

**THE EFFECTIVENESS OF DUOLINGO APPLICATION IN
VOCABULARY MASTERY FOR ENGLISH FOR YOUNG
LEARNERS IN MIN 1 MALANG**

THESIS

By

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**ENGLISH EDUCATION DEPARTMENT
FACULTY OF EDUCATION AND TEACHER TRAINING
MAULANA MALIK IBRAHIM STATE ISLAMIC
UNIVERSITY MALANG**

2023

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LEARNERS IN MIN 1 MALANG**

THESIS

*Submitted to the Faculty of Education and Teacher Training in Partial Fulfillment
of The Requirement of the Degree of English Language Teaching (S.Pd) in
English Education Department*

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FACULTY OF EDUCATION AND TEACHER TRAINING
MAULANA MALIK IBRAHIM STATE ISLAMIC
UNIVERSITY MALANG**

May, 2023

APPROVAL SHEET

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VOCABULARY MASTERY FOR ENGLISH FOR YOUNG LEARNERS
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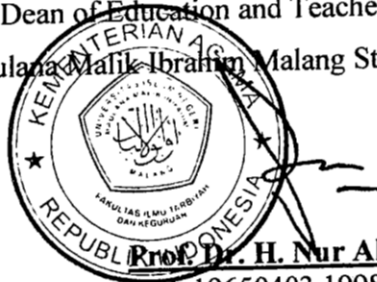
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MOTTO

لَا يُكَلِّفُ اللَّهُ نَفْسًا إِلَّا وُسْعَهَا

“Allah does not burden a person except according to his ability”

(Q.S. Al-Baqarah 2 : Verse 286)

“Enjoy the process and every change that happens in your life”

THESIS DEDICATION

I dedicate this thesis especially to my beloved family, my father Dr. Ahmad Mubaligh, M.HI, my mother Yayuk Afiyanah S.E, my younger brother Muhammad Fikri Jauhari and also all my family who have supported, encouraged, motivated and prayed for me. I also dedicate this thesis to Dr. Alam Aji Putera M.Pd as the thesis supervisor, who always helps and provides helpful guidance and suggestions so that I can complete my thesis well. Finally, I dedicate my thesis to my friends who I cannot mention one by one who have given me support, motivation, prayer, enthusiasm and always helped one another in preparing this thesis.

ACKNOWLEDGEMENT

Bismillahirrahmanirrahim

All praise to Allah SWT, who has given grace and guidance so that researcher was given the strength in completing this final project entitled "The Effectiveness of Duolingo Application in Vocabulary Mastery for English for Young Learners in MIN 1 Malang". Sholawat may continue to be bestowed on the prophet Muhammad SAW, and hopefully we will get his intercession at the end of the world.

With the completion of writing this thesis to complete the final project at the undergraduate level, the researcher would like to express many thanks to all those who helped smooth the research of this thesis because the researcher believe that without this help and support, the researcher would not be able to finish this thesis quickly. With all humility, the researcher expresses gratitude to:

1. Allah SWT has provided opportunities and health for the researcher so that Allah SWT can carry out the process of writing this thesis until the end. Sholawat, the researcher delivers to the prophet Muhammad SAW who guided his people to the right path, namely the religion of Islam.
2. To all my beloved family, my father, Dr. Ahmad Mubaligh, M.HI, my mother, Yayuk Afiyanah, S.E, my younger brother Muhammad Fikri Jauhari and all the extended family who have given support and encouragement to me.
3. Prof. Dr. H. M. Zainuddin, MA as the rector of Maulana Malik Ibrahim Malang State Islamic University.

4. Prof. Dr. H. Nur Ali, M.Pd as the Dean of the Faculty of Education and Teacher Training Maulana Malik Ibrahim Malang State Islamic University.
5. Dr. H. Langgeng Budianto, M.Pd as the Head of English Education Department, enthruses all English students and imparts their knowledge.
6. Dr. Alam Aji Putera, M.Pd as my advisor has always guided me from the beginning in selecting the title, revising and correcting this thesis then providing directions and suggestions so that researcher can complete this thesis on time.
7. All lecturers majoring in English Education who have helped in the learning process for these four years, thank you for the knowledge that researcher have never learned before. All the hard work and everything given will be a blessing.
8. Siti Aisah, S.Ag. M.Pd as the head of MIN 1 Malang has given permission for both the place and time to conduct research to completion at MIN 1 Malang.
9. Muhammad Dwi Cahyono, S.PdI. M.PdI as Deputy Head of Public Relations MIN 1 Malang, helps the researcher carry out the research process up to the preparation of information to complete the research.
10. Nur Zahida Khoiriyah, S.Pd as an English teacher in class 5 MIN 1 Malang, who helped researcher a lot and allowed to do research and accompanied during the research process, starting from pre-test, treatment and post-test.
11. All students of grades 5D, 5G and 5H who have taken the time to help researcher conduct research and collect data, thank you for cooperating, and nice to meet you.

12. My closest friends and special people who always help and accompany researcher from school surveys, data collection, and thesis preparation to completion. Thank you, without your help this thesis would not have been completed and I would not have been able to get to this point. Thank you for giving positive energy, never stop advising and encouraging researcher. May you always be given convenience in everything and be given happiness.

13. All friends, Class of English Education 2019 (FASTCO 2019), thank you for the process together, providing information and helping each other. We hope whatever will always be given convenience, especially in completing this thesis.

