation, interview, questionnaire, and test. The result of statistical hypothesis testing by using independent sample t-test revealed that on degree of significance 5% ($\alpha = 0.05$), to observe was 4.94 while t table was 2.00 or to observe $> t$ table. Therefore, H_0 was rejected and H_a was accepted. The result indicated that using Duolingo is effective through students' vocabulary mastery and had a moderate effect at the eighth grade of students MTs Negeri 13 Jakarta in the academic year of 2018/2019. The similarities of this research are used quasi-experimental design and used quantitative research and the difference of the research the

researcher used interview, questionnaire.

The Second research entitled “Improving Students’ Vocabulary Mastery Through Duolingo Game At Ninth Grade Of Mts Al-Ittihadiyah Laut Dendang” was conducted by Sapril Siregar from Department Of English Education Faculty Of Tarbiyah Science And Teacher Training State Islamic University Of North Sumatera 2019. The aim of the writer is to find out whether there is the influence of Duolingo game if a teacher implemented it in classroom teaching to the students of MTs Al-Ittihadiyah Laut Dendang, it will be aimed to see whether it will help them to improve their vocabulary or not. This study uses classroom Action Research. The technique of analyzing data of this research was using qualitative and quantitative data. The qualitative data were gained from observation sheet, interview, diary notes and photography evidence. The quantitative data were taken from the test such as: Pre-test and Post-test. The result of the analysis showed that the mean of the pre-test was 60.6. the mean of the Post-test in the first cycle was 78.2, then, the mean of the post-test in cycle II was 87. It showed that the improving students’ vocabulary mastery through Duolingo game could improve students’ vocabulary mastery and could affect on students’ achievement in vocabulary mastery. The students were more active, enthusiastic and interested in the learning activity. So, it can be concluded that the improving students’ vocabulary mastery through Duolingo game was effective to improve the students’ interest in following the learning teaching process. The similarities of this research are Duolingo application for increasing students’ vocabulary mastery and the difference of the research the researcher qualitative dan quantitative research, the study used class action research.

The third research entitled “The Effect Of Using Duolingo Application To Develop Students’ Vocabulary Knowledge (A Quasi-Experimental Study At The Seventh Grade Of Smp Islam Taman Quraniyah Jakarta Selatan In Academic Year 2018/2019)” was conducted by Cecep Abdul Fatah from Department Of English Education Faculty Of Educational Sciences Syarif Hidayatullah State Islamic University Jakarta 2019. The objective of this

study was to get an empirical evidence of the effect of using Duolingo application to develop on students' vocabulary knowledge. The method of this study was quasi-experimental study. The population of this study was the seventh grade of SMP Islam Taman Quraniyah Jakarta Selatan. The sample are consist 20 students from VII A as the experimental class and 20 students from VII B as the controlled class. The experimental class taught by using Duolingo application and controlled class taught without using Duolingo application. The research instrument was multiple choice tests for pre-test and post-test. The data of this study was analyzed by using t-test. Based on the statistical calculation with the significance level 5%, it showed that $t_o = 2.881$ is higher than $t_t = 1.672$. The result of the study was indicated that the use of Duolingo application can gives a positive effect to develop students' vocabulary knowledge at the seventh grade students of SMP Islam Taman Quraniyah Jakarta Selatan in Academic Year 2018/2019. The similarities of this research are used quasi-experimental design and used quantitative research and the difference of the research the researcher used population of this study was the seventh grade of SMP.

C. Theoretical Framework

The vocabulary can be defined all the words that a person knows. Vocabulary is also the basic knowledge and important for the students to learn words as many as possible. By possessing vocabulary, the students are able to create sentences and share their ideas with each other in spoken or written form.

As one of the language components, students are expected to learn thousands of words because that vocabulary knowledge is a significant factor in their learning process for successful communication. The importance of vocabulary knowledge for students cannot be compared. It means that vocabulary knowledge can give a positive impact for students' capability in developing their foreign language.

Teaching language needs good and interesting media in the classroom. In fact, the use of media in teaching and learning increases the motivation of the students. Thus, the media

offers the opportunity to improving the quality of language learning and it should be effective and interesting. Therefore, by using interesting media the students will be easy to understand about the meaning of vocabulary.

Media is the tool for delivering content of materials to the students in learning process, to reach effective teaching. One of the media to overcome some difficulties in English language learning that can be applied in teaching vocabulary is by using Duolingo application. So it is essential in determining the success of the teaching and learning process in order to achieve the maximum result.

Duolingo is an application technology that can be used to support the students in learning vocabulary. It is an application to make new learning environment and increase the motivation of the students. The use of Duolingo can be practiced anytime and anywhere individually. So, the students will be easy to remember the new word. Thus, it is important for students to know the technology to facilitate effective learning and interesting way.

Based on the explanation above, the researcher believes that the use of Duolingo application could develop students' vocabulary knowledge. Therefore, the researcher would like to do a research by using Duolingo application in developing students' vocabulary.

D. Hypothesis

The research hypothesis that is used in this research focused on the influence of using Duolingo application on students' vocabulary mastery. There are two kinds of hypothesis, they are:

1. Null Hypothesis (H₀)

The null hypothesis states that there is no positive effect on the use of the Duolingo application on students' vocabulary mastery. This can be seen from the difference between the control class and the experimental class. If there is no significant difference between the population mean, then the null hypothesis is accepted.

2. The Alternative Hypothesis (H_a)

The alternative hypothesis states that there is a positive influence in the use of the Duolingo application on students' vocabulary mastery. This can be seen from the difference between the control class and the experimental class. If there is a significant difference between the population means, the alternative hypothesis is accepted.



CHAPTER III

RESEARCH METHODS

In this chapter the researcher methods, the researchers discusses about research design, research setting, population and sample, operational definition of variable, instrument and data collection technique and data analysis technique.

