

# THE EFFECTIVENESS OF DUOLINGO APPLICATION IN ENGLISH LEARNING AT CLASS VIII A MTs BOJO KAJUARA



#### **THESIS**

As a Condition For Compiling a Thesis English Education Study Program

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#### PENGESAHAN SKRIPSI

Skripsi berjudul, The Effectiveness of Duolingo Aplication In English Learning At Class VIII A MTs Bojo Kajuara, yang ditulis oleh Andi Tri Wahyuni Arif Nomor Induk Mahasiswa (NIM) 190110005, Mahasiswa Program Studi Tadris Bahasa Inggris Fakultas Tarbiyah dan Ilmu Keguruan Universitas Islam Ahmad Dahlan, yang dimunaqasyahkan pada hari Selasa, tanggal 27 Juni 2023 M bertepatan dengan 9 Dzulhijjah 1444 H, telah diperbaiki sesuai catatan dan permintaan Tim Penguji, dan diterima sebagai syarat memperoleh gelar Sarjana Pendidikan (S.Pd).

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ngetahui:

TIK UIAD,

iii

#### **ABSTRAK**

Andi Tri Wahyuni Arif. The Effectiveness of Duolingo Application In English Learning At Class VIII A MTs. Bojo Kajuara. Skripsi. Sinjai: Program Studi Tadris Bahasa Inggris, Fakultas Tarbiyah dan Ilmu Keguruan Universitas Islam Ahmad Dahlan Sinjai, 2023.

Penelitian ini bertujuan untuk mengetahui apakah aplikasi duolingo efektif dalam pembelajaran bahasa Inggris di kelas VIII A MTs. Bojo Kajuara.

Jenis penelitian yang digunakan adalah penelitian dengan desain pre-eksperimental dengan desain one group pretest-posttest dengan pendekatan kuantitatif. Populasi penelitian ini berjumlah 20 siswa kelas VIII A MTs. Bojo Kajuara. Metode pengumpulan data menggunakan teknik observasi, angket, tes dan dokumentasi.

Hasil penelitian ini menunjukkan bahwa aplikasi Duolingo efektif dalam pembelajaran bahasa Inggris di kelas VIII A MTs. Bojo Kajuara. Hal ini berdasarkan hasil uji Paired Sample T-test diperoleh nilai signifikansi sebesar 0,000 < 0,05 yang berarti Ha diterima atau dengan kata lain bahwa aplikasi Duolingo efektif dalam pembelajaran bahasa Inggris.

Kata Kunci: Efektivitas, Aplikasi Duolingo, Pembelajaran

#### ABSTRACT

Andi Tri Wahyuni Arif. The Effectiveness of Duolingo Application in English Learning At Class VIII A MTs. Bojo Kajuara. Thesis. Sinjai: English Tadris Study Program, Faculty of Tarbiyah and Teaching Training, Islamic University of Ahmad Dahlan Sinjai 2023.

This study aims to determine whether the application of duolingo is effective in learning English in class VIII A MTs. Bojo Kajuara.

The type of research used is research with a pre-experimental design with a one group pretest-posttest design with a quantitative approach. The population of this study was 20 students of class VIII A MTs. Bojo Kajuara. Methods of data collection using observation techniques, questionnaires, tests and documentation.

The results of this study indicate that the Duolingo application is effective in learning English in class VIII A MTs. Bojo Kajuara. This is based on the results of the Paired Sample T-test obtained a significance value of 0.000 <0.05, which means that Ha is accepted or in other words that the Duolingo application is effective in learning English.

Keywords: Effectiveness, Duolingo Application, Learning

#### المستخلص

أندي تري وحيوي عريف، تأثير برنامج دوولنجو على تعليم اللغة الانجليزية لطلاب الصف الثامن الثامن مدرسة المتوسطة الخاصة بوجو كاجونارى. الرسالة العلمية: سنجائي. قسم تدريس اللغة الانجليزية، كلية التربية وعلوم التربوي، جامعة الإسلامية أحمد دحلان سنجائي، ٢٠٢٣.

وهدف البحث لمعرفة هل يوجد تأثير برنامج دوولنجو على تعليم اللغة الانجليزية لطلاب الصف النامن مدرسة المتوسطة الخاصة بوجو كاجوثارى.

واستخدمت الباحثة دراسة قبل التجريبي بتصميم البحث مجتمع واحد لإختبار القبلي والبعدي باستخدام مدخل الكمي. ومجتمع البحث فيه طلاب الصف الثامن مدرسة المتوسطة الخاصة بوجو كاجوئارى بعددهم ٢٠ طالبا. وأسلوب جمع بيانات البحث ملاحظة واستبانة واختبار ووثائق.

ودلت نتائج البحث أن برنامج دوولنجو أثر على تعليم اللغة الانجليزية لطلاب الصف الثامن مدرسة المتوسطة الخاصة بوجو كاجوئارى. وأسست الباحثة هذه الخلاصة على نتيجة البحث من إختبار Paired Sample T-test بنتيجة قوية ٠٠٠٠٠ معنى На مقبول.

الكلمات الأساسية: تأثير، برنامج دوولنجو، التعليم

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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيْمِ

# الحَمْدُ لِلهِ رَبِّ العَلَمِيْنَ وَالصَّلَاةُ وَالسَّلَامُ عَلَى اَشْرَفِ الْأَنْبِيَاءِ وَالْحَمْدُ لِلهِ رَبِّ الْعَلَمِيْنَ سَيِّدِنَامُحَمَّدً

وَعَلَى اللهِ وَاصْحَابِهِ اَخْمَعِيْنُ اَمَّابَعْدُ.

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The Researcher,

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# CHAPTER I INTRODUCTION

#### A. Background

Language is the most significant tool in communication. Communication can be done by speaking, writing and so on. Through language, humans express feelings, ideas, and thoughts to someone directly with a piece of paper or with body movements (Alida, n.d.). Language is also a place of exchange of information from one person to many people, with the mouth of speak but can also use sign language.

In Indonesia, various languages are used ranging from regional languages to the national language namely Indonesian the language is also a foreign language or the language of another country, namely English. If English is still a foreign language in Indonesia, what is very important is to understand and master the language.

Angela Merkel in Yusrianti & Novita (2019) believes that industry 4.0 is a comprehensive transformation of all aspects of production in industry through the merging of digital internet technology wit conventional industry. It can be said that the industrial revolution 4.0 is digital-based.

Advances in technology and information have introduced the current generation to the wrold of digital literacy. The digital era is integrated with the current condition of society. As a result, more and more people have easier and faster access to various types of information, and one of the advantages of information technology it is ability to overcome the limitations of space and time. In the era of Industrial Revolution 4.0, digital skills are very important for employees in all fields such as development, business, and education. For example in education, the teacher need to understand digital literacy. Classroom learning requires the use of various types of technology.

In the era of technology 4.0, English plays a very important role in the formation of an advanced civilization considering that English is a need and demand in life that develops in the era of technology and communication. Understanding this, before the generation of the 4.0 technology era, the current generation should prioritize English

Learning English for beginners can lead to two positive and negative factors, namely fun learning will automatically shape a child's level of interest in learning languages and vice versa and learning English that is boring can be frightening specter for a child, it can happen depending on the first impression given (Zainuddin & Fatoni, 2021).

In English Learning the use of media is an effort to create quality and support the learning process. So that, the students can enjoy participating in learning activities (Rifdinal, 2021). Problems that often occur in learning are generally related to conventional learning patterns used by teachers. This pattern is enough to make students feel bored easily (Faradila & Aimah, 2018).

The teacher should strive to be able to manage learning, foster positive student responses or student learning interest to master the subjects they study, especially English in a good way according to expectations. One of the determining factors for the success of the student learning process is interest in learning because it is an essential foundation for carrying out these activities well (Alam, 2018).

Developing an interest in something essentially means helping students see the relationship between the material they need to learn and themselves as individuals. As explained in the Qur'an which has been explained by Allah SWT in his word QS Az-Zumar. 9:

أُمَّنْ هُوَ قَانِتُ ءَانَآءَ ٱلَّيلِ سَاجِدًا وَقَآبِمًا تَحَذَرُ ٱلْأَخِرَةَ وَيَرْجُواْ

رَحْمَةَ رَبِّهِۦ ۗ قُلْ هَلْ يَسْتَوى ٱلَّذِينَ يَعْلَمُونَ وَٱلَّذِينَ لَا يَعْلَمُونَ ۗ

إِنَّمَا يَتَذَكَّرُ أُوْلُواْ ٱلْأَلْبَبِ۞

Meaning: "Are those who know and those who do not know, only those who are knowledgeable (ulul albab) know" (Kementrian Agama Republik Indonesia, 2006).

According to the explanation in the verse, how important knowledge (learning) is, to go through it is not without interest. This is where the importance of the role of interest in learning, including learning at school.

When learning English, many students are sometimes not interested in the material presented and are still confused about learning English. This is due to the traditional teaching method, namely the teacher only uses the lecture method and does not encourage students to actively practice in class. Therefore, the teacher must be

creative in determining the right strategy to help students, especially in learning English.

The teacher need to plan innovative and creative learning techniques to handle the problems by using technology-based learning. Various kinds of technology-based or digital learning resources that can be applied in the learning process. One of them is M-Learning.

Tamimudin in Jenal Mutaqin said that M-Learning is a unique learning because students can access learning materials, directions and applications related to learning, anytime and anywhere (Sasmitha & Thamrin, 2022). Many mobile applications have been created that focus on the topic of education as an interesting and fun learning environment.

Rifdinal, a postgraduate student at the University of Jambi, in his research on "Keefektifan Penggunaan Duolingo dalam Pembelajaran Kosakata Bahasa Inggris" stated that students can use the Duolingo application in learning English, especially vocabulary and the Duolingo application is more interesting than conventional teaching in hiding English about vocabulary to students (Rifdinal, 2021). The results of the research show that the used of the Duolingo application is effective in English learning

vocabulary. Based on Rifdinal's research, researcher want to apply the Duolingo application which can help students in English learning

Duolingo has a very motivating learning system. This application uses strategy game mechanics which creates an intense experience for students to keep learning. Duolingo application is built like a computer game where the participants have to complete certain levels. Students pass through the levels of the language tree. The next lesson is opened after student master the previous material. Users can perform various types of exercises, including multiple choice, writing and speaking through the microphone. Duolingo mainly uses practice and repetitive exercises in the classroom. This application can be used for all ages

Based on the preliminary observation made at MTs Bojo Kajuara, in the process of learning English, the teacher only used books as learning resources or learning media and only used the lecture method. This makes students felt less interested in learning English because in addition to difficulties in learning English students also felt bored with the learning process which is less attractive to students. This is indicated by the lack of enthusiasm of students in receiving lessons, on the other hand there are

also many students who do not pay attention to the material being explained when participating in learning English. Students are required to understand the English language test either in written or in oral form. The problem in learning English for students is that they lack vocabulary (Observation, 14 December 2022).

Departing from MTs Bojo Kajuara students who have less interest in learning and difficulties in learning English. This prompted researcher to examine one of the available English learning applications that can be downloaded free of charge via cellphone (HP) or Personal Computer (PC). Of the several applications available on the Google Play Store, the researcher chose the Duolingo application for research. This research aims to analyze the effectiveness of the Duolingo application in English learning at class VIII A MTs Bojo Kajuara.

#### **B.** Problem Formulation

Based on the above background, the problem formulation of this research is "Does the Duolingo application effective in English learning at class VIII A MTs Bojo Kajuara?"

#### C. Research Purpose

Based on the formulation of the problem, the goal to be achieved in this study is to determine the effectiveness of the Duolingo application in English learning at class VIII A MTs Bojo Kajuara.

#### D. Benefits of Research

The benefits expected from the results of this research are as follows:

#### 1. Theoretical Benefits

The results of this research can provide information and additional knowledge about the effectiveness of the Duolingo application in English Learning.

#### 2. Practical benefits

The results of the resrach expected to be usefulfor:

- a. For the Teachers: from this research, the teacher can make this application in English learning.
- b. For the Readers: from this research, the readers hopefully this can be part of the reference when doing research.
- c. From the Researcher: The results of this reserach, hope will be useful knowledge for the researcher when they start their profession as a teacher in the future time.

# CHAPTER II THEORITICAL REVIEW

#### A. Literature Review

#### 1. Duolingo Application

# a. Definition of Duolingo Application

Duolingo application is a The language learning application created by Luis Von Ahn and Severin Hacker. Duolinggo application is an application to learn foreign languages online and structured (Luthfi, 2021). Duolingo is a free language learning software, is learned by units semantically grammatically with different and activities (matching, translating, listening and speaking) and is available both on computers and mobile phones (Tsai, 2016). Duolingo is one that will help people become more proficient in foreign languages. Duolingo deliberately carries the concept of "playing while learning" to make it more fun and easy to use for all ages. Not only English can be learned through Duolingo, because Duolingo also offers several other languages (Spanish, Indonesian, French, Italian, Dutch, Portuguese, and German), so that we can learn all the language options provided by Duolingo (Widyastuti & Kusumadewi, 2018). Duolingo is a website and application that aims to teach foreign languages, including English, as a social project. The main interesting part of this app is that students can listen while saying a word or sentence and at the same time they have to write it (Luthfi, 2021).

Based on the description above, it can be conclued that Duolingo application is an online platform and mobile application that offers users a free and innovative way to learn a new language. Lessons are provided in written and audio form, as well as speaking exercises for more advanced users. Each chapter consists of one chapter that must be completed by the user of this application. Each chapter consists of sentences to translate, these sentences can contain new words or words that have already been learned. After the user answers the question, the user can immediately find out whether the answer is right or wrong. Each correct answer will add points and vice versa. The Duolingo application, whether installed on a smartphone or accessed via the website, requires an internet connection. users can download the Duolingo app for free on the Playstore.

#### b. Characteristic of Duolingo Application

The Duolingo application displays material in the form of text, audio and visuals. In the initial process of learning English, the easy material will be filled first with the level of difficulty that will continue to increase. If you have passed some of the subject matter, the user can go to the next level. At the basic level of English lessons, there are several themes such as animals, food, ownership. Each of these themes can be chosen by the user to test their English skills, if the user chooses food, the questions that will appear are related to food as the theme. The questions that arise are translating sentences, determining the correct pair of sentences, translating the spoken word and saying the written word. The learning presented is very interactive because users are required to pronounce the correct words or sentences in English according to the material being studied. However, if the user makes a mistake, they will immediately get feedback in the form of the correct answer from the material (Nuralie, 2019).