To all parties who have provided support and encouragement in writing this thesis. The author realizes that there are still many things that should be improved in preparing this thesis. Therefore, the researcher hopes to get suggestions then input for improvement and complete the deficiencies. Hopefully, this thesis can be helpful for researcher and readers.

Malang, April 03, 2023



Elma Diana Novitasari

LATIN ARABIC TRANSLITERATION GUIDE

The writing of Arabic-Latin transliteration in this thesis uses transliteration guidelines based on a joint decision of the Minister of Religion of the Republic of Indonesia and the Minister of Education and Culture of the Republic of Indonesia Number 158 of 1987 and Number 0543b/U/1987 which can be described as follows:

A. Words

ا	= a	ز	= z	ق	= q
ب	= b	س	= s	ك	= k
ت	= t	ش	= sy	ل	= l
ث	= ts	ص	= sh	م	= m
ج	= j	ض	= dl	ن	= n
ح	= <u>h</u>	ط	= th	و	= w
خ	= Kh	ظ	= zh	ه	= h
د	= d	ع	= ‘	ء	= ’
ذ	= dz	غ	= gh	ي	= y
ر	= r	ف	= f		

B. Long Vocal

Long Vocal (a)	= â
Long Vocal (i)	= î
Long Vocal (u)	= û

C. Diphthong Vocal

أو	= aw
أي	= ay
أو	= ũ
إي	= î

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ABSTRACT

Novitasari, Elma Diana. 2023. The Effectiveness of Duolingo Application in Vocabulary Mastery for English for Young Learners in MIN 1 Malang. Thesis, English Education Department. Faculty of Education and Teacher Training. Maulana Malik Ibrahim State Islamic University of Malang. Advisor: Dr. Alam Aji Putera, M.Pd

Key Words: Duolingo Application, Vocabulary Mastery, English for Young Learners

English has been used as the mother tongue in several countries. Learning English for young learners is especially necessary because we will understand the meaning of English sentences by learning vocabulary. English is also a complex language to learn, therefore the teacher must think of something that can change students' views on learning English. In learning EYL, the teacher must consider engaging learning that keeps students from getting bored, such as learning English vocabulary using media. One example of an application or technology-based learning media is the Duolingo application. Duolingo is a learning medium in the form of a practical application for learning vocabulary. It is an application that can attract students' interest in learning. This study aims at determining how suitable the Duolingo application is for young English learners. This study used Quasi-Experimental quantitative research with 22 students in class 5G as the experimental class and 22 students in class 5H as the control class subjects. Researcher choose this Quasi-Experimental because she want to know the difference before and after. Students were given treatment three times using the Duolingo application and provided a pre-test before treatment and a post-test after treatment. The results showed significant differences between the pre-test and post-test of each class. The test results were tested by T-Test: Two-sample assuming equal variances, done with Microsoft Excel. The results of the statistical test showed that the t-value was 0.394, which could be concluded to be less than the t-table, which was 2.080. These results indicate that the Duolingo application is practical for students' vocabulary mastery.

ABSTRAK

Novitasari, Elma Diana. 2023. Efektivitas Aplikasi Duolingo Dalam Penguasaan Kosakata untuk Pembelajar Muda Bahasa Inggris di MIN 1 Malang. Skripsi, Jurusan Pendidikan Bahasa Inggris. Fakultas Tarbiyah dan Ilmu Keguruan. Universitas Islam Negeri Maulana Malik Ibrahim Malang. Pembimbing: Dr. Alam Aji Putera, M.Pd

Kata Kunci : Aplikasi Duolingo, Penguasaan Kosakata, Pembelajar Muda Bahasa Inggris

Bahasa Inggris telah digunakan sebagai bahasa ibu di beberapa negara. Belajar bahasa Inggris untuk pelajar muda sangat diperlukan karena kita akan memahami arti kalimat bahasa Inggris dengan mempelajari kosa kata. Bahasa Inggris juga merupakan bahasa yang kompleks untuk dipelajari, oleh karena itu guru harus memikirkan sesuatu yang dapat mengubah pandangan siswa terhadap pembelajaran bahasa Inggris. Dalam pembelajaran EYL, guru harus mempertimbangkan pembelajaran yang menarik agar siswa tidak bosan, seperti pembelajaran kosa kata bahasa Inggris menggunakan media. Salah satu contoh aplikasi atau media pembelajaran berbasis teknologi adalah aplikasi Duolingo. Duolingo adalah media pembelajaran berupa aplikasi praktis untuk belajar kosakata. Merupakan aplikasi yang dapat menarik minat siswa dalam belajar. Penelitian ini bertujuan untuk menentukan seberapa cocok aplikasi Duolingo untuk pelajar bahasa Inggris muda. Penelitian ini menggunakan penelitian kuantitatif Kuasi Eksperimental dengan 22 siswa kelas 5G sebagai kelas eksperimen dan 22 siswa kelas 5H sebagai subjek kelas kontrol. Peneliti memilih Quasi-Experimental ini karena ingin mengetahui perbedaan before dan after. Siswa diberikan treatment sebanyak tiga kali menggunakan aplikasi Duolingo dan diberikan pre-test sebelum treatment dan post-test setelah treatment. Hasil penelitian menunjukkan adanya perbedaan yang signifikan antara pre-test dan post-test masing-masing kelas. Hasil pengujian diuji dengan T-Test: Dua sampel dengan asumsi varian yang sama, dilakukan dengan Microsoft Excel. Hasil uji statistik menunjukkan bahwa nilai t-hitung sebesar 0,394 dapat disimpulkan lebih kecil dari nilai t-tabel sebesar 2,080. Hasil tersebut menunjukkan bahwa aplikasi Duolingo praktis untuk penguasaan kosa kata siswa.