A. Research Design

This study uses a quantitative method. Bryman defined quantitative research as “A research strategy that emphasizes quantification in the collection and analysis of data” It means quantitative research denotes amounting to something.⁵⁴ Therefore, researchers need empirical data. Researchers applied experimental research using two sample groups, namely the control class and the experimental class. The type was created to investigate the effectiveness of using the Duolingo application media in vocabulary mastery. The group that received the treatment using Duolingo was the experimental group. Meanwhile, the group that received the conventional technique was a control group. In addition, this research design is categorized as quasi-experimental research.

Table 3.1
The Scematic of The Quasi Experimental Design

Groups	Pre-test	Treatment	Post-test
Experiment	Pre-test	X	Post-test
Control	Pre-test	Y	Post-test

Notes:

X : Treatment by applying Duolingo Application Media.

Y : No treatment by applying Duolingo Application Media.

⁵⁴ Bryman, A, “*Social Research Methods*”, New York: Oxford University Press, 2012),17.

B. Place and Time of Study

This research was performed at SMK BP Subulul Huda which is located at Jln Anggur Rt 08/Rw 02, 63173, Rejosari Kebonsari Madiun East Java Indonesia. The research was conducted for one month start from the beginning of June 2022 up to July 2022.

C. Population and Sample

According to Sudjiono, the population is a generalization area consisting of subjects or objects with specific qualities and characteristics set by researchers to be studied and then drawn conclusions.⁵⁵ The population in this study were students of class X SMK BP Subulul Huda. The sample of this research is two classes in class X. Class X consisted of 22 experimental students, namely those who received the Duolingo application media as a treatment. Class Y, which consists of 21 students, is the control class, which is the class that cannot use the Duolingo application media.

Table 3.2 Class of Research

No	Class	Students
1.	Class (X) RPL	22
2.	Class (Y) PBS	21
Total		43

D. Operational Definition of Variable

The variable in this study is the effectiveness of Duolingo application media in vocabulary mastery. The operational definition is as follows:

1. Media

Media is a tool that has the function of conveying a message. Media is a tool that functions and can be used to describe learning messages, so it can be said that this form of communication will not work without the help of media to get notifications. Stimulus

⁵⁵ Sudjono Anas, "Pengantar Evaluasi Pendidikan", Jakarta: Raja Grafindo Persada, 2012).

forms can be used as media, including human relationships or interactions, reality, moving images or not, writing, and recorded sound. These five forms of stimulus will help to learn the lesson material, or it can be concluded that the forms of inspiration that can be used as media are sound, sight, and movement.

2. Duolingo Application

Duolingo is a free application invited by Luis Von Ahn and Severin Hacker in November 2011. Its slogan is “Free language education for the world.” As one of the language learning applications, Duolingo can help someone to develop their vocabulary knowledge in communication. Through the Duolingo application, the students gain new words quickly based on their own will. Moreover, Duolingo provided vocabulary practice and gave opportunities for students to evaluate their knowledge and identify the need to continue improving. It means that Duolingo is presented as an educational tool that can be integrated with the classrooms to provide a new learning experience for the student. It is based on content quality, feedback, and motivation. Thus, the Duolingo application media is essential for the students to learn a language to increase their motivation and make this application more enjoyable. Using Duolingo to learn English can gain positive feedback from students and teachers. In addition, the students who need to develop their vocabulary use the Duolingo application media .

3. Vocabulary Mastery

Vocabulary is one of the language aspects that is supposed to be learned when people are learning a language. It is considered to be the main focus of learning a foreign language since there is a life that learning a foreign language is similar to learning its vocabulary. Vocabulary is also very important in English teaching and learning.

E. Research Instrument and Data Collection Technique

1. Research Instrument

Table 3.3
Instruments

Variables	Indicators	Instruments
X: Duolingo Application Media	<ol style="list-style-type: none">1. The students open the web in computer2. The students open the menu of Duolingo application3. The students login with their account4. The students choose one language5. The students do the quizzes of Duolingo application from level 1 up to level 3	Application
Y: Vocabulary Mastery	<ol style="list-style-type: none">1. Clarifying expressions related to comparison degree.2. Analyzing expressions related to comparison degree3. Distinguishing expressions related to comparison degree4. Compose expressions related to comparison degree5. Make an expression related to the comparison degree	Test

2. Data Collection Technique

a. Test

The step is a pre-test on the vocabulary of the sample. This pre-test was conducted to determine the initiation score of students' vocabulary mastery in the experimental and control classes before the treatment. There are 25 pre-test questions where given to the control and experimental classes. The test consist of 10 questions multiple choice, 10 questions short essay and 5 questions make a sentence.

Finally, after the pretest and treatment, the researcher gave a post-test for both the experimental and control classes. The question of post-test consist of 10 questions multiple choice, 10 questions short essay and 5 questions make a sentence. The existence of a post-test can see the effectiveness of the treatment based on the value. The post-test consists of avocabulary test with the same difficulty as the pre-test.

b. Documentation

Documentation, according to Sugiyono, is a method used to obtain data and information in the form of books, archives, documents, written numbers, and pictures in the form of reports and information that can support research. Documentation is used to collect data and then review it. The documentation used in this study includes the syllabus, lesson plans, and school profiles.⁵⁶

F. Validity and Reliability

1. Validity Test

A validity test is used to measure the validity or validity of an instrument. The point is to measure the validity of the instrument. When viewed from the instrument in the instrument, it can reveal something that the instrument will measure. The validity test in

⁵⁶ Sugiyono, *“Metode Penelitian Kuantitatif Kualitatif dan R&B”*, (Bandung: ALfabeta, 2015), p.329

this study uses the *Pearson Product Moment*.

$$r = \frac{(n \sum XY) - (\sum X \sum Y)}{\sqrt{[(n \sum X^2) - (\sum X)^2] [n \sum Y^2 - (\sum Y)^2]}}$$

Where:

X : first score, the score of each item

Y : second score, the score of each respondent

$\sum X$: the total score of each item

$\sum Y$: the total score of each respondent

$\sum XY$: the total of multiplying results of first score and second score

$\sum X^2$: the total of square result of first score

$\sum Y^2$: the total score of square result of second score

In this study, researchers used SPSS 22 to measure validity. With *df* or *db* is (n) 30 at 5% significance, then *r* table is 0.361. The calculated *r* value from test results will be compared with the *r* table value, if *r* arithmetic > *r* table then the instrument is declared valid otherwise if *r* arithmetic < *r* table then the instrument is declared invalid.