The features contained in the Duolingo application are (Fatah, 2017):

 The visual form of an owl, such as a virtual teacher reminding students to come back to Duolingo to take lessons and give praise or reprimand.



Figure 2.1 Visual of an Owl

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



Figure 2.2 Achievement

3) Lingots is a small jewel icons that the learners have completed the activities and level successfully to get "lingots". Lingots can be changed for bonus extra practices.



Figur 2.3 Lingots

4) Unit Level is a new feature in the Duolingo application. Every user who has completed one unit will then proceed to a new unit level. Each unit has a different theme.

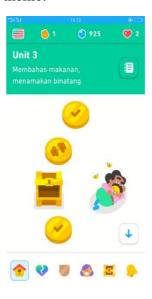


Figure 2.4 Unit Levels

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

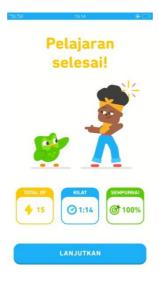


Figure 2.5 Daily Goal

Duolingo application also provides the learning with various types of exercise wthin a lesson or unit, such as:

- 1) **Vocabulary**, in which the users see a picture and be asked to choose it with correct answer
- 2) **Pronunciation**, in which the users will be asked to repeat or say a sentences what they hear
- 3) **Listening**, in which the users will hear an audio clip of word or sentence and have to type is correctly

4) **Translation**, in which the users will be asked to translate a word or a sentence into the language the want to know or learn



Figure 2.6 vocabulary



Ucapkan kalimat ini

We will be a second of the second of

Figure 2.7 Pronunciation



Figure 2.8 Listening

Figure 2.9 Translation

# c. Duolingo Application Usage Steps

In its use, the Duolingo application has several ways to use it. Researchers use iOS-based smartphones. The steps to operate the Duolingo application are follows: (Raihan, 2019).

1) Make sure the smartphone has internet network access then download the Duolingo application via the App Store application. Once the download is complete, open the Duolingo application. Click the "ayo mulai" button to enter the application and when you already have an account please click the "aku sudah punya akun" button.



Figure 2.10 Download



Figure 2.11 Start

The Duolingo Application

Application

2) Then the next page will appear and click (bahasa inggris). After selecting the language, the user will be directed to choose how much the user knows about English

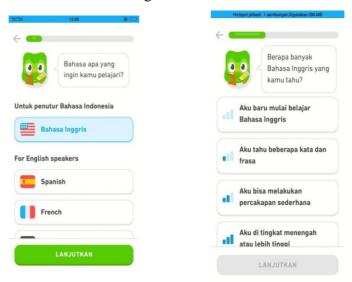


Figure 2.12 Select a Language Figure 2.13 Language Knowledge

3) Furthermore, the user can choose a daily target for studying with the Duolingo application. Next, the questions answered by the user will immediately appear





Figure 2.14 Daily Target

Figure 2.15 Questions

4) The page to register in the Duolinggo application is below



Figure 2.16 Register

Users who want to register on the Duolingo application are required to fill in their age, name or can directly click the Facebook or Google button to connect them to the Duolingo application, once everything is filled in, the user already has an account on Duolingo. The initial stage before the learning process using the Duolingo application has been completed.

After the initial steps to enter the Duolingo application are completed, the user can use the Duolingo application for free. Users can access the application with a registered account and will continue to ask questions that will receive answers from users, and Duolingo will also remind users by sending daily emails according to the goals chosen by the user.

## 2. Learning Effectiveness

# a. Definition of Learning Effectiveness

Learning effectiveness is a level of success achieved in the learning process. According to Miarso in Rohmawati (2015) said that learning effectiveness is one of the quality standards of education and is often measured by achieving goals,

or it can also be interpreted as determination in managing a situation.

Sujana said that effectiveness is a learning activity with the success rate of the teacher in learning activities in groups of students in the class using certain methods to achieve certain learning goals (Sujana, 2017).

Hamalik in Rohmawati (2015) said that the effectiveness of learning is everything that is in the activity. Learning and provide opportunities for self-study or carry out all activities widely to students in learning. With the provision of self-study opportunities and extensive activities, it is hoped that it can help students understand the material being studied.

Ørngreen said that effectiveness can be interpreted as an act of success of students in achieving certain goals so that they can get maximum learning outcomes (Ørngreen, 2017).

From the understanding of the effectiveness of learning according to the experts above, it can be concluded that the effectiveness of learning is a level of success that will be achieved

from the application of a learning model used. Learning effectiveness can be measured from student learning outcomes, if student learning outcomes increase then the learning model can be said to be effective, and vice versa if student learning outcomes do not increase then the learning model can be said to be ineffective. The effectiveness of learning can also be seen from the activities of students in learning, mastery of concepts, and also students' responses to learning

# b. Indicators of Learning Effectiveness

An ideal learning is effective learning. An effective learning can be seen in terms of process and results. An effective learning process is a learning process in accordance with what is planned and the results are in accordance with predetermined criteria. The effectiveness of learning can be seen from the level of mastery of students' concepts and student learning motivation as well as student learning outcomes belonging to the good criteria and students are interested in participating in learning (Yusuf, 2018).

The indicators of learning effectiveness are: (Kadir & Edmodo, 2020)

## 1) Student activity in learning

Student activities observed in this study included activities during preliminary activities, core activities and closing activities. The indicators assessed are as follows, a) Paying attention to and responding to apperception/motivation, b) Paying attention to explanations of learning objectives, c) Paying attention to explanations of learning activities, d) Active paying attention, e) Actively conducting class discussions, f) Doing homework, j) Collecting Homework, g) Actively asking questions during learning, h) Active in drawing conclusions about learning material.

# 2) Student learning outcomes

The learning outcomes studied in this study were the results of student learning tests on writing material. The form of the questions given is a subjective matter.

### 3) Positive student response to learning

The student responses studied in this study were student responses to the implementation of learning English using the Duolingo application. Data collection about student responses was carried out using a Likert scale questionnaire.

### 3. English Learning

### a. Learning

Learning is a teaching process to acquire knowledge, skills and changes in attitudes between students and teachers that are planned to achieve learning objectives (Achmadi et al., 2014). In the Law of the Republic of Indonesia Number 20 of 2003 concerning the National Education System, it is stated that learning is a process of student interaction with educators and learning resources in a learning environment (Khusniyah & Hakim, 2019). It is important for every teacher to understand the learning system, because by understanding this system, each teacher will understand the learning objectives or expected results, the process of learning activities that must be carried out, the use of each

component in the activity process to achieve the goals to be achieved and how to know marketing. the. In the Big Indonesian Dictionary, the meaning of learning is a process, a way of acting that makes people or living things learn (Khusniyah & Hakim, 2019).

Based on the description above, it can be concluded that learning is a conscious process of conveying all information in the form of knowledge conveyed by the teacher to students, which aims to provide good benefits in the form of changes in behavior, additional knowledge, and can provide skills, which involve various components, namely participants students with educators and learning resources in a learning environment to achieve the learning objectives to be achieved.

## b. English

English is one of the international languages that is used throughout the world and is not only used as the official language in various countries but also influences different cultures in many countries and becomes the central language of communication throughout the world (Kustanti &

Prihmayadi, 2017). The development of the English language has rapidly increased the need for better communication skills in English all over the world because talent to use English is needed for further studies, travel to other countries and also for social and professional activities of a job (Hashemi, 2018).

English in general is also used as an international language to communicate with different language backgrounds around the world. Besides that, English is a global language that is used to communicate with native speakers and language learners around the world, especially in the field of education (Hartin, 2017). All students need English to study and seek information and have knowledge, thus many universities around the world include English as one of their educational requirements (Sari, 2019). In addition, in reality the teaching and learning process of English is also related to social and political use. In addition, the needs of people for English in various countries in the world make English a major factor and become an international language that is developing very quickly. The demands of using English in various countries make

English a key factor and make it an international language that spreads very quickly.

## c. English Skills

In learning English, there are four skills that have to be mastered. They are reading, speaking writing, and listening (Bahrun, 2020).

### 1) Listening

Listening is a type of receptive spoken language skill which is not only listening activity but also understanding what has been heard. There are two types of listening situations, namely interactive and non-interactive listening situations. Interactive listening occurs in face-toface conversations and telephone conversations or the like, which allows speakers and listeners to interact with each other and have equal explanations opportunities to get and information. While non-interactive there is no interaction between the speaker and the listener so that they cannot get questions or get explanations, for example listening on radio or television.

# 2) Speaking

Speaking skill is the most important aspect in learning a second language or a foreign language. In addition, the success of language learning is measured by the ability shown in conversation in the target language. Speaking skill is an interactive process of constructing meaning which includes generating, receiving, processing and using both verbal and non-verbal components. On the other hand, as an oral ability, speaking skills are related to meaning and the use of active language to express intentions so that other people can understand it. Thus, speaking skills emphasize the use of language interactively to make sense of what is being said. In addition, speaking skills also pay attention to the formation of meaning which includes both verbal and non-verbal symbols through the interaction process.

### 3) Reading

Reading skill is one of the writing skills which is receptive in nature and can be developed separately, apart from listening and speaking skills. However, in a society that has a tradition of literacy that has developed, it is not uncommon for reading skills to be developed in an integrated manner with listening and speaking skills.

## 4) Writing

Writing is a productive language skill and the most difficult among the other three types of language skills. Writing is a very important factor in a language (Nismawati, 2021) This is due to writing activities not only assembling words or sentences but developing and expressing ideas or ideas in an orderly sentence structure (Sari, 2019).

# 4. Duolingo Application in English Learning

English is taught in secondary schools, particularly in grade seventh. Students must understand texts in English in written or spoken form. The problem in teaching English to students lies in traditional teaching methods, namely teachers who do not support students who lack vocabulary. The students cannot speak, read, write or even listen in English. In other words, mastery of appropriate vocabulary learning

methods and techniques is very important for the success of learning English (Shi, 2017). In learning English, one of the factors is the poor mastery of vocabulary knowledge. The students are lack of stock of the words. The students who have little knowledge of vocabulary will face some difficulties to understand the written language and oral language. The students may get some difficulties in learning a language if they have limited number of vocabularies (Harmilawati, 2020).

Based on the description above, in this research the researcher used the Duolingo application to about vocabulary. learning English Duolingo application can help students to learn or build English vocabulary. It can be said that there are at least three advantages that students can get. First, Duolingo helps students stay motivated and makes the Duolingo application more fun. Second, the Duolingo application can help students learn new words easily because students can immediately see interesting pictures and more features when learning new vocabulary. In addition, students can also use the Duolingo application to understand the meaning of these words.

#### **B.** Some Pertinent Ideas

1. Rifdinal, 2021 with the title "Keefektifan Penggunaan Duolingo dalam Pembelajaran Kosakata Bahasa Inggris". This research used a two-group experimental design, namely between the experimental group and the control group. Sampling in this study using the total sampling method. The results of the research show that the Duolingo application has a significant influence on vocabulary learning at Madrasah Aliya Skn. The uniformity test shows that Sig. 0.736, more than 0.05. Independent sample t-test shows that equal variants are considered to be signed. (bilateral) 0.035 < 0.05 (Rifdinal, 2021).

The similarity of this research with Rifdinal's research is the same as testing the effectiveness of the duolingo application. In this research, both use quantitative research. The difference is that this research will test the effectiveness of the Duolingo application in English learning, while Rifdinal's research tested the Duolingo in learning English vocabulary.

 Rafika Tri Julianti, 2020 in her research entitled "The Effect of Duolingo On The Vocabulary Of The Tenth Grade Students Of SMK Negeri 1 Sukasada In Academic Year 2019/2020". The results showed that the average score of the experimental group was 78.69, while the average score of the control group was 50.26. In addition, the Independent sample t-test revealed that the value of sig. (2-tailed) is 0.000. That's lower than the standard alpha level (0.05). Since the value (p) is lower than the standard alpha level, it can be concluded that the alternative hypothesis (Ha) is accepted and the null hypothesis (H0) is rejected. These results indicate that the Duolingo Cellular Application as a technique has a significant effect on the vocabulary of class X SMA students at SMK Negeri 1 Sukasada.

The similarity of this research with Rafika Tri Julianti's research is the same as researching the application of duolingo. The difference is in the Y variable. Another difference is that this research examines the effectiveness of the duolingo application in increasing students' interest in learning while Rafika Tri Julianti's research examines the effect of duolingo on students' vocabulary.

3. Mega Selvia Purba et al in her research entitled "Pengaruh Aplikasi Duolingo Terhadap Peningkatan Kosakata (Wortschatz) Peserta Didik Kelas XI TKJ

SMK Swasta HKBP Pematang Siantar". The results of this research indicate that there is an increase in students' vocabulary before and after the application of Duolingo learning media. Student test assessment results at the pretest or before the implementation of learning media reached an average of 45.78 in the less category. The results of the assessment of students in the posttest or after the application of the Duolingo learning media increased to 87.79 in the good category, therefore based on the results of the pretest and posttest there were differences in the results of increasing the vocabulary of students in class XI TKJ TKJ Private SMK HKBP Pematang Siantar before and after the application of the media Duolingo learning (Purba et al., 2022).

The similarity of this research with the research of Mega Selvia Purba, et al is that they both researched the Duolingo application and both used experimental research with a quasi-experimental type using a one-group pretest-posttest design. The difference is that this study will focus on English while the research by Mega Selvia Purba, et al. focuses more on German.

4. Suryanti Galuh Pravitasari and Muhammad Lutfi Yulianto in their research entitled "Penggunaan Multimedia Interaktif dalam Pembelajaran Bahasa Inggeis (Studi Kasus Di SDN 3 Tarubasan Klaten)". The results of this research indicate that the use of interactive media in learning English has a significant influence on student final achievement as evidenced by the pre-test given to the research object to record the initial score before the use of interactive multimedia is implemented, with an average score of 68.7 afterward do a post-test to find out the score after the use of interactive multimedia which produces an average value of 70.7. This means that there is an increase in student achievement of 11.9 points from the previous year before treatment with interactive multimedia tools until the first cycle and 13.9 points from the first to the second cycle. All research objects have also succeeded in fulfilling the passing grade score (Pravitasari & Yulianto, 2017).