مستخلص البحث

نوفيتاساري ، علما ديانة. 2023. فعالية تطبيق Duolingo على إتقان المفردات لمتعلمي اللغة الإنجليزية للصغار في المدرسة الابتدائية الحكومية 1 مالانج. البحث العمي، قسم تدريس اللغة الإنجليزية. كلية علوم التربية والتعليم. جامعة مولانا مالك إبراهيم الإسلامية الحكومية مالانج. المشرف : د. عالم أجي بوتيرا، الماجستير.

الكلمات الرئيسية: وسيلة Duolingo، إتقان المفردات ، متعلمي اللغة الإنجليزية الصغار

يعد تعلم اللغة الإنجليزية للمتعلمين الصغار أمرًا ضروريًا حقًا، خاصةً تعلم المفردات، لأنه من خلال تعلم المفردات سوف نفهم معنى الجمل الإنجليزية. تعلم اللغة الإنجليزية في المدارس الابتدائية لغة أجنبية لا يستخدمها المجتمع في الحياة اليومية. اللغة الإنجليزية هي أيضًا لغة صعبة التعلم ، لذلك يجب على المعلم التفكير في شيء يمكن أن يغير آراء الطلاب حول تعلم اللغة الإنجليزية. في التعلم لمتعلمي اللغة الإنجليزية للصغار، يجب على المعلم أن يفكر في التعلم المثير للاهتمام والذي يمنع الطلاب من الملل ، مثل تعلم مفردات اللغة الإنجليزية باستخدام الوسيلة. ومن إحدى الوسائل التعليمية القائمة على التطبيق أو التكنولوجيا هو استخدام وسيلة Duolingo . Duolingo هو وسيلة تعليمية في شكل تطبيق فعال لتعلم المفردات ، وهو يكون وسيلة يمكن أن تجذب اهتمام الطلاب بالتعلم. تهدف هذا البحث إلى معرفة مدى فعالية استخدام وسيلة Duolingo لمتعلمي اللغة الإنجليزية الصغار. استخدم هذا البحث بحثًا كميًا شبه تجريبيًا مع 22 طالبًا في فصل 5G كمجموعة تجريبية و 22 طالبًا في فصل 5H كمجموعة ضابطة. تم إعطاء الطلاب التجربة 3 مرات باستخدام وسيلة Duolingo ، وقام البحث بالاختبار القبلي قبل التجربة والاختبار البعدي بعد التجربة. كانت نتائج البحث تدل على وجود فروق ذات دلالة إحصائية بين الاختبار القبلي والبعدي في كل مجموعة. تم اختبار نتائج الاختبار باستخدام T-Test:Two-sample assuming equal variances وتم إجراؤه باستخدام Microsoft Excel . ونتائج الاختبار الإحصائي تدل على أن قيمة t هي 0.394 والتي يمكن استنتاج أنها أقل من جدول t وهي 2.080. هذه النتائج تدل على أن تطبيق Duolingo فعال في إتقان مفردات الطلاب.

CHAPTER I

INTRODUCTION

This introduction includes the background of the study, research question, research objective, scope and limitations of the study, significance of the study, and definition of key terms.

1.1 Background of the Study

Language skills have four components namely speaking, reading, listening, and writing. However from some of these skills the most important thing that must be learned is vocabulary because by learning vocabulary we will understand the meaning of English sentences. Vocabulary mastery can be implemented starting from elementary school, even according to Kasihani and Suyanto (2014) many playgroups or kindergartens have developed by giving English to early childhood namely the very young learners or EYL (English for Young Learners). Learning English at EYL has special challenges because these EYL students are young learners, elementary school students aged between 6-12 years who receive English lessons as a local content subject. Seeking knowledge from an early age or EYL is obligatory as in the hadith of the Prophet Muhammad SAW in his words :

اطلب العِلْمَ مِنَ الْمَهْدِ إِلَى اللَّحْدِ

Meaning: "Seek knowledge from the cradle to the grave." In the hadith it is explained that seeking knowledge knows no age and time limit, so from the time we are born in the world we must seek knowledge and add to our knowledge of both religious and worldly knowledge.

In learning EYL there are 2 knowledge namely formal and informal. Informal knowledge is the education they get within the scope of their family and the environment where they live. Meanwhile, formal knowledge is the education they get in the school environment namely with friends and educators or teachers so that they will absorb knowledge from the school environment. The teacher as a source of this knowledge must know about students such as characteristics, mental, cognitive, appropriate, and effective teaching for students. Each learner has a different way of learning, this is a more difficult challenge in teaching young learners than teaching adults because they get bored easily and need special attention, so under any circumstances the teacher must be able to share their attention with all students (Kurnia, 2017).