In validity and reliability, the researcher give the questions to reponses. The researcher used a sample of 30 responses there are students from class X OIB of SMKN 1 Jenangan and with 35 questions. The questions consist of 15 questions multiple choice, 7 questions short essay and 5 questions make a sentence. Researchers used the SPSS 22 for windows application to determine the value of the validity and reliability test. The validity and reliability test values can be seen as follows:

Table 3.4

The result of Validity Calculation

No	r Calculate	R Table	Criteria
1	0.625	0.361	VALID
2	0.524	0.361	VALID

3	0.409	0.361	VALID
4	0.220	0.361	INVALID
5	0.487	0.361	VALID
6	0.192	0.361	INVALID
7	0.106	0.361	INVALID
8	0.391	0.361	VALID
9	0.457	0.361	VALID
10	0.560	0.361	VALID
11	0.514	0.361	VALID
12	0.466	0.361	VALID
13	0.499	0.361	VALID
14	0.483	0.361	VALID
15	0.652	0.361	VALID
16	0.166	0.361	INVALID
17	0.727	0.361	VALID
18	0.702	0.361	VALID
19	0.477	0.361	VALID
20	0.726	0.361	VALID
21	0.735	0.361	VALID
22	0.836	0.361	VALID
23	0.681	0.361	VALID
24	0.716	0.361	VALID
25	0.745	0.361	VALID
26	0.651	0.361	VALID
27	0.686	0.361	VALID
28	0.400	0.361	VALID
29	0.695	0.361	VALID
30	0.710	0.361	VALID
31	0.741	0.361	VALID
32	0.542	0.361	VALID

33	0.713	0.361	VALID
34	0.622	0.361	VALID
35	0.460	0.361	VALID

According to the data above, 31 question were valid, and 4 questions were invalid outof a total of 35 questions.

2. Reliability Test

Reliability test is used to determine the consistency of the measuring instrument, whether the measuring instrument used is reliable and remains consistent if the measurement is repeated.⁵⁷ Reliability was measured by SPSS 22 using reliability analysis. To measure reliability, the formula used is *Cronbach's Alpha Coefficient*, which can be seen as follows:

$$r_{11} = \left(\frac{k}{(k-1)} \right) \left(1 - \frac{\sum \sigma_t^2}{\sigma_t^2} \right)$$

Where:

R11 : alpha coefficient

K : the number of items

$\sum \sigma_t^2$: the number of varians

σ_t^2 : the total of varians

N : the total of respondents

If *alpha* more than or equal to the *r* table, the instrument is reliable; if alpha is less than or equal to the *r* table, the instrument is unreliable. Finally the result of calculation reliability test was presented below:

⁵⁷ Dian Ayunita, "Modal Uji Validitas dan Reliabilitas", (Universitas Diponegoro: Modul III, 2018), p. 2

Table 3.5
The result Reliability

Cronbach's Alpha	N of Items
.937	31

Table 3.6

Test item Reliability

<i>r</i> alpha	<i>r</i> table	Criteria
0.937	0.361	Valid

Based on the calculation above, the value of the students' reliability instrument is 0.937. The reliability value is explained by the *r* table of the significance level of 5%. The value of *r* table is 0.361. Because the value of *r* index reliability is $0.937 > r$ table 0.361, so the test is reliable.

G. Data Analysis Technique

After the researcher collected the pre-test and post-test data, the researcher compared the result of the pre-test and post-test scores. Then, the data was analyzed and determined with the statistical calculation of the t-test formula by a 5% degree of significance and gained scores. The T-test in this study was used to test the result of the mean difference score between the experimental and controlled classes, whether there is a significant difference or not.

Furthermore, the gained score is the difference between the pre-test and the post-test score of each class of the experimental and controlled groups. Gain scores are used to determine the increase or decrease in scores and the effectiveness of the application used. However, before the test, the hypothesis is necessary to analyze the normality, homogeneity, and hypothesis tests.

1. Normality Test

A normality test is a data test to see whether the residual value is normally distributed or not.⁵⁸ Normality test is significant because parametric statistical calculations have assumptions or conditions that research data must be normally distributed. To test the normality of the data, the researcher used IBM SPSS 22 Statistics which has requirements as follows: if the result of the normality test is more than (> 0.05), it can be categorized that the distribution of the data is normal, but if the result score is less than (<0.05), the distribution of the information is not normal.

2. Homogeneity test

Homogeneity test is used to test the similarity of samples taken from a homogeneous population. Homogeneity test is used as a reference material to determine statistical test decisions. *Levene's* statistic was used to calculate the variance of the homogeneity of the test. According to Widiyanto the basis or guidelines for decision making in the homogeneity test are as follows:⁵⁹

- a. If the value is significant or Sig. <0.05 , it is said that the variance of two or more data population groups is not the same (not homogeneous)
- b. If the value is significant or Sig. > 0.05 , it is said that the variance of two or more data population groups is the same (homogeneous).

3. T-test

This step is the last step to analyze the data after the normality test and homogeneity test are performed. Because the results of the pre-test and post-test of the experimental class and the control class meet the requirements of the normality test and the two classes have similarities or homogeneity in variance.

⁵⁸ Imam Ghozali, "Aplikasi Analisis Multivariate dengan Program IBM SPSS 19", (Semarang: Badan Penerbit Universitas Diponegoro, 2011)

⁵⁹ Widiyanto Joko, "SPSS for Windows Untuk Analisis Data Statistik dan Penelitian", Surakarta: BP-FKIP UM, 2010), p. 51.