The similarity of this research with Suryanti and Muhammad's research is that they both research English learning, but the difference is in the X variable. Suryanti and Muhammad's research used interactive

media while this study used the duolingo application in learning English. In addition, this research used a quantitative approach, while Suryanti and Muhammad's research used PTK research.

5. Rizal Akib and Kris Uluelang in their research entitled "Pengaruh Penggunaan Google Classroom Terhadap Self Direct Learning (SDL) Siswa dalam Pembelajaran Bahasa Inggris". This research used a quasi-experimental design. The results of this research indicate that there is a statistically significant difference in the students' SDL between the pre-test and post-test. Therefore, it can be concluded that using Google Classroom can help students to develop their SDL skills in learning English (Akib & Uluelang, 2019).

The difference between this research with Rizal Akib and Kris Uluelang's research is that both use a quasi-experimental research design and research about M-Learning in English learning, but this research focuses on M-Learning, namely the Duolingo application while Rizal and Kris's research used Google classroom Rizal and Kris' research also examines how Google Classroom influences Self Directed Learning (SDK).

## C. Hypothesis

The hypotheses in this research are:

 $H_0$ : The Duolingo application is not effective in English learning at class VIII A MTs Bojo Kajuara

 $H_1$  : The Duolingo application is effective in English learning at class VIII A MTs Bojo Kajuara

#### **CHAPTER III**

#### RESEARCH METHODS

### A. Type and Approch of the Research

### 1. Types of the research

The type of research used in this research is experimental research. Experimental research is research conducted to determine the impact caused by a treatment given intentionally by researchers (Payadnya & Jayantika, 2018).

There are several forms of experimental design that can be used in research, namely Pre Experimental Design, True Experimental Design, Factorial Design and Quasi Experimental Design. This research is included in the Pre-Experimental Design research, namely research that intends to determine whether there is an impact caused by the treatment of a subject.

The type of this research is a preexperimental research design with one group pretest posttest design. In this research using a pretest or pretest before being given treatment and a final test or posttest after being given treatment. So that the results of the treatment can be known more accurately because it can compare with the situation before being treated.

The design of this research can be described as follows:

**Table 3.1 One Group Pretest-Posttest Design** 

Group	Pretest	Treatment	Posttest
Experiment	$O_1$	X	$O_2$

O1 = Pretest (before given treatment)

O2 = Posttest (after being treated)

X = Treatment using the Duolingo application

The researcher gave pretest or initial test to the object of research before the research begins. Posttest is also gave at the end of the study to be analyzed to draw research conclusions. In this research, the experimental group treate using the Duolingo application.

# 2. Approach of the research

The approach of the research used by researcher is a quantitative approach. Quantitative

research is a research method used to examine certain populations or samples, data collection using research instruments, data analysis, is quantitative/statistical, with the aim of testing established hypotheses (Sugiyono, 2018). The quantitative research is research that focuses on statistical data analysis.

### **B.** Variable Definition

Variables are anything in any form determined by the researcher to be studied so that information is obtained about it, then conclusions are drawn (Sugiyono, 2018).

# 1. Duolingo Application (Independent Variable)

Duolingo is a website and app that as a social project is aimed at learning languages, including English. The Duolingo application is said to be an independent variable because this application is expected to be able to influence or provide changes to the dependent variable. Independent variables are variables that affect or cause the change or emergence of the dependent variable. Independent variables are often also called independent variables.

### 2. English Learning (Dependent Variable)

English learning is the tendency of

individuals to have a sense of pleasure without any coercion so that it can cause changes in knowledge, skills, and behavior or direct their actions to something to cause feelings of pleasure as a result of individual experiences in environmental interactions to obtain certain goals. English learning in this research is referred to as the dependent variable, because it gets the effect or treatment from the Duolingo application or the independent variable. The dependent variables the variable that is influenced or that becomes the result because of the independent variable.

### C. Research Time and Place

#### 1. Time of the research

This research carried out from March-April 2023

#### 2. Place of the research

This research conducted at MTs. Bojo Kajuara, Bone-Sinjaiaxis road, Kajuara District, Bone Regency.

# **D.** Population and Sample

# 1. Population

The population is a generalization area consisting of subjects/objects that have certain

quantities and characteristics that have been determined by researcher to be studied and then conclusions will be drawn (Sugiyono, 2018). The population in this research were all students of class VIII A MTs. Bojo Kajuara with a total of 20 students (Documentation of MTs. Bojo Kajuara, 2023).

## 2. Sample

The sample is part of the number and characteristics possessed by the population. If the population is large and it is impossible for researchers to study everything in the population, they can use samples taken from that population (Sugiyono, 2018). Research samples that have alarge population area will make it difficult for researcher to collect data so that a sampling technique is needed.

The sampling method in this research used total sampling where all members of the population are used as research samples. Then the sample were 20 people or all the population in class VIII A.

### E. Data Collection Technique

The techniques used to obtain data in this research are as follows:

#### 1. Observation

Observation is the collection of data on research objects using observation. According to Margono in Rahmadi (2011), observation is a sequential review and recording of indications that appear on the object of research. In this research observation techniques were used to strengthen data, especially learning activities and teacher performance. The results of this observation at the same time to confirm the data.

Observation can be made directly or indirectly. The researcher directly observes the research object at the location and time of the incident which is called direct observation, meanwhile, if the researcher is carried out by means of certain facilities, such as video recording, films, slides and photos, it is called indirect observation (Rahmadi, 2011).

In this research, researcher used direct observation of the research object to determine the effectiveness of the duolingo application in learning English.

### 2. Questionnaire

Questionnaires are a number of written questions that are used to obtain information from respondents with the aim of measuring the variables that have been determined in research (Riyanto & Hatmawan, 2020).

The questionnaire used to collect information regarding students' responses to learning English using the Duolingo application. Filling is done honestly and objectively, without pressure from anyone. The questions in the questionnaire arranged based on the Liker scale has been modified with flve alternative choices, namely

a.	Strongly Agree (SA)	5
b.	Agree (A)	4
c.	Neutral (N)	3
d.	Disagree (D)	2

e. Strongly Disagree (SD) 1

This Likert scale is used to determine students' responses to the effectiveness of the Duolingo application in increasing students' interest in

learning English.

#### 3. Test

A test is a tool used to measure knowledge or mastery of a measuring object against a certain set of material. This test is used to determine the effectiveness of the Duolingo application in learning English in class VIII A MTs. Bojo Kajuara. The test is divided into two parts, namely:

- a. The pre-test or initial test is carried out to find out student learning outcomes in learning English before being given treatment. The test given is in the form of multiple choice questions with a total of 20 numbers.
- b. Post-Test or final test is conducted to find out student learning outcomes in learning English after being given treatment in the form of using the Dolingo application in learning English, the test given is in the form of multiple choice questions with a total of 20 numbers.

#### 4. Documentation

The documents used in this research are data on the number of students, student names, and other supporting data that used as evidence that they have carried out the research.

#### F. Research Instruments

The research instruments used in the research were:

#### 1. Observation Sheet

Observation sheets are use to obtain information on a variable that is in line with the research objective with the highest possible validation and reliability (Sukendra & Atmaja, 2020).

The Guttman scale is a scale that is used when getting a definite answer to a stated problem. Measurement scale with this type will get a firm answer, "yes-no". Answers can be made with the highest score of 1 and the lowest of 0. For example, yes answers are given a score of 1 and no answers are given a score of 0 (Sugiyono, 2016).

With this observation sheet, researcher could obtain information from respondents' answers regarding the effectiveness of the Duolingo application in learning English in class VIII A MTs. Bojo Kajuara.

### 2. Questionnaire Sheet

The questionnaire sheet that used in this

reserch is a questionnaire in the form of a question. With this questionnaire, the researcher can obtain information from the respondents' answers regarding the effectiveness of the Duolingo application in learning English at class VIII A MTs. Bojo Kajuara.

#### 3. Test Sheet

The test sheet is in the form of multiple choice consisting of 4 (four) choices out of 20 questions. Each question has a score of 5 (five) if the answer is correct and a score of 0 (zero) for an incorrect answer.

#### 4. Documentation Tool

Documentation tools that used by researcher were stationery to record important things and cellphones to record or take pictures or collect all data. This documentation tool is important for researcher to collect student data that become the object of research related to the effectiveness of the Duolingo application in learning English at Class VIII A MTs. Bojo Kajuara.

## **G.** Analysis Research Instruments

A measuring instrument can be recognized as a good measuring instrument and is able to provide clear and

accurate information if it meets the criteria set by the experts, namely the criteria for validating the measuring instrument are valid and reliable. The tests used to check the quality of an instrument were validity and reliability tests.

### 1. Validity Test

The validity test is to equate the data reported by the researcher with the data obtained directly that happened to the research subject (Sugiyono, 2018). The instrument is said to be valid, meaning that the measuring instrument used to obtain data is valid or can be used to measure what should be measured (Rahayu, 2020).

$$r_{xy} = \frac{N\Sigma x y_{-(\sum x)}(\sum y)}{\sqrt{(N\Sigma x^2 - (\sum x)^2 (N\Sigma y^2 - (\Sigma y)^2)}}$$

### Informations:

rxy = Correlation coefficient between X and Y

n = Number of Respondents

X = Score of each statement from each respondent

Y = Total score of all statements from each respondent

In this research, the researcher used the help

of the SPSS Version 26 application to measure the level of validity of the instrument.

If a significant value is < than  $\alpha = 0.05$ , it can be said to be valid, whereas if a significant value is > than  $\alpha = 0.05$ , it can be said to be invalid

### 2. Reliability Test

Reliability test is the degree of consistency and stability of data or findings (Sugiyono, 2018). Reliability test is a tool to measure a questionnaire which is an indicator of the variable. A questionnaire is said to be reliable if one's answers to the statement are consistent (stable) from time to time.

In SPSS, the benchmark for reliability is the Cronbach alpha value. Questionnaire items can be said to be reliable if the Cronbach's Alpha value is > 0.70 and is said to be unreliable if the Cronbach's Alpha value is < 0.70.

## H. Data analysis technique

Data analysis techniques used in this research were descriptive data analysis and inferential statistical analysis.

## 1. Descriptive Statistics

Descriptive statistic is part of statistics that can only be used when the researcher wants to describe sample data and does not want to draw conclusions about samples from the population taken in the form of presenting data through tables, graphs or diagrams, centralizing data and distributing data. The management process in testing the descriptive statistical analysis was carried out using SPSS.

#### 2. Inference Statistics

Inference Statistics is part of the statistics used in drawing a conclusion about the entire population from sample research data. The form of testing is in the form of a t-test using SPSS. Before the hypothesis is tested, a prerequisite test is carried out, namely the normality test.

## a. Normality Test

The data normality test is a test that must be carried out prior to testing the hypothesis aiming at the data already collected normally distributed or taken from the population normal.

To facilitate testing, researcher used the SPSS application to carry out an analysis of the

normality of this instrument. The basis for making decisions in the normality test is :

- 1) If sig. (significance) < 0.05, then the data is not normally distributed.
- 2) If sig. (significance) > 0.05, then the data is normally distributed

## b. Hypotesist Test

To find out the effectiveness of the Duolingo application in English learning at class VIII A MTs. Bojo Kajuara, the researcher calculate it using a paired one sample t-test with the help of the SPSS application version 25. Paired sample ttest is one of the test methods used. To assess the effectiveness of the treatment, marked by the difference in the average before and after the treatment is given. This test is use to determine the difference in the average value of the population used as a comparison with the average of a sample. From the results of this test it known whether the average of the population used as a comparison is significantly different from the average of a sample, if there is a difference in which average is higher.

The basis for making a decision to accept or reject Ho in this test is as follows:

- If the significant value is > 0.05 then Ho is accepted or Ha is rejected (the performance difference is not significant).
- If the significant value < 0.05 then Ho is rejected or Ha is accepted (significant performance difference)

### **CHAPTER IV**

#### RESEARCH FINDINGS

# A. General Desription of Research Location

### 1. Madrasah Identity

School Name : MTs. Bojo Kajuara

Under the auspices : Kementrian Agama

School Status : Swasta

Province : Sulawesi Selatan

Regency/City : Bone

District : Kajuara

Village/Ward : Awang Tangka

Road : Bone-Sinjai Axis

Postal Code : 92776

No. Decree of Establishment : 1019 of 2007

Date : November 14th

Established Year : 2007

Curriculum : 2013

Accredicated : B

Teacher : 17 Teachers

Class VII ( VII A, VII B,

and VII C) lass VIII (

VIII A, VIII B, and VIII C)

### Class IX (IX A, and IX B)

E-mail : <u>kajuaramtsbojo@gmail.com</u>

# 2. Vision and Mission of MTs. Bojo Kajuara

#### a. Vision

Realizing superior quality human resources in the fields of IMTAQ and science and technology with an environmental perspective.

### b. Mission

Organizing superior quality education in the fields of IMTAQ and IMTEK with an environmental perspective in an effort to increase community participation.

### 3. The Purpose of MTs. Bojo Kajuara

- Information technology-based learning process has been carried out as mandated in the 2013 new curriculum
- b. Improving the performance and professionalism of teaching and educational staff based on their respective TUPOKSI and increasing students' passing in the national exam.
- c. Complementing learning media to support the AIT-based learning process

- d. The implementation of effective, efficient and targeted management of teacher administration and madrasa administration
- e. Activating student activities in the religious and extracurricular fields
- f. Improving the culture of clean and beautiful life in the madrasah environment and establishing togetherness among fellow madrasah stakeholders.

  (Documentation of MTs. Bojo Kajuara, 2023)

#### B. Result and Discussion of The Research

#### 1. The Result of The Research

### a. Validity and Reliability of The Test

### 1) Validity of The Test

Before using the instrument to conduct research, the instrument must be tested first against a large number of identified respondents to test its effectiveness. If the device is validated, it can be used for research. To test the validity of the research instrument using the product moment with the help of the SPSS 25.0 for windows program with the provision of comparing the rount value with the r-table

value. If the value of r-count > r-table then the test item and questionnaire are declared invalid.