Learning at a young age is easier to remember, as in the hadith that reads:

عن أبي الدرداء قال: قال رسول الله - صلى الله عليه وسلم: " «مثل الذي يتعلم العلم في صغره كالنقش على الحجر، ومثل الذي يتعلم العلم في كبره كالذي يكتب على الماء» ". رواه الطبراني في الكبير، وفيه مروان بن سالم الشامي، ضعفه البخاري ومسلم وأبو حاتم

The parable of a person who seeks knowledge when he is young is like chiseling in stone. The parable of a person who seeks knowledge when he is old like writing on water". (HR Thabrani. Marwan bin Salim rated dhaif by al-Bukhari, Muslim dan Abu Hatim). Which is where the writing will be hard to lose or hard to forget. In contrast to learning at an old age where knowledge is like writing on water which is easily lost.

EYL learning is indeed different from learning at other levels, in EYL learning the teacher must provide material to students with something real such as giving examples of pictures on the vocabulary to be learned or examples of objects directly. The teacher must provide something that can attract students' attention such as learning media, learning with real things as media in learning is a form that can make students interested in English so that students will be more enthusiastic and have more desire in learning English stated by the opinion of (Pertwi et al., 2020). In addition, the media can also be called an intermediary between teachers and students to support success in an effective learning process and achieve the desired goals.

Learning English in elementary school is a foreign language that is not used in everyday life by the community. English is also a language that is difficult to learn, therefore the teacher must think of something that can change students' views on learning English. Especially learning English at EYL it is necessary to consider and think about how to approach, strategies and techniques so learning EYL becomes easy and interesting. One that makes EYL learning easy and interesting is the use of teaching aids or learning media. Learning media can be classified into three types namely visual media or viewing media, audio media or listening media and the last is audio-visual media or hearing and viewing media.

Many teachers complain that making this media is difficult and they don't have the time to make it, even though the media does not have to be an application or a complicated prop but just pictures and writing that are formed can already be learning media (Kasihani and Suyanto, 2014). Media can

continue to develop according to improvements in the world such as increasing technology which can be one of the uses of media in the form of applications on the internet that are easy to use directly by the teacher. This learning media can also increase student motivation where students will be more enthusiastic and not bored in learning because they learn differently not only by reading books, listening to teacher explanations and answering questions.

Learning a new language means learning vocabulary. Vocabulary is one of the important things and one of the basics that everyone must understand before exploring the English language. Vocabulary lists can be an effective way to quickly learn word-pair translations, it is a type of word that means the words used in English. Before we study foreign languages, vocabulary is the basis that must be developed which is very important, because this vocabulary is one of the existing micro-skills. All micro-skills such as grammar, vocabulary and pronunciation are very important, but it will be difficult if students do not understand vocabulary compared to grammar and pronunciation. For example, when someone is communicating or talking to other people if that person masters a lot of vocabulary the other person will easily understand the meaning of what is being said, even though the language structure or grammar is not regular.

According to Cesarini et al. (2021) vocabulary is divided into 2 types namely receptive and productive vocabulary and then the second active and passive vocabulary. Receptive and productive vocabulary is vocabulary that is encountered by readers when reading and listening, one example of the receptive vocabulary is when students read the existing text then students

understand the vocabulary of the text they have read and already know the topic of discussion, while an example of productive vocabulary is when students listen to the teacher's explanation in a class by looking at the gesture and listening to the teachers' explanation then students will understand the topics that have been explained. The next is active vocabulary, active vocabulary is words or vocabulary that are usually used by listeners and writers. Then is passive vocabulary, passive vocabulary is words that are not fully understood so passive vocabulary is rarely used for writing and speaking. One example of active and passive vocabulary is when the teacher teaches vocabulary in class, the teacher encourages students to use better words from passive vocabulary to active vocabulary.

Learning English vocabulary will be better if it's in a context related to the world of children, this is meant to make it easier for students to remember and practice it in communicating with others. The material to be taught must be following the knowledge that is understood by students because vocabulary learning can be started from things that exist in everyday life and it will help students for example words that are used within the scope of the school include vocabulary verbs and nouns such as "Book", "Read" and so on. In introducing words the correct pronunciation needs to be given from the start, so that students already know how to pronounce the sentence. Then the props or media used must be clear especially if the media is pictorial and colorful, so the teacher must think about what props and media must be prepared in the learning process. This is corroborated by the opinion of Pertiwi et al. (2020) that to teach English in EYL teachers have their challenges in delivering material and

the way for teachers to overcome this and make learning more fun is to engage students in the use of visuals and realia. With this media, students will feel learning in this class is more varied and not boring. One example of learning media based on application or technology is the use of the Duolingo application.

Duolingo is one of the learning media in the form of an effective application for learning vocabulary. It is an application that can attract students' interest in learning and show positive perceptions of learning using media. It is also easy to access without logging in so it is easy to use in learning at all levels at EYL, junior high school, senior high school and college. This perception is supported by Jaelani and Sutari (2020) stating that Duolingo makes students more enthusiastic and motivated during the learning process, they can use the Duolingo application anywhere.

Jaelani and Sutari (2020) also mentioned the disadvantages of the application that some of the research participants find it difficult to use the Duolingo application when there was no internet connection, because this application is on the web it must be with a stable internet connection. This application can be accessed on a cellphone, a computer or a laptop. If students use an application on a cellphone they have to install it first, but if they use it on a computer or laptop students can directly visit web pages without install the application.

Online application is an effective and attractive tool in helping students complete assignments. In this study, researcher will examine the use of the Duolingo application because this application will help students in learning

vocabulary. They have to determine which words match what is spoken, besides that in this application there is also no need to log in and in learning there are lots of colors and pictures. Therefore, it is very suitable and will attract the students' attention who will use the application, according to Katemba (2022) learning to use technology can increase the level of interactivity. In addition, the Duolingo application also has several languages so this application is not only for learning English but can also be used for Arabic, French and other languages. The questions that will be in the Duolingo application are also according to the student's ability level that are students learning the language for the first time. The questions given are the basis of their knowledge and if students have level up to advanced they will also be given questions according to their level.