The researcher used the independent t-test. The independent t-test is an analysis to compare data of two group sample statistically. Independent t-test in SPSS 22 is used to compare the mean or mean of the two independent samples to determine whether there is statistical evidence proving that the means are significantly different. The researcher used t-test to find out the effectiveness in students' vocabulary mastery scores with and without using the Duolingo application media.



CHAPTER IV

FINDINGS AND DISCUSSION

This chapter deals with two sections, namely the findings of research and the discussion of the research. The findings of the research convey the description of the result of data collected through a test that can be discussed in the section below.

A. Data Description

This researcher uses a quasi-experimental research design. Researchers took two classes as research samples class X RPL as the experimental class and X PBS as the control class. The data obtained were spread over two classes, those are the experimental class, which received the Duolingo application, and the control class, which did not receive the Duolingo application. At the end of this study, the researcher compared the students who were taught using the Duolingo application and those who were not.

Before the researcher taught the students either in the experimental class or the control class, the researcher made a lesson plan consisting of five meetings in the experimental and control classes.

1. Schedule of the Research

There were five meetings in this study. The experimental class includes a pre-test, giving the first treatment, a second treatment, a third treatment using the Duolingo application, and a post-test. On June 1st, 2022, the researcher gave a pre-test for class X RPL. The researcher conducted a pre-test at the first meeting to determine the students' vocabulary mastery before being given treatment. On June 8th, 2022, researchers gave the first treatment to students using the Duolingo application as a media. The material is a comparison degree. Researchers conducted a second treatment on June 15th, 2022, using Duolingo application media. The material is differentiating. comparison degree. On June 22th, 2022, researchers conducted the third treatment, the material for making sentences. Post-test was carried out on June

29th, 2022. Researchers held a post-test to determine students' vocabulary mastery.

The control class includes pre-test, giving the first treatment, a second treatment, a third treatment, and a post-test. On June 1st, 2022, the researchers gave a pre-test for class X PBS. On June 6th, 2022, researchers conducted treatment. The researcher used the comparison degree material. On June 13th, 2022, the researchers conducted a second treatment on differentiating comparison degrees with the material. The last treatment was on June 20th, 2022, with the material making a comparison degree sentence. The researcher gave a post-test to determine the students' vocabulary mastery.

2. The Procedure of the Research

a. The procedure of the research in Experimental Class

In this study, researchers chose class X RPL as the experimental class, with 22 students. At the first meeting, the researcher gave a pre-test to the students. The pre-test consists of 25 questions: ten multiple choice questions, ten short essay questions, and five description questions. This test takes 50 minutes. At the next meeting, the researchers taught the comparison degree material. After that the students open the Duolingo application media. To make sure that the students get the instruction clearly, the researcher gave the student the set up instruction and explained how to download, signed up and used Duolingo application media. Then students apply the Duolingo application media. In first meeting, students can work on several quizzes in the Duolingo application including "Basic 1, Phrases, Object Verbs, Possessions and Verbs 1 and level 1.

Th second meeting, the researcher explained the material for comparison degrees and various kinds of comparison degrees. The students were asked to use the Duolingo application media as in the previous session. After that, the researcher also gave questions to students to measure students understanding

of the material that had been delivered. Then students apply the Duolingo application media. In second meeting, students can work on several quizzes in the Duolingo application including “conjunction, preposition, adjective, verb 2, Number, past verb 1 and 2, and level 2”.

In the third meeting, the researcher asked students to make sentences based on the material that had been presented in previous sessions. In third meeting, students can finish the quizzes until 3rd level. After that, students were asked the extent of their understanding. Finally, students can understand, distinguish and correctly make sentences based on the comparison degree. It can be seen from the evaluation of student scores at each meeting. Finally, the researcher can conclude that there is an increase in vocabulary mastery after using the Duolingo application media. This Duolingo application media can help improve students' vocabulary skills. At the end of the meeting, the researcher gave a post-test to the students.

b. The Procedure of the Research in Control Class

In this study, researchers chose class X RPL as the control class, with 21 students. At the first meeting, the researcher gave a pre-test to the students. The pre-test consists of 25 questions: ten multiple choice questions, ten short essay questions, and five description questions. This test takes 50 minutes. At the next meeting, the researchers taught the comparison degree. The researcher explained the comparison degree material. The researcher explained the material for comparison degrees and various kinds of comparison degrees in the second meeting. After that, the researcher also gave questions to students to measure students understanding of the material that had been delivered.

In the third meeting, the researcher asked students to make sentences based on the material presented in previous sessions. After that, students were asked the extent of their understanding. Finally, students can understand,

distinguish and correctly make sentences based on the comparison degree. At the end of the meeting, the researcher gave a post-test to the students.

c. The Students' Achievement of Experimental Class

The following are the pre-test and post-test scores of class RPL (Experimental class), taught using Duolingo Application media, such as in the table.

Table 4.1 The Students' Achievement of Experimental Class

NO	NAME	SCORE	
		PRE-TEST	POST-TEST
1	Abid Ainur Rofia	65	80
2	Adelin Azizatul Nabfiqah	65	70
3	Ahmad Arbain Nawawi	70	85
4	Ahmad Yahya Amiruddin	65	85
5	Akmal Sukri	75	95
6	Anisa Auralita Aszahra	75	95
7	Azzahra Amalia Putri	80	90
8	Burhan Yusuf Hasyim	70	80
9	Diana	60	85
10	Dini Zahrotul Azizah	70	95
11	Khanifatun Najwa	80	80
12	Kharisma Ananda Putri	85	100
13	Muhammad Saifudin	65	85
14	Mohammad Salman Alfarisi	70	95
15	Nahri Ilham Mubarok	80	95
16	Najib Ulil Absyor	80	85
17	Pradhittyo Titis Hanurogo	75	90
18	Radifka Kiara Aswan	65	75
19	Raiz Fathoni Fauzanata	85	90
20	Robben Reyviano Manopo	80	100
21	Sevira Damayanti	70	90
	TOTAL SCORE	1530	1845