The results of the validity test of test questions and questionnaires are as follows:

**Table 4.1 Pretest Validity of The Test** 

Correlation			
No.	Pearson	Rtabel	Information
Question	Correlation	(Sig. 0,05)	
Items			
X1	0,451	0,443	Valid
X2	0,988	0,443	Valid
X3	0,988	0,443	Valid
X4	0,451	0,443	Valid
X5	0,451	0,443	Valid
X6	0,988	0,443	Valid
X7	0,451	0,443	Valid
X8	0,451	0,443	Valid
X9	0,988	0,443	Valid
X10	0,738	0,443	Valid
X11	0,738	0,443	Valid
X12	0,988	0,443	Valid

X13	0,988	0,443	Valid
X14	0,451	0,443	Valid
X15	0,451	0,443	Valid
X16	0,451	0,443	Valid
X17	0,451	0,443	Valid
X18	0,451	0,443	Valid
X19	0,451	0,443	Valid
X20	0,451	0,443	Valid

Source: Results of data analysis with SPSS 25.0

From Table 4.1 it can be seen that an item is declared valid if the result of calculating the person correlation > r-table (Sig. 0.05). to determine the value of r-table (sig. 0.05) can be seen in the product moment r-table with the amount of data (N) = 20 in the attachment. Based on the r product moment table at a significance of 5%, it is known that the r-table is 0.443. Thus, the pre-test item consisting of 20 question items were declared valid.

**Table 4.2 Posttest Validity of The Test** 

Correlation			
No.	Pearson	Rtabel	Information
Question	Correlation	(Sig. 0,05)	
Items			
X1	0,728	0,443	Valid
X2	0,525	0,443	Valid
X3	0,728	0,443	Valid
X4	0,728	0,443	Valid
X5	0,728	0,443	Valid
X6	0,816	0,443	Valid
X7	0,530	0,443	Valid
X8	0,530	0,443	Valid
X9	0,530	0,443	Valid
X10	0,530	0,443	Valid
X11	0,816	0,443	Valid
X12	0,816	0,443	Valid
X13	0,530	0,443	Valid
X14	0,530	0,443	Valid
X15	0,789	0,443	Valid
X16	0,530	0,443	Valid
X17	0,702	0,443	Valid

X18	0,789	0,443	Valid
X19	0,743	0,443	Valid
X20	0,789	0,443	Valid

Source: Results of data analysis with

### SPSS 25.0

From table 4.2 it can be seen that an item is declared valid if the result of calculating the person correlation > r-table (Sig. 0.05). to determine the value of r-table (sig. 0.05) can be seen in the product moment r-table with the amount of data (N) = 20 in the attachment. Based on the r product moment table at a significance of 5%, it is known that the r-table is 0.443. Thus, the post test item consisting of 20 question items were declared valid.

Table 4.3 Questionnaire Validity of The Test

Correlation			
No.	Pearson	Rtabel	Information
Question Items	Correlation	(Sig. 0,05)	
items			
X1	0,616	0,443	Valid

X2	0,693	0,443	Valid
X3	0,616	0,443	Valid
X4	0,892	0,443	Valid
X5	0,693	0,443	Valid
X6	0,892	0,443	Valid
X7	0,892	0,443	Valid
X8	0,693	0,443	Valid
X9	0,812	0,443	Valid
X10	0,693	0,443	Valid
X11	0,624	0,443	Valid
X12	0,693	0,443	Valid
X13	0,693	0,443	Valid
X14	0,592	0,443	Valid
X15	0,629	0,443	Valid
X16	0,761	0,443	Valid
X17	0,629	0,443	Valid
X18	0,692	0,443	Valid
X19	0,521	0,443	Valid
X20	0,819	0,443	Valid
X21	0,629	0,443	Valid
X22	0,672	0,443	Valid
X23	0,693	0,443	Valid

X24	0,761	0,443	Valid
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Source: Results of data analysis with

SPSS 25.0

From Table 4.3 it can be seen that an item is declared valid if the result of calculating the person correlation > r-table (Sig. 0.05). To determine the value of r-table (sig. 0.05) can be seen in the product moment r-table with the amount of data (N) = 20 in the attachment. Based on the r product moment table at a significance of 5%, it is known that the r-table is 0.443. Thus, the questionnaire items consisting of 24 statement items were declared valid.

#### 2) Reliability of The Test

Reliability is defined as something that can be trusted. The reliability test serves to determine the level of consistency of test items and questionnaires that will be used in research so that the test items and questionnaires can be used, even though they are carried out repeatedly with the same questionnaire test.

In this research, the reliability test used the alpha cronbach moment using SPSS 25.0 for windows. The basis for decision making in the reliability test is, if the Cronbach alpha value is > 0.70, the research instrument is declared reliable or consistent. Meanwhile, if the Cronbach alpha value is < 0.70, the research instrument is declared unreliable or inconsistent. The results of the reliability test of 20 test items and 24 statement item questionnaires are as follows:

**Table 4.4 Pretest Reliability of The Test** 

Reliability	y Statistics
Cronbach's Alpha	N of Items
,767	20

Source: Results of data analysis

with SPSS 25.0

Based on table 4.4 of the reliability test results above, it can be seen that the Cronbach's Alpha value is 0.767 or 0.767 > 0.70. It means

that the question items have a high level of reliability.

**Table 4.5 Posttest Reliability Test** 

Sour <b>Reliabilit</b> y	s <b>Statistics</b> alysis with S	SPSS 25.0
Crombach's Alpha	N of Items	
,863	20	

a

sed on Table 4.5 of the reliability test results above, it can be seen that the Cronbach's Alpha value is 0.863 or 0.863 > 0.70. It means that the question items have a high level of reliability.

**Table 4.6 Questionnaire Reliability of The Test** 

Reliability	Statistics
Cronbach's Alpha	N of Items
,863	24

Source: Results of data analysis with SPSS 25.0

Based on table 4.6 of the reliability test results above, it can be seen that the Cronbach's Alpha value is 0.950 or 0.950 > 0.70. It means

that the statement items have a high level of reliability.

#### **b.** Descriptive Statistics

#### 1) Test

The data is presented in the following tabular form:

Table 4.7 Descriptive statistical results from the pretest and posttest

<b>Descriptive Statistics</b>											
			Maximu		Std.						
	N	Minimum	m	Mean	Deviation						
Pretest	20	30	80	61,00	14,832						
Posttest	20	70	100	84,75	8,656						
Valid N (listwise)	20										

Source: Results of data analysis with SPSS 25.0

Based on the table 4.7 above, it shows that the students' pre-test scores obtained the minimum score was 30, the maximum score was 80, the mean value was 61.00 and the std deviation value was 14.832. As for the post test scores, the minimum value is 70, the maximum is

100, the mean value is 84.75 and the std deviation value is 8.656.

#### c. Inferential Statistics

The prerequisite test is carried out to test the data that has been obtained so that the hypothesis can be tested. The prerequisite test is the normality test.

#### 1) Normality of The Test

The normality test was carried out to find out whether the data is normally distributed or not. The normality test in this study used Shapiro Wilk with the condition that the significance level was > 0.05 using SPSS 25.0 for Windows while the calculation results from the test data normality test in learning English for students in the experimental class were as follows:

**Table 4.8 Test Normality of The Test** 

\

Test of Normality										
	Kelas	Shapiro Wilk								
		Statistic	df	Sig.						
Result	Pretest	,933	20	,175						
Of the	Posttest	,946	20	,308						
Test										

Source: Results of data analysis with SPSS 25.0

Based on the table 4.8 above, the test results in learning English for students obtained a significance value from the pre-test value, which was 0.175. This shows that the sig. The significance value obtained is greater than 0.05 or 0.175 > 0.05 while for the post test value, the significance value obtained is 0.308 in the sig table. The significance value obtained is greater than 0.05 or 0.308 > 0.05. So it can be concluded that the scores of the tests in learning English students are normally distributed.

#### 2) Hypothesis of The Test

After the prerequisite test is carried out and the data that has been analyzed proves to

be normal, then hypothesis testing is then carried out which aims to prove the truth or answer the hypothesis presented in this study. As for this research, the hypothesis test used was the paired sample t-test. Hypothesis testing was carried out to determine the effective use of the Duolingo application in learning English for class VIII A students at MTs. Bojo Kajuara.

The paired sample t-test test table using the SPSS 25.0 for Windows program is as follows:

Table 4.9 Results of the paired sample T-Test

	Paired Samples Test											
			Pair	ed Differ	ences							
					95	%						
					Confi	dence						
			Std.	Std.	Interval of the				Sig.			
			Deviati	Error	Diffe	rence			Sig. (2-			
		Mean	on	Mean	Lower	Upper	t	df	tailed)			
Pai	posttest	23,75	9,442	2 111	19,331	28,169	11,2	19	000			
r 1	– pretest	0	9,442	2,111	19,331	20,109	49	19	,000			

Source: Results of data analysis with SPSS 25.0

Based on the table 4.9 above, the value of Sig. (2-tailed) of 0.000. The significance value obtained is less than 0.05 or 0.000 <0.05, then Ho is rejected and Ha is accepted. Therefore it can be

concluded that Ha is accepted and Ho is rejected. In other words, the Duolingo application is effective in learning English for class VIII A students at MTs. Bojo Kajuara.

#### 2. Discussion of The Research

Based on the results of the research that has been done, the research shows that the use of the Duolingo application is effective in learning English. It can be seen from the indicators of learning effectiveness, namely:

#### a. Positive Student Response

**Table 5.0 Frequency Distribution of The Questionnare** 

No	Pernyataan	Stroi Disag	gree	Disag			ıtral		ree	Stron	ee
		F	%	F	%	F	%	F	%	F	%
1.	I enjoy using the Duolingo application in the learning process	-	-	2	10	1	5	4	20	13	65
2.	I am lazy to follow the lessons when using the Duolingo application	4	20	13	65	3	15		-	-	-
3.	The Duolingo application can grow my enthusiasm and interest in learning English	-	-	2	10	1	5	4	20	13	65
4.	The Duolingo application can let me know a lot of English vocabulary	-	-	-	-	-	-	10	50	10	50
5.	I am not enthusiastic about using the Duolingo application to learn English	4	20	13	65	3	15	1	-	-	-
6.	I enjoy listening to explanations of English material using the Duolingo application in learning	-	-	1	-	-	-	10	50	10	50
7.	I don't find it difficult to learn English using the Duolingo application	-	-	-	-	-	-	10	50	10	50
8.	I don't understand learning to use the Duolingo application in learning English	4	20	13	65	3	15	-	-	-	-
9.	I feel active in learning when I use the Duolingo application in learning English	-	-	-	-	1	5	8	40	11	55
10.	I prefer to use the lecture method rather than using the Duolingo application when studying	4	20	13	65	3	15	-	-	-	-
11.	Using the Duolingo application in learning English is more interesting to learn	-	-	'	-	1	5	6	30	13	65
12.	I don't understand English learning using the Duolingo application	4	20	13	65	3	15	'	-	-	-
13.	I feel bored when learning activities use the Duolingo application	4	20	13	65	3	15	-	-	-	-
14.	By using the Duolingo application in learning, I learn more actively	-	-	-	-	2	10	11	55	7	35
15.	I find it more helpful to use the Duolingo application in studying	-	-	-	-	-	-	5	25	15	75

16.	I pay more attention to learning English by using the Duolingo application	-	-	-	-	4	20	8	40	8	40
17.	The Duolingo application can help me study well	-			,	-	,	5	25	15	75
18.	By using the Duolingo application, learning is more interesting	-	-	'	-	-	'	8	40	12	60
19.	Teaching materials using the Duolingo application are easy to understand	-	-	1	•	1	5	9	45	10	50
20.	The use of the Duolingo application in learning encourages me to study independently	-	-	-	-	2	10	8	40	10	50
21.	The Duolingo application that I use can help me understand English subject matter	-	-	1	-	-	'	5	25	15	75
22.	Learning to use the Duolingo application in English lessons is more interesting to learn	-	-	1	1	1	5	9	45	10	50
23.	I feel it is a loss to learn English by using the Duolingo application	4	20	13	65	3	15	-	-	-	-
24.	I feel the need to use the Duolingo app in learning English	-	-	-	-	4	20	8	40	8	40

Source: Processed by researcher

Based on the results of the research, the response of class VIII A students at MTs. Bojo Kajuara when using the Duolingo application in learning English gave a positive response. It can be seen from the result of the table 5.1 frequency distribution in the attached questionnaire, the data shows that as many as 65% of students enjoy using the Duolingo application in the English learning process, 65% of students strongly agree The Duolingo application can grow enthusiasm and

interest in learning English, and 75% of students strongly agree that the Duolingo application can help student to understand English subject matter. The effectiveness of learning using the Duolingo application for students' positive responses can be seen from the many features that make students not feel bored when using the Duolingo application.

Based on the data obtained above, it can be said that class VIII A students at MTs. Bojo Kajuara gave a positive response, indicating that the Duolingo application provides students with learning motivation, resulting in a strong interest in learning to carry out learning activities.

#### b. Learning Outcomes

Based on the results of the research, student learning outcomes after using the Duolingo application in learning English have increased. It can be seen at the table 4.7, the data shown from the results of the descriptive analysis of the data before treatment obtained an average value of 61.00 %, while the value of learning outcomes after treatment obtained an average value of 84.75%.

Based on the data obtained, it can be said that the use of the Duolingo application is effective in learning English on student learning outcomes. The effectiveness of learning using the Duolingo application for student learning outcomes can be seen by the various learning methods that are presented and fun. The material presented is not only in the form of text but also in the form of audio and visuals which are packaged almost like children's games . It can be concluded that the application of the Duolingo application is effective for student learning outcomes in learning English, because in the learning process a learning method or media is needed that is not monotonous so that the learning process can be carried out properly and can improve student learning outcomes.