There have been several previous studies related to the use of the Duolingo application for vocabulary mastery in learning English. First, researched by Irawan et al. (2020) state that learning using the Duolingo application it can make teaching and learning activities more effective and varied, in addition to using the Duolingo application as an alternative mobile-based learning media that can be used to use students' abilities. In speaking English and using students' vocabulary. The results of this study stated that the activity had not fully achieved the expected targets and results. This study suggested that researchers should play an active role in motivating and encouraging students to develop vocabulary by reading as a habit and to practice. This will affect learning using the Duolingo application for students which can be seen in student achievement in helping express their ideas because by having a lot of

vocabulary it will be easier for students to understand reading, give responses, speak fluently and be able to write on clear topics and good discussion.

Second, according to Aulia et al. (2020) this research was tested on grade 8 junior high school students. This study has proven that using Duolingo has significant changes and effects in the experimental group that uses the Duolingo application compared to the control group that does not use it. however, the application will be replaced with flashcard media. This is explained in an explanation of the results of his research so that the writer concludes that the Duolingo application has a good effect on the development of vocabulary learning. The author also mentions the weakness of the application, not all the vocabulary learned by students is tested on the application, so according to the author that further research is needed by testing all the vocabulary learned. In this study, the researchers suggested that this Duolingo application could be applied at several levels of institutions such as junior high, high school and even tertiary institutions. Then the researchers also suggested that the research be carried out longer because in this study the researchers only conducted 2 meetings so more meetings would be more effective for learning using the application.

Third, according to Ahmed (2016) the Duolingo application is the right application for every beginner learning a second language, but Duolingo also requires improvement in vocabulary, grammar and language. This research was conducted with male respondents who were 12 years old who are native Arabic speakers. In this study, the researcher recommends it for learning a second language and can be used for beginners to learn and to motivate students

because Duolingo can entertain students while learning and playing with video games so that it can increase vocabulary and can encourage the desire to learn a new language.

Based on the previous researches, most of their research subjects were junior high school students and teaching staff from an elementary school. Beside that, in this case is about increasing student motivation which has an impact on student achievement and increasing student interest in the learning process. Therefore, the researcher found a gap in that there had never been a study using learning media in the form of the Duolingo application which was studied in elementary schools in learning vocabulary mastery. In previous studies, data collection had never been carried out using a quasi-experimental design using pre-test and post-test so learning using the application is more effective better results than previous research and conducting research using the Duolingo application with the title "The Effectiveness of Duolingo Application to Vocabulary Mastery for English Young Learners in MIN 1 Malang"

1.2 Research Question

Based on the above background, the research question is formulated as follows:

1. How effective of Duolingo application in vocabulary mastery for English for young learners in MIN 1 Malang?

1.3 Research Objective

In line with the formulation of the research question, the research objective of this study is to find out:

1. To know effectiveness of Duolingo application in vocabulary mastery for English for young learners in MIN 1 Malang.

1.4 Scope and Limitations of Study

This research will determine the effectiveness of the Duolingo application as a learning medium, especially in vocabulary mastery for EYL in grade 5 of MIN 1 Malang. Furthermore, this study tries to describe students' vocabulary achievement in using the Duolingo application. Where the scope and limitations of the study are limited to the subject of the study 5th grade students of MIN 1 Malang year 2022/2023 namely students of class 5G and 5H students. Students in class 5G as an experimental class with a total of 22 students including 16 female students and 6 male students, while in class 5H as a control class with the same total of 22 students including 14 female students and 8 male students. In addition, the object of this study is the value of student results and researcher' observations when using the Duolingo application.

1.5 Significance of the Study

Significance of the research will be obtained if the research objectives have been achieved, and the results to be obtained from this research can provide benefits to the MIN 1 Malang institution. this research is divided into 2 parts, namely:

1. Theoretical Significance

Theoretical significance is aimed at the institution to add insight into the use of the Duolingo application which is used for vocabulary mastery in grade 5 students of MIN 1 Malang.

2. Practical Significance

Practical Significance is addressed to students, English teachers and prospective English teachers that this practical benefit is used to broaden students' insight into vocabulary that will be learned using the Duolingo application, the benefit of this research is as additional information about effective and fun learning media so that it can be used practice in the future. Furthermore, the benefits for schools are an increase in technology that is developing in the current era by using learning media in learning vocabulary in grade 5 elementary school levels.

1.6 Definition of Key Terms

To avoid misunderstanding in interpreting the terms used in this study, the following definitions are provided:

1.6.1 Media

Media is one tool that is applied in the learning process. Learning media can also be referred to as an intermediary between learners and teachers. It can be in the form of applications, flashcards or others. In this study the media used is learning media in the form of an application using Duolingo.

1.6.2 EYL (English for Young Learners)

English for Young Learners or commonly known as EYL are the first learners of English. This EYL group can be adjusted according to their respective ages. They can be divided into 2 groups, namely the younger group for children aged 6-8 years and the older group for children aged also includes the level of elementary school students 9-12 years, then preschool or commonly called kindergarten has it is group, namely the

very young learners group. What is meant by EYL students in this study are elementary school students in grade 5, namely at the older group level.