EXPERIMENTAL CLASS	SCORE
Maximum	85
Minimum	60
Mean	72.86
Median	70
Std Deviation	7.344

The table above shows that the scores of 21 students in the experimental class are different. The maximum value of the pre-test is 85, while the minimum value is 60. The mean for the pre-test of the experimental class is 72.86. The median with a value of 70, and the standard deviation value is 7.344

EKSPERIMENTAL CLASS	SCORE POST-TEST
Maximum	100
Minimum	70
Mean	87.86
Median	90.00
Std Deviation	7.996

Based on the table above, it shows that the scores of 21 students in the experimental class are different. The maximum value of the post-test is 100 while the minimum value is 70. The mean for the post-test of the experimental class is 87.86. The median with a value of 90.00 and the standard deviation value is 7.996.

d. The Students' Achievement of Control Class

The following are the pre-test and post-test scores of class PBS (control class), which are not taught using Duolingo Application media, such as in the table.

Table 4.2 The Students' Achievement of Control Class

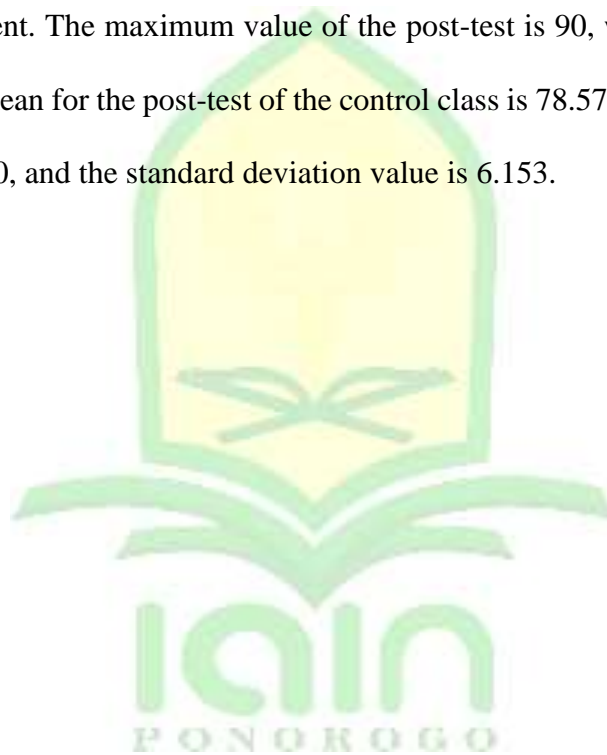
NO	NAME	SCORE	
		PRE-TEST	POST-TEST
1	Baha Annur Asyikin	75	70
2	Chentika Dwi Astuti	60	75
3	Deamaya Rosita	70	85
4	Dina Aulia	50	70
5	Eviana Eka Safitri	55	80
6	Irfan Hanif Saputro	60	80
7	Margaretta Erca Pridiani	60	90
8	Muhammad Fajrul Falakul Ulum	50	75
9	Muhammad Dhava Abdillah	65	80
10	Nabila Zahrotu Nisa	60	75
11	Ni'mah Imroatun Najihah	55	85
12	Putri Nur Hadiroh	60	80
13	Rizki Anisa	65	85
14	Siti Multazimatusholikhah	75	90
15	Shelvia Adinda Fauziyah	65	80
16	Suqya Rohmatin	50	75
17	Tiara Eka Arianti	55	70
18	Uhailul Munawwar	60	80
19	Umi Khasanatul Masruroh	55	75
20	Yessyca Sandra Chasmala	65	80
21	Zeva Lia Putri	50	70
TOTAL SCORE		1260	1650

CONTROL CLASS	SCORE
	PRE-TEST
Maximum	75
Minimum	50
Mean	60
Median	60
Std Deviation	7.583

The table above shows that the scores of 21 students in the control class are different. The maximum value of the pre-test is 75, while the minimum value is 50. The mean for the pre-test of the control class is 60.00. The median with a value of 60.00, and the standard deviation value is 7.583.

CONTROL CLASS	SCORE POST-TEST
Maximum	90
Minimum	70
Mean	78.57
Median	80.00
Std Deviation	6.153

The table above shows that the scores of 21 students in the control class are different. The maximum value of the post-test is 90, while the minimum is 70. The mean for the post-test of the control class is 78.57. The median with a value of 80.0, and the standard deviation value is 6.153.



B. Inferential Statistics

This section is used to answer the problem formulation. This section will use inferential statistics. Inferential Statistics is a statistical method that discusses how to analyze data and make decisions with specific methods about a phenomenon.⁶⁰ In this analysis, the step is to find out whether there is a difference in vocabulary mastery using the Duolingo application media or not. The stages in question are testing for normality, homogeneity, and hypothesis with an independent sample t-test.

1. Normality Test

In this research, the normality of pre-test and post-test on both the experimental and control class were gained from using IBM SPSS Statistic Version 22, which has requirements as follows: if the result of the normality test is more than > 0.05 , it can be categorized that the distribution of the data is normal, but if result scores are less than < 0.05 , the distribution of the information is not normal. The writer used *Kolmogorov-Smirnov*. The result is shown as follows:

Table 4.3 The result of Normality test from Experimental Class and Control Class
Tests of Normality

Kelas	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig
Hasil Pre-test Eks	.175	21	.092	.925	21	.111
Post-test Eks	.148	21	.200*	.949	21	.322
Pre-test Contr	.167	21	.131	.920	21	.085
Post-test Contr	.170	21	.115	.916	21	.072

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

The data table above shows the normality test for the experimental class, the sig (2-tailed) for the control class is pre-test (0.92) and post-test (0.200). So, based on these data it can be stated that the data is normally because the result of

⁶⁰ Andhita Dessy, "Aplikasi Statistik Parametrik Dalam Penelitian", (Yogyakarta: Pustaka Felicha, 2016), p.4

sig (2-tailed) >0.05 .