#### c. Student activity in learning

**Table 5.1 Frequency Distribution Observation** 

No	Domyotoon	Y	es	No		
carrying out learning	F	%	F	%		
1.	before and after	20	100	-	-	

2.	Students who are ready to participate in learning activities and listen to or pay attention to information and instructions from the teacher	20	100	-	-
3.	Students pay close attention to the delivery of material with the Duolingo application and students ask questions about material they don't understand	19	95	1	5
4.	Students who answered the questions posed by the teacher and dared to volunteer to work on the questions on the blackboard	15	75	5	25
5.	Students who ask the teacher about the material being studied	17	85	3	15
6.	Students conclude the material that has been studied	6	30	14	70
7.	Students who pay attention to the teacher's advice in ending the learning session	20	100	-	-

sed on the results of the research, the effectiveness of learning using the Duolingo application on student activities in learning can be seen from the results of observations on the implementation of learning English using the Duolingo application. The data shows that as many as 95% of students who listen to the material use the Duolingo application and are active in asking questions about material they do not understand and as many as 75% of students answer questions posed by the teacher.

Based on the data obtained, it can be said that the use of the Duolingo application is effective in learning English towards student activity. The effectiveness of learning using the Duolingo application for student activities can be seen by the feedback process between the teacher and students and vice versa. Students do not feel bored during the learning process so that makes students more active and enthusiastic in participating in the learning process using the Dulingo application.

The effectiveness of learning using the Duolingo application can be seen by the ease in accessing the Duolingo application, the use of the

Duolingo application can make it easy for students to quickly understand the material being taught in the application. Duolingo has a very motivating learning system. This application uses game mechanics strategies that create incentives to keep students learning. It is built very much like a computer game in which the participants must pass a certain level. A learner passes through the levels of the language tree. The following lesson will be opened after a learner has mastered the previous material. Users can complete different types of exercises including multiple choice, writing and also speaking into the microphone. Duolingo primarily uses exercises and repeated exercises in lessons. •

The results of previous studies support Rifdinal's research, which shows that the use of the Duolingo application is effective in learning English, especially in learning vocabulary. (Rifdinal, 2021). In research from Rafika Tri Julianti also shows that the duolingo application has an influence on vocabulary (Julianti, 2020). Meanwhile, the research by Mega Selvia Purba showed that the Duolingo application had an influence on increasing students' Vocabulary (Wortschatz) (Purba et al, 2022) .

### CHAPTER V CLOSING

#### A. Conclusion of The Research

Based on research that has been conducted on class VIII A students at MTs Bojo Kajuara, after analyzing the data using questionnaires, tests and observations, it can be concluded that the results of the hypothesis indicate that the duolingo application is effective in learning English. It can be seen by the final results of testing using a paired sample T-Test. The value of Sig. (2-tailed) of 0.000. The significance value obtained is less than 0.05 or 0.000 <0.05, then Ho is rejected and Ha is accepted. Therefore it can be concluded that Ha is accepted and Ho is rejected. In other words, the Duolingo application is effective in learning English for class VIII A students at MTs Bojo Kajuara

#### **B.** Suggestion of The Research

The suggestions put forward by researcher related to this research are as follows

1. For the students to be able to use the Duolingo application in learning English and should be more

- serious about learning in order to obtain higher learning outcomes
- 2. For the teacher to be able to use learning methods or media that are fun and can make it easier for students to understand the subject matter so that students are more motivated to learn
- 3. For the school to be able to improve the facilities and infrastructure that support the learning process properly.

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# **APPENDICES**

# APPENDIX I RESEARCH INSTRUMENTS

#### GRID OF RESEARCH INSTRUMENT

## The Effectiveness of Duolingo Application In English Learning At Class VIII A MTs Bojo Kajuara

Indicator	No Item	Ket.
Student activity in	1,2,3,4,5,6,7	Observations
learning		
Student learning	1,2,3,4,5,6,7,8,9,10	Test
outcomes	11,12,13,14,15,16,17,	
	18,19,20	
Student response	1,2,3,4,5,6,7,8,9,10,11,	Questionnaire
to learning	12,13,14,15,16,17,18,19	
	20,21,22,23,24	

Sinjai, 28 February 2023

Pembimbing I,

Harmilawat S.S.,S.Rd., M.Pd. NIDN. 2125058607 Pembimbing II,

St. Rahmaniah Bahrun, S.Pd., M.Pd. NIDN. 2126128804

Mengetahui,

ma Prodi Tadris Pahasa Inggris

Harmiliwati SS S.Pd. M.Pd.

#### Observation sheet student activity in learning

#### Observation sheet

Schoo	ΙN	ame	•
SCHOOL	LIN	anne	•

Class/Semester :

Subjects :

Day/Date :

Observer Name :

#### **Charging Instructions**

- A. Observations were made of student activities during the learning process, starting from the initial activity to the end of learning
- B. Put a mark ( $\sqrt{}$ ) in the column that corresponds to student activities in the process of teaching and learning activities
- C. The following is a description of each column
  - 1. Students say greetings before and after carrying out learning activities

- 2. Students who are ready to participate in learning activities and listen to or pay attention to information and instructions from the teacher
- 3. Students pay close attention to the delivery of material with the Duolingo application and students ask questions about material they don't understand
- 4. Students who answered the questions posed by the teacher and dared to volunteer to work on the questions on the blackboard
- 5. Students who ask the teacher about the material being studied
- 6. Students conclude the material that has been studied
- 7. Students who pay attention to the teacher's advice in ending the learning session

No	Student's name	Observed aspect			t			
		1	2	3	4	5	6	7
1.								
2. 3.								
3.								
4.								
5.								
6.								
7.								
8.								
9.								
10.								
11.								
12.								
13.								
14.								
15.								
16.								
17.								
18.								
19.								
20.								
21.								

#### **Student response Questionnaire Sheet to Learning**

School	Name	:	
School	Name		

**Student Name**:

Class/Semester :

**Subjects**:

#### **INQUIRY FILLING INSTRUCTIONS**

- 1. Fill in the identity of the respondent that has been provided
- 2. Read the questions carefully and answer them truthfully without being influenced by anything else
- 3. Put a checklist ( $\sqrt{ }$ ) on the available answer choices according to the answer items as follows:

(5) SA : Strongly Agree (2) D:

Disagree

 $(4) A : Agree \qquad (1) SD:$ 

Strongly Disagree (3) N : Neutral

No	Statement	Answer				
		SA	A	N	D	SD
1.	I enjoy using the					
	Duolingo application					
	in the learning process					
2.	I'm lazy to follow the					
	lessons when usin					
	g the Duolingo					
	application					
3.	I am less enthusiastic					

about using the	
Duolingo application	
to learn English	
4. I enjoy listening to	
explanations of	
English material using	
the Duolingo	
application in learning	
5. I don't find it difficult	
to learn English using	
the Duolingo	
application	
6. I don't understand	
learning to use the	
Duolingo application	
in learning English	
7. I feel active when I	
use the Duolingo	
application in learning	
English	
8. I like to use the lecture	
method instead of	
using the Duolingo	
application during	
learning	
9. Using the Duolingo	
application in learning	
English is more	
interesting to learn	
10. I don't understand	
English learning using	
the Duolingo	
application	
11. I feel bored when	

	1			1	
	learning activities				
	use the Duolingo				
	application				
12.	By using the Duolingo				
	application in				
	learning, I learn more				
	actively				
13.	I find it more helpful				
	to use the Duolingo				
	application in				
	studying				
14.	I pay more attention to				
	learning English by				
	using the Duolingo				
	application				
15.	The Duolingo app can				
	help me study well				
16.	By using the Duolingo				
	application, learning is				
	more interesting				
17.	Teaching materials				
	using the Duolingo				
	application are easy to				
	understand				
18.	The use of the				
	Duolingo application				
	in learning encourages				
	me to study				
	independently				
19.	The Duolingo		 		
	application used can				
	help				
	I understand the				
	subject matter of				
		-	 		

	English			
20.	Learning using the			
	Duolingo application			
	on			
	English lessons are			
	more interesting to			
	learn			
21.	I feel it is a loss to			
	learn English by using			
	the Duolingo			
	application			
22.	I feel the need to use			
	the Duolingo			
	application in learning			
	English			
23.	$\mathcal{E}$			
	application can grow			
	my enthusiasm and			
	interest in learning			
	English			
24.	The Duolingo			
	application can let me			
	know a lot of English			
	vocabulary			

## **Test sheet (pretest and posttest)**

Pro	<u>etest</u>		
Na	me :		
Cla	nss :		
sco	ore :		
Ch	oose A, B	, C, or D for the correc	ct answer!
1.	Sari	: Hi, can I sit here?	
	Cica	:, yo	u can .
	A. Of co	urse	C. No, I don't know
	B. Yes,	[ˈm	D. yes, it's empty
2.	Iida	: Hi. Good afternoon	n. I am Ida
	Ica	:, <i>I</i>	'm Ica
	A. Good	night	C. Get well soon
	B. Good	afternoon	D. Good morning
3.	Susie	: Good bye, Mom!	
	Mother	:	
	A. Bye,	Honey!	C. Goodnight
	B. I'm fin	ne. Thanks	D. Good Evening
4.	Rudy	: Hello. I am Rudy.	Nice to meet you
	Gary	: I am Gary	

	A. Nice to meet you too	C. I'm from Jakarta
	B. Pleased to meet you	D. Nice to meet you
5.	Mom : Rudi, can you help n	ne?
	Rudi : Of course, Mom.	
	Mom :, <i>dear</i> .	
	Rudi : You're welcome, mo	om.
	A. No, I cant	C. Yes, I did
	B. Thank you	D. No, I don't know
6.	Mother and father together are?	
	A. Nephew	C. Uncle
	B. Parent	D. Grandfather
7.	This is my Mother is a doct	tor.
	A. Him	C. He
	B. Her	D. She
8.	My mother's sisters are my	_
	A. Aunt	C. Uncle
	B. Nephew	D. Cousin
9.	The father of my mother is?	
	A. My grandfather	C. My brother
	B. My grandmother	D. My uncle
10.	Have you lost book, Tom?	
	A. Hers	C. Theirs
	B. Yours	D. Mine

11.	After Sunday is Monday, a	nd before Sunday is?
	A. Sturday	C. Thursday
	B. Friday	D. Tuesday
12.	What are the months in the	year?
	A. Nine	C. Elevent
	B. Ten	D. Twelve
13.	After september is?	
	A. October	C. April
	B. June	D. July
14.	How do you say this number	er <b>4th</b> ?
	A. Third	C. First
	B. Second	D. Fourth
15.	I go to school at in th	ne morning.
	A. Nine o'clock	C. Ten o'clock
	B. Six thirty o'clock	D. Eight thirty o'clock
16.	My friend is watching	_·
	A. A television	C. A radio
	B. A book	D. A speaker
17.	I need to write this no	ote.
	A. Pen C.	Shirt
	B. Bag	D. Marker
18.	Before entering someone's h	nouse, we must knock on
	A. The door	C. The table

	B. The room	D. The	chair
19.	I have read amazing life s	story.	
	A.The		C.A
	B. An		D. Been
20.	I like novel books.		
	A. This	C. The	se
	B. That	D. The	<b>;</b>

Pos	<u>ttest</u>		
Naı	me :		
Cla	ss :		
sco	re :		
Cho	oose A, B,	C, or D for the co	orrect answer!
1.	Sari	: How are you?	
	Cica	:	, thank you .
	C. I'm fir	ie	C. Nice to meet you
	D. Yes, I	'm	D. Good evening
2.	Iida	: Hi. Good morn	ing. I am Ida
	Ica	:	_, I'm Ica
	A. Good	night	C. Good morning
	B. I'm fin	ie. Thank you	D. Get well soon
3.	Susie	: Good bye, Mon	n!
	Mother	:	
	A. Bye, I	Honey!	C. Goodnight
	B. I'm fin	ne. Thanks	D. Good Evening
4.	Rudy	: Hello. I am R	udy. I'm from Surabaya. Where
	are you f	rom?	
	Gary	: It's	nice to meet you .
	A. I am C	Bary	. C. I'm from Jakarta

	B. Please	ed to meet you	D. Good Morning
5.	Mom	: Rudi, can you help	me?
	Rudi	: Of course, Mom.	
	Mom	: Thank you, dear.	
	Rudi	:	
	A. You're	e welcome	C. Yes, I did
	B. Thank	as a lot	D. No, I don't know
6.	Mother a	and father together are?	,
	A. Nepho	ew	C. Uncle
	B. Parent	t	D. Grandfather
7.	this is my	y father is a teache	er.
	A. They		C. He
	B. We		D. You
8.	My fathe	r's brothers are my	
	A. Uncle		C. Nephew
	B. Cousi	n	D. Aunt
9.	The moth	ner of my father is?	
	A. My no	ephew	. C. My uncle
	B. My gr	andmother	D. My brother
10.	Have you	lost book, Tom?	
	A. Hers		C. Theirs
	B. Yours		D. Mine
11.	Before T	uesday is Monday, and	l after Tuesday is?