1.6.3 Vocabulary Mastery

Vocabulary mastery is one of the components that must be understood by second language learners to know the meaning of the word to be learned. Besides that, vocabulary mastery is also important and necessary to communicate with native speakers. This is reinforced by the opinion of Cesarini et al. (2021) that vocabulary plays an important role in language learning so students must master vocabulary, because mastering vocabulary will help students to master the other four language skills. In this study, the vocabulary mastery used included discussing healthy foods, the environment and objects in the environment.

1.6.4 Duolingo Application

Duolingo application is an application for learning languages where not only English but there are many languages to choose from. The Duolingo application is an application that offers a fun learning method. In this application, it's like we are playing games related to language learning, so students won't get bored learning to use the Duolingo application. This Duolingo application requires internet access but without logging in, everyone can also use the application. This application can also be obtained for free so there is no need to pay anything. In this study, students used the duolingo application on a web page where they had to have an internet connection. All students use their own laptops and log in using their respective emails.

CHAPTER II

LITERATURE REVIEW

This chapter discusses the theories which includes the Media, English for Young Learners, Vocabulary Mastery, Duolingo Application, Previous Study and Research Hypothesis.

2.1 Media

In this point the researcher will explain a little about the definition of media, the benefits of using media and the function of learning media.

2.1.1 Definition of Media

Media in the teaching and learning process is usually interpreted as graphic, photographic, or electronic tools to capture process and rearrange the information to be learned, this is stated the opinion of Arsyad (2013) . The word media comes from the latin *medius* which means literally 'middle', and 'Intermediate'. In Arabic, the media is an intermediary (وسائل) which is defined as an intermediary from the sender to the recipient, what is meant the intermediary in the learning process is a tool that the teacher will use in conveying material to recipients namely students.

Hamalik (1986) said that the use of learning media in the teaching and learning process can generate interest and desire in students and the use of learning media can also have a psychological influence on students, so this will help the effectiveness of students in delivering material and the learning process. He also said that communication

relations would run smoothly with maximum results when using tools in the form of learning media.

2.1.2 The Benefits of Using the Media

According to Kasihani and Suyanto (2014), media is a necessary tool for learning English, especially for children. Here are some of the benefits of learning media:

1. Help teachers simplify the language learning process and improve it.
2. Reducing the use of mother tongue or first language.
3. Generating student motivation and interest in learning.
4. Explaining new concepts so that students can understand without difficulty or misunderstanding.
5. Make the learning process more interesting and interactive.

2.1.3 The function of Learning Media'

1. Attention Function

Visual media is the core of all functions to attract and direct students' attention to concentrate on the subject matter related to the visual meaning that accompanies the content of the subject matter text, because often at the beginning of learning students are not interested in learning material, especially in learning English, therefore teachers need to think about learning media that will direct students' attention to the lessons they will receive.

2. Affective Function

Visual media can be seen from the level of enjoyment of students and students' enjoyment when learning by reading text with pictures. According to Arsyad (2013) images can evoke students' emotion and attitude, for example such as information concerning social or racial issues.

3. Cognitive Function

Visual media can be seen from research findings where they reveal that images will facilitate the attainment of goals to understand and remember what information has been contained or is in the image.

4. Compensatory Function

Learning media can be seen from the results of research where visual media provides context for understanding texts and helps students who are weak in reading to understand what they read in the text and recall it. In other words, learning media serves to help students who are slow to understand the content of the lesson differently.

2.2 English for Young Learners

In accordance with the opinion of Hariyono (2020) teaching vocabulary to EYL students is not as easy as one might think when teaching senior high school students, they have their own characteristics in conducting learning especially learning foreign languages, so the teacher must think of a different way and make EYL students embed it in their minds. That learning foreign

languages is fun and not as difficult as one might think. This will help teachers and EYL students in the process of learning foreign languages, especially in vocabulary mastery.

Zein and Butler (2023) explains that there are the most problems in finding EYL teachers, because they have to be proficient and methodologically prepared in teaching English to children where they teachers also have to meet the demands of English language pedagogy. Teaching EYL is also very unique, because it requires great mastery from teachers because they also have to understand character in supporting the learning process, besides that students also imitate more what they see.

2.3 Vocabulary Mastery

At this point the researcher will discuss the meaning of vocabulary and kinds of vocabulary.

2.3.1 The Definition of Vocabulary

Vocabulary is one of the important skills in learning a language, vocabulary needs to be learned in everyday life, so that it will be easier for them to learn vocabulary starting from things that are often done in their daily life. According to Rachmawati (2017) vocabulary is all the words that are known and used in everyday life, in reading books, the subject and the language one uses. She also said that if students do not have a lot of vocabulary skills, they will have difficulty interpreting and understanding what they read or read, especially they will have difficulty communicating.

Vocabulary in learning English at EYL will be easy to learn using media, so students will remember the words learned easily. According to Hariyono (2020) vocabulary can also be defined as words taught in a foreign language. In the process of learning vocabulary they also still have obstacles such as a lack of language experience so that this will affect the language they learn besides that they can also lose interest in learning and get bored easily. Therefore the teacher must think about the methods, strategies, techniques and media that will be taught.