2. Homogeneity Test

After the authors have the data results for a normality test, the next step is to use a homogeneity test with Levene's statistic to determine if the data are homogeneous. If the result of the data calculation is greater than $\alpha = 0.05$, the data is homogeneous. The results are shown in the following table:

The Result of Homogeneity Test from Experimental and Control Class

Table 4.4 Test of Homogeneity of Variances

Hasil			
Levene Statistic	df1	df2	Sig.
.628	3	80	.599

The table above shows the results of the experimental and control samples' homogeneity tests. Based on the table above, the results (sig.) in the homogeneity table are homogeneously distributed. Because the result (sig.) is 0.599 which is where $0.599 > 0.05$.

3. T- test

As the collected data have been proved its normal and homogeneous, the writer used a t-test to know the significant differences between students' vocabulary knowledge in experimental and controlled classes. After examining the data, the result of the t-test answers the research question on whether or not Duolingo application media is effective in this research. It can be seen in the recapitulation of the data as follows:

Table 4.5 T-test Result of Post-test Scores**Group Statistics**

Kelas	N	Mean	Std. Deviation	Std. Error Mean
Hasil Post-testEks	21	87.86	7.996	1.745
Post-test Contr	21	78.57	6.153	1.343

Based on the table above, it can be seen from the t-test of the post-test of the experimental and control classes' post-tests. This shows a significant difference between the mean value of the experimental class (87.86) and the control class (78.57). St.Deviation (7.996) for the experimental class and (6.153) for the control class. While the st. error of the experimental class (1.745) and the control class (1.343).

Table 4.6 The result of Independent Sample t-test Independent Samples Test

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	1.652	.206	4.218	40	.000	9.286	2.202	4.836	13.735
Equal variances not assumed			4.218	37.537	.000	9.286	2.202	4.827	13.744

The table above is the results of the independent sample t-test, showing that sig. (2-tailed) is 0.000. As a significant standard, therefore the null hypothesis (H_0) is rejected and the alternative hypothesis (H_a) is accepted, because sig. (2-tailed) $0.000 < 0.05$. This means that there is the effectiveness of the Duolingo media

application in students' vocabulary mastery.

C. Discussion

Two classes were used in this study: the experimental class and the control class. The experimental class was the class that was processed by Duolingo applied media, while the control class was the class that received no treatment. The experimental class is implemented in class X RPL with 21 students, and the control class is implemented in class X PBS with 21 students.

Duolingo application media can help students master vocabulary. With the features of the Duolingo application media games can support students and help students in mastering vocabulary in English lessons. Students will be more enthusiastic and active in learning because students do not feel bored with the learning material. Based on the description of the data above, the data is normally distributed and homogeneous.

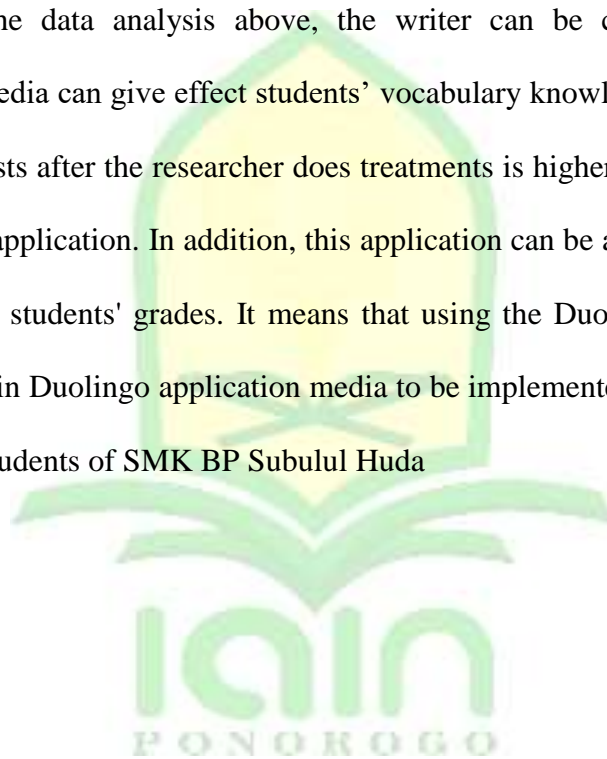
In class X RPL SMK BP Subulul Huda. Vocabulary mastery is improved, especially by using the Duolingo media application. The data results were taken from 21 students in the pre-test and post-test classes. After calculating the normality test using IBM SPSS Statistic Version 22, it can be proved that the significance of the data from experimental and controlled classes in pre-test and post-test were distributed normally. The pre-test score showed that the data of *Kolmogorov-Smirnov* in the experimental class is 0.092, and the controlled class is 0.131. Meanwhile, the post-test score also showed that the data of *Kolmogorov-Smirnov* in the experimental class is 0.200, and the controlled class is 0.115. It can be concluded that both classes are higher than $\alpha = 0.05$, which means the result is normally distributed.

Based on the result of the homogeneity test, the data from the experimental and controlled classes were proved to be homogeneous. It can be seen that the significance of the homogeneity test was 0.599, which is higher than $\alpha = 0.05$ ($0.599 > 0.05$). It means that the data from experimental and controlled classes pre-test and post-test were proved

as homogeneous data.

In addition, the data analysis that used an independent sample t-test proved the effectiveness of using Duolingo application during the treatment period statistically. It can be seen the statistical significance is shown by the analyzed post-test data that the result of $t (df = 40) = 4.218$ and p-value or sig (2-tailed) is 0.000, which is lower than $\alpha = 0.05$ (5%). It means that the alternative hypothesis (H_a) is accepted, and the null hypothesis (H_0) is rejected. Therefore, it was proved that using the Duolingo application effectively increases students' vocabulary mastery.