	A. Wednesday	C. Sunday
	B. Friday	D. Monday
12.	What are the days in the week?	
	A. Five	C. Six
	B. Eight	D. Seven
13.	Before May is?	
	A. October	C. July
	B. April	D. June
14.	How do you say this number 3re	<b>d</b> ?
	A. Third	C. First
	B. Second	D. Fourth
15.	I go to school at in the mo	orning.
	A. Nine o'clock	C. Ten o'clock
	B. Six thirty o'clock	D. Eight thirty o'clock
16.	My friend is reading in th	ne class.
	A. A television	C. A radio
	B. A book	D. A speaker
17.	I need to bring our school	l books.
	A. Wallet	C. Bag
	B. Shirt	D. Pen
18.	Before entering someone's house	e, we must knock on
	A. The door	C. The table
	B. The room	D. The chair

19.	I have read amazing life s	story.	
	A.The		C.A
	B. An		D. Been
20.	I like history books.		
	A. This	C. The	se
	B. That	D. The	;

## APPENDIX II SCHEDULE OF THE RESEARCH

#### THE SCHEDULE OF THE RESEARCH

No	Description				Ye	ar			
			2022				2023		
		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
1.	Submission of research title								
2.	Acceptance of research title								
3.	Guidance of the preparation of research proposals								
4.	Research proposal seminar								
5.	primary and secondary data collection								
6.	Data validity								
7.	Research data processing								
8.	Guidance of research results								
9.	Thesis examination								

# APPENDIX III DATA AND ANALYSIS DATA OF THE RESEARCH

#### Tabel r untuk df = 1-50

	Tin	gkat signif	ikansi untu	ık uji satu a	arah
df = (N-2)	0.05	0.025	0.01	0.005	0.0005
ui - (N-2)	Tin	igkat signif	ikansi untu	ık uji dua a	rah
	0.1	0.05	0.02	0.01	0.001
1	0.9877	0.9969	0.9995	0.9999	1.0000
2	0.9000	0.9500	0.9800	0.9900	0.9990
3	0.8054	0.8783	0.9343	0.9587	0.9911
4	0.7293	0.8114	0.8822	0.9172	0.9741
5	0.6694	0.7545	0.8329	0.8745	0.9509
6	0.6215	0.7067	0.7887	0.8343	0.9249
7	0.5822	0.6664	0.7498	0.7977	0.8983
8	0.5494	0.6319	0.7155	0.7646	0.8721
9	0.5214	0.6021	0.6851	0.7348	0.8470
10	0.4973	0.5760	0.6581	0.7079	0.8233
11	0.4762	0.5529	0.6339	0.6835	0.8010
12	0.4575	0.5324	0.6120	0.6614	0.7800
13	0.4409	0.5140	0.5923	0.6411	0.7604
14	0.4259	0.4973	0.5742	0.6226	0.7419
15	0.4124	0.4821	0.5577	0.6055	0.7247
16	0.4000	0.4683	0.5425	0.5897	0.7084
17	0.3887	0.4555	0.5285	0.5751	0.6932
18	0.3783	0.4438	0.5155	0.5614	0.6788
19	0.3687	0.4329	0.5034	0.5487	0.6652
20	0.3598	0.4227	0.4921	0.5368	0.6524

## The Data of Validity Qusetionnaire

20	19	18	17	16	15	14	13	12	=	10	9	8	7	6	5	4	w	2	1	No.
A20	A19	A18	A17	A16	A15	A14	A13	A12	All	A10	A9	A8	A7	A6	A5	A4	A3	A2	Al	Responden
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5	4	5	4	4	5	4	5	5	4	4	5	5	4	5	4	5	4	5	4	6
5	4	5	4	4	5	4	5	5	4	4	5	S	4	5	4	S	4	S	4	7
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S	4	5	4	5	S	4	S	5	S	4	4	5	4	2	w	S	S	2	5	11
2	-	2	-	2	w	2	2	3	-	2	w	2	2	2	2	2	<u> </u>	2	2	12
2	-	2	-	2	ယ	2	2	3	-	2	ယ	2	2	2	2	2	-	2	2	13
5	4	4	4	5	S	4	4	5	သ	w	4	5	S	4	4	S	4	4	4	14
S	4	5	4	5	5	5	5	5	5	4	5	5	S	S	4	5	S	5	4	15
S	4	5	4	5	S	ယ	4	4	ယ	4	4	5	ယ	S	4	S	ယ	5	4	16
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S	4	5	4	5	5	4	5	5	5	4	4	5	4	5	4	S	S	5	4	18
5	4	5	4	5	5	4	5	3	4	4	4	5	4	5	4	5	5	S	4	19
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## The Data of Validity Test

### Pretest

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A20	A19	A18	A17	A16	A15	A14	A13	A12	A11	A10	A9	A8	A7	A6	A5	A4	A3	A2	A1	Responden
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### Posttest

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щ	ъ	ъ	ъ	щ	0	ь	ь	н	ь	щ	0	ь		7
щ	ш	0	ш	щ	ь	ш	0	ь	ь	ь	0	0		<b>∞</b>
ь	ь	ь	0	ь	Н	0	ш	н	ь	н	н	ы		9
ш	ш	0	0	ь	0	ъ	ь	ь	ь	0	0	ъ		10
Н	ь	0	ь	Н	0	0	ь	Н	ь	ъ	ъ	0		11
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ь	ь	ь	ь	ь	ь	0	ь	ъ	ь	ь	ь	0		13
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Data of The Research

Questionnaire

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A13	A12	A11	A10	A9	A8	A7	A6	A5	A4	A3	A2	IA	Responden
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2	4	S	4	4	N	4	N	4	N	4	S	4	22
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4	5	4	4	4	5	4	4	4	5	5	5	5	24

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A20	A19	A18	A17	A16	A15	A14
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2. Test
Pretest

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All	A10	A9	A8	A7	A6	A5	A4	A3	A2	Al	Responden
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20	19	18	17	16	15	14	13	12
A20	A19	A18	A17	A16	A15	A14	A13	A12
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0	0	0	0	0	0	0	0	0

11	10	9	<b>«</b>	7	6	5	4	သ	2	_	No
All	A10	A9	A8	A7	A6	A5	A4	A3	A2	Al	Responden
0	-	1	0	0	0		0	0	0	0	1
0	-	н	0	-	-	_	0	-	_	0	2
0	-	1	0	0	-	-	_	_	0	-	3
0	-	0	0	-	_	_	0	_	0	-	4
-	-	-	0	_	-	_	0	0	_	0	5
0	0	ь	0	0	0	0	0	0	0	0	6
0	-	-	_	н	0	Н	_	0	_	-	7
0	-	_	-	-	0	-	0	_	0	1	00
0	_	-	0	_	0	_	0	0	_	_	9
0	_	0	0	-	-	-	_	0	_	0	10
-	0	_	0	0	-	0	1	_	0	0	11
0	0	-	0	0	_		_	_	0	_	12
-	-	-	-	_	-	1	_	_	0	-	13
0	-	-	-	_	-	-	-	0	-	-	14
1	1	-	-	-	1	_	_	-	1	1	15
-	-	н	-	_	-	_	_	_	н	_	16
	_	-	0	_		_	_	_		0	17
_	0	-	0	_	_	_	_	_	0	_	18
0	0	0	0	0	-	0	0	0	0	0	19
0	0	0	0	0	0	0	0	0	0	0	20

20	19	18	17	16	15	14	13	12
A20	A19	A18	A17	A16	A15	A14	A13	A12
0	1	-	1	0	1	1	-	0
1	0	_	-	_	_	1	-	_
-	1	-	_	1	_	1	1	_
_	1	-	0	0	-	0	-	0
0	1	-	_	0	_	1	1	
0	0	0		0	0	0	0	0
0	1	0	Н	0	Н	1	0	Ь
0	1	0	-	0	1	1	0	0
0	1	0	-	0	1	1	0	0
_	1	0	0	0	0	0	-	
-	1	1	Н	0	0	0	1	
-	1	-	_	0	1	1	-	
1	1	1	-	_	1	1	1	0
1	1	1	0	-	1	1	0	-
1	1	1	1	-	1	1	1	1
_	1	1	_	-	1	1	ь	ш
0	1	-		_	_	0	0	
-	1	0	1	0	Н	1	1	
0	0	-	0	_	0	0	0	-
0	0	0	0	0	0	0	0	С

#### 3. Observation

No	Responden	1	2	3	4	5	6	7
1	A1	1	1	1	0	1	0	1
2	A2	1	1	1	1	0	0	1
3	A3	1	1	1	0	1	0	1
4	A4	1	1	1	1	1	0	1
5	A5	1	1	1	1	1	0	1
6	A6	1	1	1	1	1	0	1
7	A7	1	-1	1	0	1	0	1
8	A8	1	1	0	1	1	0	1
9	A9	1	1	1	1	1	1	1
10	A10	1	1	1	1	1	0	1
11	A11	1	1	1	0	0	0	1
12	A12	1	1	1	1	1	0	1
13	A13	1	1	1	0	1	1	1
14	A14	1	1	1	1	1	0	1
15	A15	1	1	1	1	1	1	1
16	A16	1	1	1	1	1	0	1
17	A17	1	1	1	1	1	1	1
18	A17	1	1	1	1	1	1	1
19	A19	1	1	1	1	1	1	1
20	A20	1	1	1	1	0	0	1

#### The Output of SPSS

#### a. Descriptive Statistics

#### **Descriptive Statistics of Test**

**Descriptive Statistics** 

					Std.
	N	Minimum	Maximum	Mean	Deviation
Pretest	20	30	80	61,00	14,832
posttest	20	70	100	84,75	8,656
Valid N	20				
(listwise)	20				

#### b. Normality Test

Shapiro Wilk

**Tests of Normality** 

	Kolm	ogoro	V-					
	Sm	irnov <sup>a</sup>	l	Shapiro-Wilk				
	Statistic	Df	Statistic	df	Sig.			
Pretest	,156	20	,200*	,933	20	,175		
Posttest	,158	20	,200*	,946	20	,308		

<sup>\*.</sup> This is a lower bound of the true significance.

#### c. Paired Sample T-Test

a. Lilliefors Significance Correction

**Paired Samples Statistics** 

				Std.	Std. Error
		Mean	N	Deviation	Mean
Pair 1	posttest	84,75	20	8,656	1,936
	pretest	61,00	20	14,832	3,317

**Paired Samples Correlations** 

	N	Correlation	Sig.
Pair 1 posttest & pretest	20	,801	,000

**Paired Samples Test** 

		Pa	ired Differe	ences				
		Std. Deviatio Std. Error		95% Con Interva Diffe			Sig. (2-	
	Mean	n	Mean	Lower	Upper	t	df	tailed)
Pair posttest - 1 pretest	23,750	9,442	2,111	19,331	28,169	11,249	19	,000

	౼		_	X	_		X19	_	_	X18			X17	_		X16	
	Total			X20			19			8			17				
z	Sig. (2- tailed)	Pearson Correlation	z	Sig. (2- tailed)	Correlation												
20	0	,728	20	0,195	0,303	20	0,1	0,378	20	0,195	0,303	20	0,038	.467	20	0,217	0,200
20	0,018	,525	20	0,18	0,313	20	0,13	0,35	20	0,18	0,313	20	0,083	0,397	20	0,042	
20	0	,728 <sup></sup>	20	0,195	0,303	20	0,1	0,378	20	0,195	0,303	20	0,038	,467 <sup>-</sup>	20	0.217	-
20	0	,728 <sup></sup>	20	0,195	0,303	20	0,1	0,378	20	0,195	0,303	20	0,038	,467	20	0.217	0,200
20	0	,728	20	0,195	0,303	20	0,1	0,378	20	0,195	0,303	20	0,038	.467	20	0.217	0,200
20	0	,816"	20	0,001	,663	20	0,018	,524	20	0,001	,663	20	0.1	0,378	20	0,028	-
20	0,016	,530	20	0,508	0,157	20	0,028	,491	20	0,508	0,157	20	0,008	,577	20	0	1000
20	0,016	,530	20	0,508	0,157	20	0,028	,491	20	0,508	0,157	20	0,008	.577	20	0	1000
20	0,016	,530	20	0,508	0,157	20	0,028	,491	20	0,508	0,157	20	0,008	.577	20	0	1,000
20	0,016	-,530	20	0,508	-0,157	20	0,028	.491	20	0,508	-0,157	20	0,008	-,577	20	0	1000
20		.816	20	0,001	,663	20	0,018	,524	20	0,001	,663	20	0,1	0.378	20	0,028	Ann
20		.816	20	0,001	.663	20	0,018	,524	20	0,001	.663	20	0,1	0,378	20	0,028	-
20	0,0	-,530	20	0,508	-0,157	20	0,028	-,491	20	0,508	-0,157	20	0,008	-,577	20	0	1
20	0,0	-,530	20	0,508	-0,157	20	0,028	-,491	20	0,508	-0,157	20	0,008	-,577	20	٥	1
20		,789	20	0	1,000	20	0,001	,663	20	0	1,000	20	0,013	,545	20	0,508	- Contract

Correlation is significant at the 0.05 level (2-tailed).

	X15			X14			X13		Г	X12			X11			X10			X09			X08	
z	Sig. (2- tailed)	Pearson Correlation	z	Sig. (2- tailed)	Correlation																		
20	0,195	0,303	20	0,217	-0,289	20	0,217	-0,289	20	0,1	0,378	20	0,1	0,378	20	0,217	-0,289	20	0.217	0,289	20	0,217	0.289
20	0,18	0,313	20	0,042	-,459	20	0,042	-,459	20	0,13	0,35	20	0,13	0,35	20	0,042	-,459	20	0,042	,459	20	0,042	,459
20	0,195	0,303	20	0,217	-0,289	20	0,217	-0,289	20	0,1	0,378	20	0,1	0,378	20	0,217	-0,289	20	0,217	0,289	20	0,217	0,289
20	0,195	0,303	20	0,217	-0,289	20	0,217	-0,289	20	0,1	0,378	20	0,1	0,378	20	0,217	-0,289	20	0,217	0,289	20	0,217	0,289
20	0,195	0,303	20	0,217	-0,289	20	0,217	-0,289	20	0,1	0,378	20	0,1	0,378	20	0,217	-0,289	20	0,217	0,289	20	0,217	0.289
20	0,001	,663	20	0,028	-,491	20	0,028	-,491	20	0	1,000	20	0	1,000	20	0,028	-,491	20	0,028	.491	20	0,028	.491
20	0,508	0,157	20	0	-1,000	20	0	-1,000	20	0,028	,491	20	0,028	,491	20	0	-1,000	20	0	1,000	20	0	1,000
20	0,508	0,157	20	0	-1,000	20	0	-1,000	20	0,028	,491	20	0,028	,491	20	0	-1,000	20	0	1,000	20		_
20	0,508	0,157	20	0	-1,000	20	0	-1,000	20	0,028	,491	20	0,028	,491	20	0	-1,000	20		-4	20	0	1,000
20	0,508	-0,157	20	0	1,000	20	0	1,000	20	0,028	-,491	20	0,028	-,491	20		_	20	0	-1,000°	20	0	-1,000
20	0,001	,663	20	0,028	-,491	20	0,028	-,491	20	0	1,000	20		_	20	0,028	-,491	20	0,028	.491	20	0,028	A91
20	0,001	,663	20	0,028	-,491	20	0,028	-,491	20		_	20	0	1.000	20	0,028	-,491	20	0.028	.491	20	0,028	491
20	0,508	-0,157	20	0	1,000	20			20	0,028	- 491	20	0,028	- 491	20	0	1,000	20	0	-1.000	20	0	1,000
20	0,508	-0,157	20		_	20	0	1,000	20	0,028	-,491	20	0,028	-,491	20	0	1,000	20	0	-1,000	20	0	-1.000
20			20	0,508	-0,157	20	0,508	-0,157	20	0,001	,663	20	0,001	,663	20	0,508	-0,157	20	0,508	0,157	20	0,508	0,157