2.3.2 Kinds of Vocabulary Mastery

Cesarini et al. (2021) explain that there are 2 types of vocabulary:

1. Respective and Productive Vocabulary

Respective vocabulary is something that is encountered by readers when reading and listening, for example when someone reads a text they will find out the meaning of the sentence and they will know the meaning of the sentence he is reading. While productive vocabulary is when the reader listens to someone's explanation and pays attention through gestures, they will understand the topic being explained.

2. Active and Passive Vocabulary

Active vocabulary is words that usually used by listeners and writers, then passive vocabulary is words that are not fully understood so passive vocabulary rarely used for writing and speaking.

2.4 Duolingo Application

2.4.1 Definition of Duolingo Application

Duolingo is a learning application, especially for language learning, this application can be used free of charge in any form, whether it's the web, android, ios or windows phone version. The Duolingo application is not only available in English, but the Duolingo application is also available in more than 40 languages.

Suwandi (2020) states that the Duolingo application provides 66 different language courses, 23 languages are available and 22 more programs are still being developed. The English course used in the Duolingo application has been widely used by Indonesian people, especially to develop their language knowledge with media in the form of applications. Duolingo can not only be used for the general public but Duolingo can also be used as learning media for school children starting at elementary, junior high, high school and even college.

Duolingo is an application that can be adjusted according to the level or ability of students so that the quiz that will appear on Duolingo is according to the level that has been selected. The use of Duolingo can introduce learning media to students so that with direction from the teacher, students will carry out activities using the Duolingo application effectively and efficiently (Matra, 2020). Duolingo has several features similar to games but still involves learning in the learning process. Apart from that, Duolingo also has a web, which is commonly called Duolingo for School. On this website, teachers can create their

classrooms to see and monitor how Duolingo works for each student so, that teachers can monitor assignments for activities at home and also increase students learning using the Duolingo application. The way to enter each class is by using the class code and each student must log in first, so the Duolingo web for schools at the elementary level is less effective because not all students have a Google account.

2.4.2 Advantages and disadvantages of the Duolingo Application

1. Advantages of Duolingo Application

There are several advantages of this Duolingo application, the use of Duolingo can be done without logging in so even children can use it because not all children have an account that can be used to access anything. The next advantage is that Duolingo has several forms to access Duolingo such as Windows, iOS, Android and the web. Duolingo is easy to use with mobile phones or laptops and PC. The third advantage is the Duolingo Application which is in the form of a game, this application also has an image that can attract students' attention.

According to Pearson (2014) the game is an instructional tool that supports students in learning knowledge skills and involves the use of problem-solving strategies and techniques. Problems can be introduced to students as a way to have them practice skills in practical application. This learning can also increase students' interest and motivation in learning a second language in several aspects such as learning vocabulary, speaking and grammar.

However, in this study, the aspect that was focused on was vocabulary learning.

2. Disadvantages of the Duolingo Application

From the several advantages of the Duolingo application, there must be drawbacks to the application. The first disadvantages of the Duolingo application is that this application does not provide a lot of vocabulary so the vocabulary provided in the application lacks variety. The second drawback is that application must use an internet connection so if this application is used in a place of learning that has minimal internet signal, this application cannot be used. The third drawback is that the sound in this application cannot be heard clearly so it can cause errors from the user answering and repeating what has been stated in a question.

2.4.3 The objectives of the Duolingo Application

Amalia (2019) said that there are several objectives of the Duolingo Application, as follows:

1. To understand newly discovered vocabulary, sentences and phrases.
2. To teach students another language for free.
3. Listen to the vocabulary according to the appropriate target language then type it again.
4. To translate sentences according to the target language with the appropriate grammar.

5. To provide new experiences and knowledge with media in the form of games for learners or users.

2.4.4 Computer Assisted Language Learning (CALL)

CALL is a language learning that involves the use of media in the form of a computer. CALL is also an impact of the presence of MALL (Mobile Assisted Language Learning), namely the use of media in the form of mobile phones or smartphones for the language learning process (Pearson, 2014). CALL can also be interpreted as the use of computers directly against students to convey lesson content, provide exercises and test student learning progress.

CALL is formed by developments and evolves from year to year, this is seen from the human need to use technology, of course computers in the learning process. Computer-Assisted Language Learning (CALL) was first termed in the last quarter of the 20th century (Al-Kadi, 2018). At the beginning of CALL, there could be called Behaviorist CALL in 1960-1970 then evolved into Communicative CALL in 1970-1980 and finally evolved into Integrative CALL in 1980 until the present.

2.4.5 Step how to use Duolingo Application

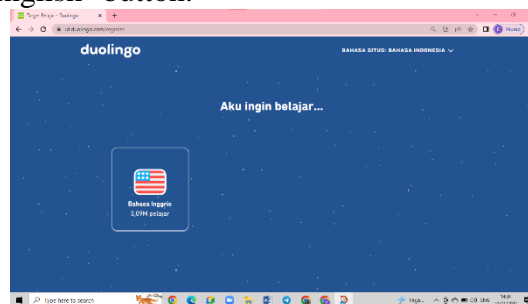
1. First step

The initial display for the Duolingo application before logging in, we can skip this section by clicking the "start" button.