From the data analysis above, the writer can be concluded that Duolingo application media can give effect students' vocabulary knowledge because the score of vocabulary tests after the researcher does treatments is higher than before being taught by Duolingo application. In addition, this application can be applied in all subjects, but it depends on students' grades. It means that using the Duolingo application showed effectiveness in Duolingo application media to be implemented for students, especially for X grade students of SMK BP Subulul Huda



CHAPTER V

CLOSING

In this chapter, the researcher would like to give conclusion and recommendations about the result of study.

A. Conclusion

Through the above data analysis, the researcher can conclude that the Duolingo app media can effectively teach students' vocabulary knowledge, because the vocabulary test scores after the researchers' processing are higher than those before the Duolingo app teaching. This shows a significant difference between the mean value of the experimental class (87.86) and the control class (78.57) and the results of the independent sample t-test, showing that sig. (2-tailed) is 0.000 therefore the null hypothesis (H_0) is rejected and the alternative hypothesis (H_a) is accepted. Also, this app can be applied in all subjects, but depends on the students' grades, which means that the use of the Duolingo app has demonstrated effectiveness in the Duolingo app media, implemented for students, especially for the class of X SMK BP Subulul Huda.

B. Recommendations

There are several suggestions that researchers can convey as follows:

1. For Teachers

After this research, the researcher thought that teachers should make their teaching more creative and exciting to improve students' vocabulary mastery and avoid boredom in class greetings. In this age of advanced technology, teachers are privileged because many appropriate learning media can be used to improve their teaching. Duolingo application media is recommended because it has been proven effective in mastering students' vocabulary in class X at SMK BP Subulul Huda. It is expected to make students more interested in learning the language of students in class X at SMK BP Subulul Huda. This is expected to make students more

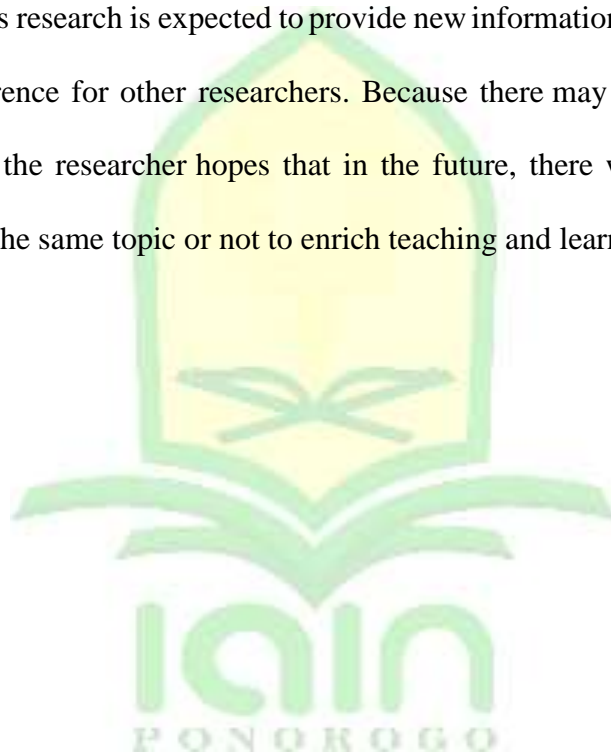
interested in learning vocabulary.

2. For Students

The students have a new medium for learning English vocabulary, namely the Duolingo application media, a game-based learning media that makes student learning more fun and not dull. Other language features can be known. This media can be accessed anywhere and anytime. Therefore, students can learn any where and anytime.

3. For Other Researchers

This research is expected to provide new information for those who read it and as a reference for other researchers. Because there may be short comings in this research, the researcher hopes that in the future, there will be other studies that research the same topic or not to enrich teaching and learning knowledge.



REFERENCES

- A Bryman. (2012). *“Social Research Methods”*. New York: Oxford University Press.
- Afiyati Arina, dkk. *“The Effect of Vocabulary Learning Strategies on Vocabulary Mastery Based On Gender Differences”*. Proceeding of 2nd International Conference of Arts Language And Culture). Published journal. p.496.
- AH Sanaky, Dr. Hujair. (2013). *“Media Pembelajaran Interaktif-Inovatif”*. Yogyakarta: Kaukaba Dipantara.
- Ahmad Amar. (2012). *“Perkembangan Teknologi Komunikasi Dan Informasi: Akar Revolusi Dan Berbagai Standarnya”*, Jurnal Dakwah Tabligh, Vol. 13, No. 1, 137-149
- Akhtar A and Rafaqat A. (2008). *“Use of Media for Effective Instruction its Importance: Some Consideration”*, Journal of Elementary Education, Vol. 18(1-2) 35-40.
- Alderson, J. Charles dan Lyle F. Bachman. (2000) *“Assessing Vocabulary”*. (2000). Cambridge: Cambridge University Press.
- Alqahtani Mofareh. (2015). *“The Importance of Vocabulary in Language Learning and How To Be Taught”*. International Journal of Teaching and Education, 10.20472 / Volume III, No. 3.
- Amalia Dina. (2019). *“The Effect Of Duolingo Application On The Students’ Achievement In Vocabulary”*. Medan: Faculty Of Teacher Training And Education University Of Muhammadiyah Sumatera Utara.
- Anas Sudjono. (2012). *“Pengantar Evaluasi Pendidikan”*. Jakarta: Raja Grafindo Persada.
- Arsyad Azhar. (2010). *“Media Pembelajaran”*. Jakarta: Raja Grafindo Persada.

Ayunita Dian. (2018). “*Modul Uji Validitas dan Reliabilitas*”. Universitas Diponegoro: Modul III

Azar, Ali Sorayaie. (2012). “*The Effect of Games on EFL Learners’ Vocabulary Learning Strategies*”. International Journal of Basic and Applied Science. Vol. 01, No. 02.

Beatty Ken. (2010). “*Teaching and Researching Computer-Assisted Language Learning*”. 2nd Edition (British: British Library).