	X07			X06			X05			X04			X03			X02			X01		
z	Sig. (2- tailed)	Pearson Correlation																			
20	0.217	0,289	20	0,1	0,378	20	0	1,000	20	0	1,000	20	0	1,000	20	0,083	0,397	20		_	X01
20	0,042	,459	20	0,13	0,35	20	0,083	0,397	20	0,083	0,397	20	0,083	0,397	20		_	20	0,083	0,397	X02
20	0.217	0,289	20	0.1	0,378	20	0	1,000	20	0	1,000	20		1	20	0,083	0,397	20	0	1,000	X03
20	0,217	0,289	20	0,1	0,378	20	0	1,000	20		1	20	0	1,000	20	0,083	0,397	20	0	1,000	X04
20	0,217	0,289	20	0.1	0,378	20		_	20	0	1,000	20	0	1,000.	20	0,083	0,397	20	0	1,000	X05
20	0,028	.491	20		_	20	0.1	0,378	20	0,1	0,378	20	0,1	0,378	20	0,13	0,35	20	0,1	0,378	X06
20		1	20	0,028	.491	20	0,217	0,289	20	0,217	0,289	20	0,217	0,289	20	0,042	,459	20	0,217	0,289	X07
20	0	1,000	20	0,028	,491	20	0,217	0,289	20	0,217	0,289	20	0,217	0,289	20	0,042	,459	20	0,217	0,289	X08
20	0	1,000.	20	0,028	,491	20	0,217	0,289	20	0,217	0,289	20	0,217	0,289	20	0,042	,459 <sup>-</sup>	20	0,217	0,289	X09
20	0	-1,000	20	0,028	-,491	20	0,217	-0,289	20	0,217	-0,289	20	0,217	-0,289	20	0,042	-,459	20	0,217	-0,289	X10
20	0,028	,491	20	0	1,000	20	0,1	0,378	20	0,1	0,378	20	0,1	0,378	20	0,13	0,35	20	0,1	0,378	X11
20	0,028	,491	20		1,000	20	0,1	825,0	20	0,1	825,0	20	0,1	0,378	20	0,13	0,35	20	0.1	0,378	X12
2	0	-1,000	20	0,028	-,491	20	0,217	-0,289	20	0,217	-0,289	20	0,217	-0,289	20	0,042	-,459	20	0,217	-0,289	X13
3	0	-1,000	20	0,028	-,491	20	0,217	-0,289	20	0,217	-0,289	20	0,217	-0,289	20	0,042	-,459	20	0.217	-0,289	X14
3	0,508	0,157	20	0,001	,663	20	0,195	0,303	20	0,195	0,303	20	0,195	0,303	20	0,18	0,313	20	0,195	0,303	X15

	Total		Г	X20			X19			X18			X17			X16	
z	Sig. (2-tailed)	Pearson Correlation	z	Sig. (2-tailed)	Correlation												
20	0,046	-,451	20	0	1,000	20	0	-1,000	20	0	1.000	20	0	1,000	20	0	
20	0	,988	20	0,1	-0,378	20	0,1	0,378	20	0,1	-0,378	20	0.1	-0.378	20	0.1	4,000
20	0	,988	20	0,1	-0,378	20	0.1	0,378	20	0,1	-0,378	20	0.1	-0,378	20	0,1	0,000
20	0,046	,451	20	0	-1,000"	20	0	1,000	20	0	-1,000	20	0	-1,000	20	0	.,000
20	0,046	,451	20	0	-1,000	20	0	1,000	20	0	-1,000	20	0	-1,000	20	0	1,000
20		.988	20	0,1	-0,378	20	0,1	0,378	20	0,1	-0,378	20	0.1	-0,378	20	0,1	0,070
20	0,046	,451	20	0	-1,000	20	0	1,000.	20	0	-1,000	20	0	-1,000	20	0	1,000
20	0,046	,451	20	0	-1,000.	20	0	1,000.	20	0	-1,000	20	0	.000'1-	20	0	1,000
20	0	,988	20	0,1	-0,378	20	0,1	0,378	20	0,1	-0,378	20	0.1	-0,378	20	0.1	0,370
20	0	.738	20	0,463	0,174	20	0,463	-0.174	20	0,463	0,174	20	0,463	0,174	20	0,463	-0,174
20	0	.738	20	0,463	0,174	20	0,463	-0,174	20	0,463	0,174	20	0,463	0,174	20	0.463	-0,174
20	0	.988	20	0,1	825.0-	20	0,1	825.0	20	0,1	-0.378	20	0,1	.0.378	20	0.1	0.378
20	0	.988	20	0.1	-0,378	20	0,1	0,378	20	0,1	-0,378	20	0.1	-0,378	20	0.1	0,376
20	0,046	-,451	20	0	1,000.	20	0	-1,000	20	0	1,000	20	0	1,000	20	0	1,000
20	0,046	,451	20	0	-1,000	20	0	1,000-	20	0	-1,000	20	0	-1,000-	20	0	1,000

Correlation is significant at the 0.05 level (2-tailed).

	X15		Γ	X14		Г	X13		Г	X12		Г	X11		Г	X10		Г	X09		Γ	XOB	1
Z	Sig. (2-tailed)	Pearson Correlation	z	Sig. (2-tailed)	Pearson Correlation	z	Sig. (2-tailed)	Pearson Correlation	z	Sig. (2-tailed)	Pearson Correlation	z	Sig. (2-tailed)	Pearson Correlation	z	Sig. (2-tailed)	Pearson Correlation	z	Sig. (2-tailed)	Pearson Correlation	z	Sig. (2-tailed)	Correlation
20	0	-1,000	20	0	1,000	20	0,1	-0,378	20	0,1	-0,378	20	0,463	0,174	20	0,463	0,174	20	0.1	-0.378	20	0	-1.000
20	0,1	0,378	20	0,1	-0,378	20	0	1,000	20	0	1,000	20	0	,724"	20	0	,724"	20	0	1,000	20	0,1	0,378
20	0,1	0,378	20	0,1	-0,378	20	0	1,000	20	0	1,000	20	0	.724"	20	0	,724"	20	0	1.000	20	0.1	0,378
20	0	1,000	20	0	-1,000	20	0,1	0,378	20	0,1	0,378	20	0,463	-0,174	20	0,463	-0,174	20	0,1	0,378	20	0	1,000
20	0	1,000	20	0	-1,000	20	0,1	0,378	20	0,1	0,378	20	0,463	-0,174	20	0,463	-0,174	20	0.1	0,378	20	0	1,000
20	0,1	0,378	20	0,1	-0,378	20	0	1,000	20	0	1,000	20	0	,724	20		,724"	20	0	1,000	20	0,1	0,378
20	0	1,000	20	0	-1,000	20	0,1	0,378	20	0,1	0,378	20	0,463	-0,174	20	0,463	-0,174	20	0.1	0,378	20	0	1,000
20		1,000	20	_	-1,000	20	0,1	0,378	20	0,1	0,378	20	0,463	-0,174	20	0,463	-0,174	20	0.1	0,378	20		
20	0,1	0,378	20	0,1	-0,378	20	_	1,000	20	0	1,000	20	0	.724	20	0	.724	20		_	20	0.1	0,378
20	0,463	8 -0,174	20	0,463	0,174	20	0	,724	20	0	,724"	20	0	1,000	20		_	20	0	.724	20	0,463	-0.174
20	0,463	-0,174	20	0,463	0,174	20	0	.724"	20	0	.724"	20		1	20	0	1,000	20	0	.724	20	0,463	-0.174
20	0,1	0,378	20	0.1	-0,378	20	0	1,000.	20		_	20	0	.724	20	0	,724	20	0	1,000	20	0,1	0.378
20	0,1	0,378	20	0,1	-0,378	20		1	20	0	1,000	20	0	.724	20	0	.724	20	0	1.000	20	0.1	0.378
0 20		-1,000	20			20	0,1	-0,378	20	0,1	-0,378	20	0,463	0,174	20	0,463	0,174	20	0,1	-0,378	20	0	-1,000
Ó	0	,	0 20	_	-1,000	20	0,1	0,378	20	0,1	0,378	20	0,463	-0,174	20	0,463	-0,174	20	0,1	0,378	20	0	1,000

Γ	X07		Г	X06			X05		Г	Š 4		Г	X03			X02			X		Г	1
z	Sig. (2-tailed)	Pearson Correlation	z	Sig. (2-tailed)	Pearson Correlation	z	Sig. (2-tailed)	Pearson Correlation	z	Sig. (2-tailed)	Pearson Correlation	z	Sig. (2-tailed)	Pearson Correlation	z	Sig. (2-tailed)	Pearson Correlation	Z	Sig. (2-tailed)	Pearson Correlation		
20	0	-1,000	20	0,1	-0,378	20	0	-1,000~	20	0	-1,000	20	0,1	-0,378	20	0,1	-0,378	20			X01	
20	0,1	0,378	20	0	1,000.	20	0,1	0,378	20	0,1	0,378	20	0	1,000	20		_	20	0,1	-0.378	X02	
20	0,1	0,378	20	0	1,000	20	0,1	0,378	20	0,1	0,378	20		_	20	0	1,000	20	0.1	-0,378	X03	
20	0	1,000-	20	0,1	0,378	20	0	1,000-	20		1	20	0,1	0,378	20	0,1	0,378	20	0	-1,000	X04	
20		1,000	20	0,1	0,378	20		,	20	0	1,000	20	0,1	0,378	20	0,1	0,378	20	0	-1.000	X05	
20	0,1	0,378	20		_	20	0,1	0,378	20	0,1	0,378	20		1,000	20	0	1,000.	20	0,1	-0,378	X06	
20			20	0,1	0,378	20	0	1,000	20	0	1,000-	20	0,1	0,378	20	0,1	0,378	20	0	-1,000	X07	
20	0	1,000	20	0,1	0,378	20	0	1,000	20	0	1,000-	20	0,1	0,378	20	0,1	0,378	20	0	-1,000	X08	
0 20	0.1	0,378	0 20		1,000	20	0,1	0,378	20	0,1	0,378	20		1,000	20	0	1,000	20	0.1	-0,378	X09	
0 20	0,463	8 -0,174	20	0	.724"	20	0,463	-0,174	20	0,463	-0,174	20	0	.724	20	0	.724	20	0,463	0.174	X10	Corretains
20	0,463	-0,174	20		,724"	20	0,463	-0,174	20	0,463	-0,174	20	0	.724"	20	0	.724	20	0,463	0,174	X11	CHOINE
	0,1	0,378	20	_	1,000	20	0,1	0,378	20	0,1	0,378	20	0	1,000	20	0	1,000.	20	0,1	-0,378	X12	
20 2	0,1	8 0,378	0 20		1,000	20	0,1	0,378	20	0,1		20	0	1,000	20	0	1,000	20	0.1	-0,378	X13	
20 2			0 20	0,1	-0,378	20	0	-1,000	20	0	0,378 -1,000	20	0,1	-0,378	20	0,1	-0,378	20	0	1.000	X14	
20 20	0	1,000-	0 20	0,1	0,378	20	0	1,000	20	0	1,000	20	0,1	0,378	20	0,1	0,378	20	0	-1.000	X15	

1.00
0.725         0.726         0.726         0.726         0.726         0.726         0.726         0.726         0.726         0.726         0.726         0.726         0.726         0.726         0.065         0.0786         0.004         0.0786         0.004         0.0786         0.004         0.0786         0.024         0.0786         0.001         0.786         0.007         0.087         1.000°         0.024         0.007         0.087         1.000°         0.004         0.006
1.000
1,000
1,000
1,594   1,095   1,09
1,000
Color   Colo
10,000   1
1,000 0,714 0,000 0,138 0,139
0,000 0,005 0,001 0,786 20 20 0,007 0,007 0,007 0,714 0 20 20 0,413 0,363 0,071 0,116 20 20 0,624 ,693 0,003 0,001 20 20
0.733 0.065 1 0.786 0 20 0 20 1 1.000 7 7 1.000 1 20 0 20 0 20 0 20 0 20 0 20 0 20 0
5 4 10 6 3 0 0 10 6 0
0,786 0,786 0,786 0,786 20 1,000 0 0,363 0,116 20 0,001

\*. Correlation is significant at the 0.05 level (2-tailed).

		X20		Г	X19		Γ	X18		Γ	X17		Г	X16		Г	X15		Г	X14		Г	X13			X12			X11			X10
Pearson Correlation	z	Sig. (2-tailed)	Pearson Correlation	N	Sig. (2-tailed)	Pearson Correlation	z	Sig. (2-tailed)																								
0.357	20	0,046	,451	20	0,01	.560	20	0,002	,653	20	0,122	0,357	20	0,022	.510	20	0,122	0,357	20	0,291	0.249	20	0.884	0,035	20	0.884	0,035	20	0,003	.637	20	0.884
0.343	20	0,055	0,435	20	0,74	-0,079	20	0,663	0,104	20	0,139	0,343	20	0,116	0,363	20	0,139	0,343	20	0,051	0,443	20	0	1,000	20	0	1,000	20	0.714	0.087	20	0
0.357	20	0,046	,451	20	0,01	,560	20	0,002	,653	20	0,122	0,357	20	0,022	,510	20	0,122	0,357	20	0,291	0,249	20	0,884	0,035	20	0,884	0,035	20	0,003	,637	20	0,884
	20	0	,754	20	0,062	0,424	20	0,004	,612	20	0,008	,577	20	0,001	,668	20	0,008	,577	20	0,079	0,402	20	0,006	,594	20	0,006	.594	20	0.02	,514	20	0,006
EVEU	20	0,055	0,435	20	0,74	-0,079	20	0,663	0,104	20	0,139	0,343	20	0,116	0,363	20	0,139	0,343	20	0,051	0,443	20	0	1,000	20	0	1,000	20	0.714	0,087	20	0
	20	0	,754	20	0,062	0,424	20	0,004	,612	20	0,008	,577	20	0,001	,668	20	0,008	.577	20	0,079	0,402	20	0,006	,594	20	0,006	,594	20	0.02	,514	20	0,006
	20	0	,754	20	0,062	0,424	20	0,004	,612	20	0,008	,577"	20	0,001	,668	20	0,008	.577	20	0,079	0,402	20	0,006	,594	20	0,006	,594	20	0.02	.514	20	0.006
0 3/3	20	0,055	0,435	20	0.74	-0,079	20	0,663	0,104	20	0,139	0,343	20	0.116	0,363	20	0,139	0,343	20	0.051	0.443	20	0	1,000	20	0	1,000	20	0.714	0.087	20	0
0 202	20	0	,892	20	0,024	,502	20	0,019	,518	20	0.21	0,293	20	0	,791	20	0,21	0,293	20	0,004	,611	20	0,024	,502	20	0.024	,502	20	0.007	.580	20	0.024
0 343	20	0,055	0,435	20	0,74	-0,079	20	0,663	0,104	20	0,139	0,343	20	0,116	0,363	20	0,139	0,343	20	0,051	0,443	20	0	1,000	20	0	1.000	20	0.714	0.087	20	
5	20	0,013	,543	20	0,018	,524	20	0	.840	20	0,006	.594	20	0,071	0,413	20	0,006	,594	20	0.24	0.276	20	0,714	0,087	20	0.714	0,087	20		1	20	0.714
		0,055	0,435	20	0,74	-0,079	20	0,663	0,104	20	0,139	0,343	20	0,116	0,363	20	0,139	0,343	20	0,051	0,443	20	0	1,000	20		1	20	0.714	0,087	20	0
	20	0,055	0,435	20	0.74	-0,079	20	0,663	0,104	20	0,139	0.343	20	0,116	0,363	20	0.139	0,343	20	0,051	0,443	20		1	20	0	1.000	20	0.714	0.087	20	0
	20	0,03	,484	20	0,311	0,238	20	0,158	0,328	20	0,067	0.417	20	0,059	0,429	20	0,067	0,417	20		1	20	0,051	0,443	20	0,051	0,443	20	0.24	0.276	20	0.051

Questionnaire (Validity Test)

20	20	20	20	20	20	20	20	20	20	20	20	20	20	z	Γ
0,004	0,024	0,024	0,007	0,024		0,024	0,001	0,001	0,024	0,001	0,055	0,024	0,055	Sig. (2-tailed)	X09
,611	,502 <sup>-</sup>	,502 <sup>-</sup>	.580	,502	1	,502	.676	,676 <sup></sup>	,502	.676	0,436	,502	0,436	Pearson Correlation	
20	20	20	20	20	20	20	20	20	20	20	20	20	20	Z	Г
0.051	0	0	0,714	0	0,024		0,006	0,006	0	0,006	0,884	0	0.884	Sig. (2-tailed)	X08
0,443	1,000	1,000	780,0	1,000	,502	1	,594	,594	1,000	,594	0,035	1,000	0,035	Pearson Correlation	
20	20	20	20	20	20	20	20	20	20	20	20	20	20	z	Г
0,079	0,006	0,006	0,02	0,006	0,001	0,006		0	0,006	0	0,02	0,006	0,02	Sig. (2-tailed)	X07
0,402	.594	,594	.514	,594	,676.	,594	1	1,000	,594	1,000	,516	,594	,516	Pearson Correlation	
20	20	20	20	20	20	20	20	20	20	20	20	20	20	N	Γ
0,079	0,006	0,006	0.02	0,006	0,001	0,006	0		0,006	0	0,02	0,006	0,02	Sig. (2-tailed)	X06
0,402	.594	,594	.514	,594	.676	,594	1,000	1	,594	1,000	,516	,594	,516	Pearson Correlation	
20	20	20	20	20	20	20	20	20	20	20	20	20	20	Z	Г
0.051	0	0	0,714	0	0,024	0	0,006	0,006		0,006	0,884	0	0,884	Sig. (2-tailed)	X05
0,443	1,000	1.000	0,087	1,000	,502	1,000	.594	,594	1	.594	0,035	1,000	0.035	Pearson Correlation	
20	20	20	20	20	20	20	20	20	20	20	20	20	20	z	
0,079	0,006	0,006	0.02	0,006	0,001	0,006	0	0	0,006		0,02	0,006	0,02	Sig. (2-tailed)	XQ4
0,402	.594	.594	,514	,594	.676	,594	1,000	1,000	,594	_	,516	.594	.516	Pearson Correlation	
20	20	20	20	20	20	20	20	20	20	20	20	20	20	z	Γ
0.291	0.884	0.884	0.003	0,884	0,055	0,884	0,02	0,02	0,884	0,02		0,884	0	Sig. (2-tailed)	X03
0.249	0,035	0.035	.637	0,035	0,436	0,035	.516	.516	0,035	.516	_	0,035	1,000	Pearson Correlation	
20	20	20	20	20	20	20	20	20	20	20	20	20	20	Z	Γ
0.051	0	0	0.714	0	0,024	0	0,006	0,006	0	0,006	0,884		0.884	Sig. (2-tailed)	X02
0,443	1.000	1,000	0,087	1,000	.502	1,000	.594	,594	1,000	.594	0,035	-	0,035	Pearson Correlation	
20	20	20	20	20	20	20	20	20	20	20	20	20	20	Z	Γ
0.291	0.884	0.884	0,003	0,884	0.055	0.884	0.02	0,02	0.884	0.02	0	0.884		Sig. (2-tailed)	X01
0.249	0.035	0.035	.637	0.035	0,436	0.035	.516	.516	0.035	.516	1,000	0,035	_	Pearson Correlation	
X14	X13	X12	X11	X10	X09	X08	X07	X06	X05	X04	X03	X02	X01		Γ

### APPENDIX IV DOCUMENTATION

#### Pretest





**Observation and Treatment** 





#### **Posttest and Questionnaire**







## APPENDIX V CORRESPONDEN CES



#### MADRASAH TSANAWIYAH BOJO KAJUARA YAYASAN " AL MUJTABA " BOJO KAJUARA

Alamat : Bojo Kelurahan Awang Tangka Kecamatan Kajuara Kabupaten Bone

#### SURAT KETERANGAN Nomor: 788/MTs-YAM/KS/VI/2023

Yang bertanda tangan dibawah ini :

Nama

: Dra . Yulia Rasma, MM

NIP

: 19681230 200604 2003

Jabatan

: Kepala MTs Bojo Kajuara

Dengan ini menerangkan bahwa:

Nama

: Andi Tri Wahyuni Arif

Nim

190110005

Program Studi

: Tadris Bahasa Inggris

Benar telah mengadakan penelitian di MTs Bojo Kajuara pada tanggal 19 Maret-02 April 2023 dalam rangka penyusunan Skripsi dengan Judul:

"The Effectiveness Of Duolingo Aplication In English Learning At Class VIII A MTs Bojo Kajuara"

Demikian surat keterangan ini diberikan kepada yang bersangkutan untuk dipergunakan sebagaimana perlunya.

Kajuara, 19 Juni 2023

Kepala MTs Bojo Kajuara

Dra. Lulia Rasma, MM NIP. 12681230 200604 2 003

#### SURAT PERMOHONAN PERUBAHAN JUDUL

Assalamualaikum Warahmatullahi Wabarakatuh

Dengan ini saya:

Nama : Andi Tri Wahyuni Arif

NIM : 190110005

Program Studi : Tadris Bahasa Inggris (TBI)

Fakultas : Tarbiyah dan Ilmu Keguruan

Mengajukan pergantian judul tersebut dikarenakan terdapat kata yang perlu ditambahkan dan dihilangkan sehingga disarankan oleh pembimbing untuk mengganti redaksi judul tersebut:

Judul Lama : The Effectiveness of Duolingo Application In English Learning

At Class 7 A MTs Bojo Kajuara

 $\label{eq:Judul Baru} In Effectiveness\ of\ Duolingo\ Application\ In$ 

English Learning

At Class VIII A MTs Bojo Kajuara

Sinjai, 26 Februari 2023

Pembimbing I,

Pembimbing II,

25.5., S. Pd., M.Pd. St. R

St. Rahmaniah Bahrun, S.Pd., M.Pd NIDN, 2126128804 INSTITUT AGAMA ISLAM MUHAMMADIYAH SINJAI FAKULTAS TARBIYAH DAN ILMU KEGURUAN

KAMPUS : JL. SULTAN HASANUDDIN NO. 20 KAB. SINJAI, TLP. 085299899166, KODE POS 92612 Email: ftikiaim@gmail.com

TERAKREDITASI INSTITUSI BAN-PT SK NOMOR : 1988/SK/BAN-PT/Akred/PT/XII/2020

Sinjai, 22 Sya'ban 1444 H

10 Maret 2023 M

Vomor amp

tal

: 143.D1/III.3.AU/F/2023

: Satu Rangkap

: Permohonan Izin Penelitian Kepada Yang Terhormat

Kepala Sekolah MTs Bojo Kajuara

Di -

Sinjai

Assalamu'alaikum Warahmatullahi Wabarakatuh.

Dalam rangka penulisan skripsi mahasiswa program Strata Satu (S-1), dengan ini disampaikan bahwa mahasiswa yang tersebut namanya di bawah ini :

Nama

: Andi Tri Wahyuni Arif

NIM

: 190110005

Program Studi

: Tadris Bahasa Inggris (TBI)

Semester

: VIII (Delapan)

Akan melaksanakan penelitian dengan judul:

"The Effectiveness Of Duolingo Application In English Learning At Class VIII A MTs Bojo Kajuara".

Sehubungan dengan hal tersebut di atas dimohon kiranya yang bersangkutan dapat diberikan izin melaksanakan penelitian di MTs Bojo Kajuara.

Atas perhatian dan kerjasama yang baik diucapkan terima kasih.

Wassalamu'alaikum Warahmatullahi Wabarakatuh.

#### LAS TARBIYAH DAN ILMU KEGURUAN

Waters - http://www.jalmeinjat.oc.id DISTITUSI HAN-PI SA NUMBER 1008/SK/BAN PI AKROPPI NIL 2020

مأللذال حراليم

#### SURAT KEPUTUSAN

#### NOMOR: 1078.D1/111.3.AU/F/KEP/2022 TENTANG

#### DOSEN PEMBIMBING PENULISAN SKRIPSI MAHASISWA FAKULTAS TARBIYAH DAN ILMU KEGURUAN T.A. 2022/2023

#### DEKAN FAKULTAS TARBIYAH DAN ILMU KEGURUAN INSTITUT AGAMA ISLAM MUHAMMADIYAH SINJAI

#### tenimbang

- 1. Bahwa untuk penulisan Skripsi mahasiswa Fakultas Tarbiyah dan Ilmu Keguruan Institut Agama Islam Muhammadiyah Sinjai Tahun Akademik 2022/2023, maka dipandang perlu ditetapkan Dosen Pembimbing penulisan Skripsi dalam Surat Keputusan.
- Bahwa nama-nama yang tercantum dalam Surat Keputusan ini dipandang cakap dan memenuhi syarat untuk melaksanakan tugas yang di amanahkan kepadanya

#### engingat

- : a. Anggaran Dasar dan Anggaran Rumah Tangga Muhammadiyah.
  - b. Undang-undang No. 20 tahun 2003 tentang Sisdiknas.
  - c. Undang-Undang R.I No 12 Tahun 2012, tentang Pendidikan Tinggi
  - d. Keputusan Menteri Agama R | No. 6722 Tahun 2015, tentang perubahan nama STAI Muhammadiyah Sinjai menjadi Institut Agama Islam Muhammadiyah Sinjai
  - e. Surat Keputusan Rektor JAJM Nomor: 216/1.3.AU/D/KEP/2016 tentang Pendirian Fakultas Tarbiyah dan Ilmu Keguruan (FTIK)
  - Pedoman PP. Muhammadiyah No. 02/PED/1.0/B/2012 tentang Perguruan Tinggi Muhammadiyah.
  - g. Statuta Institut Agama Islam Muhammadiyah Sinjai.

#### emperhatikan

- 1. Kalender Akademik Institut Agama Islam Muhammadiyah Sinjai Tahun Akademik
  - 2. Surat Keputusan Rektor Institut Agama Islam Muhammadiyah Sinjai nomor: 305.R/III.3.AU/F/KEP/2022 tanggal 15 Oktober 2022 tentang nama-nama Dosen Pembimbing Skripsi Mahasiswa Institut Agama Islam Muhammadiyah Sinjai tahun akademik 2022/2023

#### MEMUTUSKAN

#### metapkan nama

Keputusan Dekan Fakultas Tarbiyah dan Ilmu Keguruan Institut Agama Islam Muhammadiyah Sinjai tentang Dosen Pembimbing penulisan skripsi mahasiswa

Mengangkat dan menetapkan saudara(i)

Pembimbing I	Pembimbing II
Harmilawati, S.S., S. Pd., M.Pd.	ST. Rahmaniah Bahrun, S.Pd., M.Pd.

untuk penulisan skripsi mahasiswa:

: Andi Tri Wahyuni Arif

190110005 NIM Program Studi Tadris Bahasa Inggris

The Effectiveness of Duolingo Application in Increasing Interest In Judul Skripsi

Learning For Eleventh Grade Students of SMKN 1 Sinjai

Islami, Progresif dan Kompetitif

### TARBYAN DAN ILMU KEGURUAN

Hal-hal yang menyangkat pendapatan/tadhah karena nagai dan ranggung ansahinsa diberikan sesuai peraturan yang berlaku di badiat. Agama Islam Mahammadisah Siniai Keputusan ini disampaikan keputusan ini disampaikan keputusan ang bersangkatan antak diketahui dan dilaksanakan sebagai amanat dengan penuh rasa ranggang gerah.

Keputusan ini berlaka sejak ranggal disesapkan apabila dikemudian hari serbapat kekeliruan dalam keputusan ini skim diadakan perbakan orbagaimana mentinya.

Dinetapkan di Sirrias Pada Tanggal 23 Oktober 2022 M 20 Rahrisi Nivol 1444 H

Dekan

Takder KPd L. M. Pd L.

busan Disampaikan Kepada Yang Terhormat,

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PETAIM Sinja: iktor IAIM Sinja: iktor Program Studi PAL PGML PBA, TBL& TM IAIM Sinja:



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