“Interview with Mrs. Arumwati on Wednesday, December 22 2021 at 09.30 Am,”.

“Observation with Mrs. Arumwati on Tuesday, 11 April 2022 at 09.30 a.m,”.

Caesar and Guaquest, dkk. (2018). “*The Use of Learning Apps as a Didactic Tool for EFL Vocabulary Building*”. ERIC Journal. Vol. 11, No. 2.

Dessy Andhita W. (2016). “*Aplikasi Statistik Parametrik Dalam Penelitian*”. Yogyakarta: Pustaka Felicha.

E Sharon, dkk. (2011). “*Instructional Technology and Media for Learning*”. New Jersey: Pearson Education, Inc. p7.

Falahudin Wan. (2014). “*Pemanfaatan Media dalam Pembelajaran*”, Jurnal Lingkar Widyaaiswara, Edisi 1 No. 4.

G Gary. Shelly, dkk. (2010). “*Teachers Discovering Computers: Integrating Technology and Digital Media in the Classroom (Sixth Ed.)*”. Boston: Course Technology Cengage Learning.

- Gholami Javad and Ghader Azami. (2012). "An Introduction to Mobile Assisted Language Learning", *International Journal of Management, It and engineering (IJMIE)*, Vol II, NO. 8. 1.
- Ghozali Imam. (2011). "Aplikasi Analisis Multivariate dengan Program IBM SPSS 19". (Semarang: Badan Penerbit Universitas Diponegoro.
- Hudson and Thames. (2005). "Designing for Small Screen: Mobile Phones, PDAs, Navigation System, MP3 Players, Game Consoles". (Switzerland: AVA Publishing SA). 24-25.
- Irawan Ari, dkk. (2020). "The Implementation of Duolingo Mobile Application in English Vocabulary Learning". *Journal of English Language Teaching*, Vol. VOL. 05 ISSUE 01.
- I Song. "New Methods for Collaborative Experiential Learning to Provide Personalised Formative Assessment", *International Journal of Emerging Technologies in Learning (iJET)*, Vol. 14, No. 7 . 179-195.
- Ismail Suardi W dan Mulyono. (2018). "Strategi Pembelajaran di Abad Digital". Bandung: Gawe Buku.
- Joko Widiyanto. (2010). "SPSS for Windows Untuk Analisis Data Statistik dan Penelitian". Surakarta: BP-FKIP UM.
- Kamus Besar Bahasa Indonesia (KBBI). (2016). <http://kbbi.web.id/elektronik>.
- Kukulska Agnes H & Lesley Shield. (2007). "An overview of Mobile Assisted Language Learning: Can Mobile device support collaborative practice in speaking and listening ?" *The Open University, UK Journal*. P.3
- Lynee and Cameron. 2001. "Teaching Language to Young Learner. *Cambridge Language Teaching Library*". Cambridge: Cambridge University Press.

- Martha Elda Sur. (2012). *“Improving Students’ Vocabulary Mastery by Using Songs at The Grade Sixth of State Elementary School of 45 Bungo Pasang Padang”*, (EDU RESEARCH; Jurnal Pendidikan Vol.1 No.1.
- M Cremer and Dingshoff, dkk. (2011). *“Do word associations assess word knowledge? A comparison of L1 and L2, child and adult word associations”* International Journal of Bilingualism, 15(2), 187-204.
- Mosavi Tayebeh M and Amin Nezarat. (2012). *“Mobile-Assisted Language Learning”*. International Journal of Distributed and Parallel System (IJDPS). Vol III, No. 1. 310.
- Nagasubramani, R. RJ. PC. (2018). *“Impact of modern technology in education”*. Journal of Applied and Advanced Research. p. S33-S35.
- P Munday. (2016). *“The case for using DUOLINGO as part of the language classroom experience”*. Revista Iberoamericana de Educación a Distancia 19(1). P.83- 101.
- Puspita Nurul and Nurlaily Sabiqoh. (2017). *“Teaching Vocabulary by Using Crossword Puzzle”*. (English Education: Jurnal Tadris Bahasa Inggris, Vol 10 (2).
- R Vasselinov and Grego, . (2012). *“Duolingo Effectiveness Study”*. USA: City university of new York. 2.
- S B Djamarah. (2014). *“Strategi belajar mengajar”*. Jakarta : Rineka Cipta. 11.
- Thornbury Scott. (2002). *“How to Teach Vocabulary”*. Middlesex: Longman, Pearson Education 27-28.

Tosun Nilgun. (2012). "*The Effect of the Internet and Mobile Phones On The Habit Of Teacher Candidates' Using the Turkish Language As Written Language*". *Procedia-Social and Behavioral Sciences*, No. 55. 768.

Sugiyono. (2015). "*Metode Penelitian Kuantitatif Kualitatif, dan R&D*". Bandung: Alfabeta. 329.

Ur Penny. (1996). "*A Course in Learning Teaching*". Cambridge New York: Cambridge University Press.

Ur Penny. (1997). "*A Course in Language Teaching: Practice and Theory*". Cambridge: Cambridge University Press.

V Takac and Singloten, D. (2008). "*Vocabulary Learning Strategies and Foreign Language Acquisition*". Canada: Multilingual Matters Ltd. 26.

Webster. (2003). "*The New International Webster's Comprehensive Dictionary of The English Language*". United Stated: Trident Press International. 1407.

Widi Hastutik. (2022). "*Implementasi Media Aplikasi Duolingo Dalam Meningkatkan Penguasaan Kosakata Bahasa Inggris Pada Siswa Kelas Vii A Smp Negeri 4 Pacitan Tahun Pelajaran 2019/2020*". *Jurnal Pendidikan Dan Pembelajaran: Kajian Teori dan Praktik Kependidikan*, Vol.3. 88.

Yu Liu. (2011). *Vocabulary Recognition and Memorization: A Comparison of Two Methods* Spring: Kristianstad University. 32