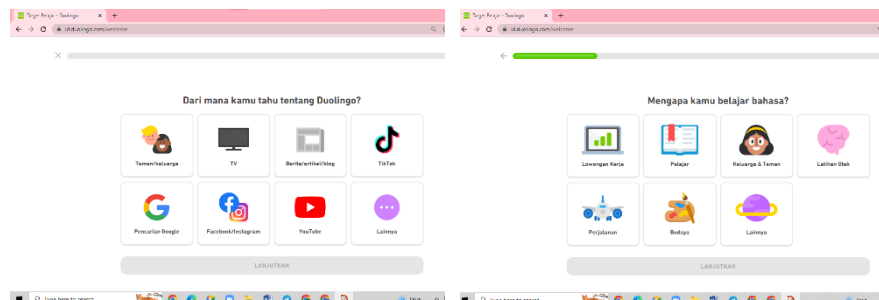
2. Second step

Next, a display like this will appear and students can choose which language to use for learning. Here students have to click the "English" button.



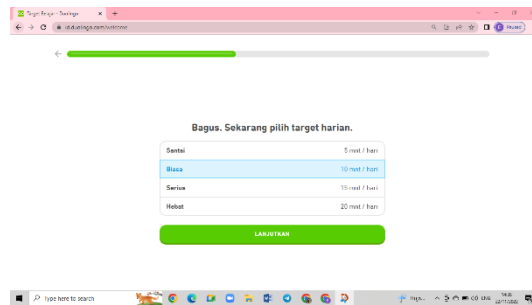
3. Third step

In the third step students must click on one of the choices provided, because students understand this application, students are asked to click the "other" and "student" buttons.



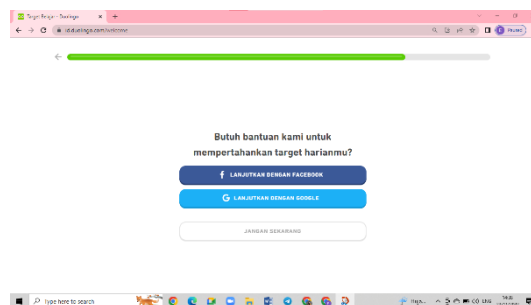
4. Fourth step

In the fourth step, students can choose how many daily targets will be made for using this Duolingo application. Students can click on the target option "regular, 10 minutes/day".



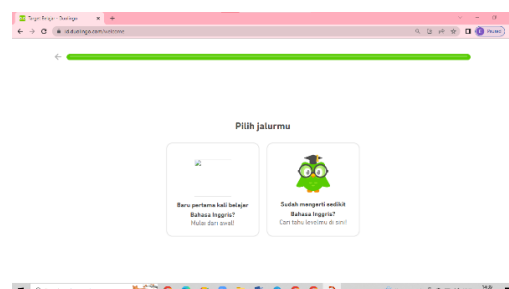
5. Fifth step

This step can be skipped directly without clicking continue for Facebook or Google. Students can choose the "not now" button.



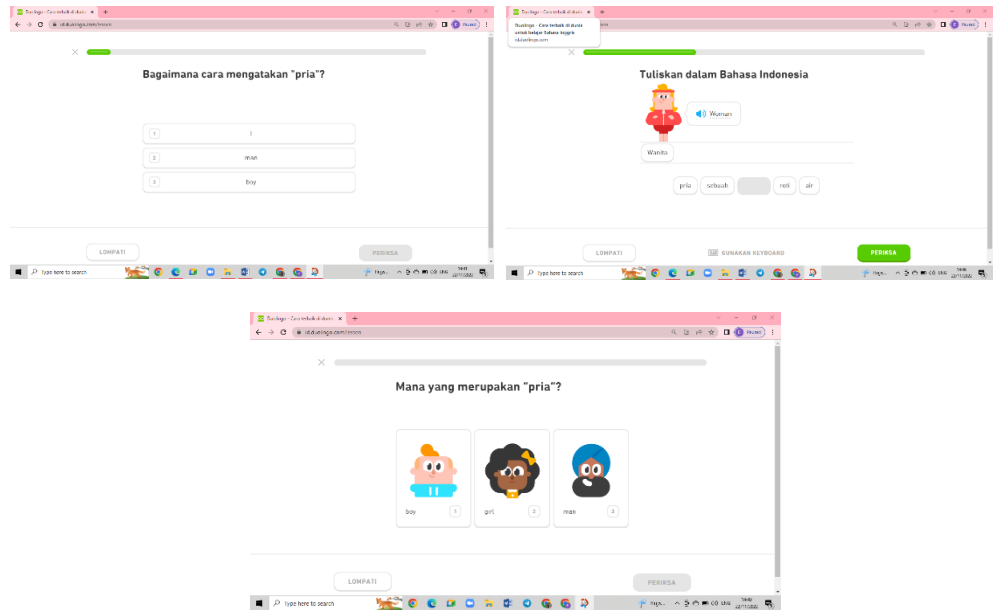
6. Sixth step

At this step, students can choose a level according to their abilities, because the students who will be studied are elementary school students. Then students have to click "the first time learning English".



7. Seventh step

In the final step, which is the step of working on questions or learning, there are several examples of questions in the Duolingo application, as shown in the picture that I will attach, students can choose answers according to their respective answers.



2.5 Previous Study

As a theoretical basis, this study includes several studies related to the use of the Duolingo application for vocabulary mastery. *First*, "The Implementation of Duolingo Mobile Application in English Vocabulary Learning" written by Ari Irawan, Agus Wilson and Sutrisno which was written in 2020, this study used quantitative research that is tested and processed using measurement techniques using Software Quality Measurement Techniques (SQA) that used non-random samples. From this research the problems faced were that this research had not fully achieved the expected results and the results of This research can be stated as an

effective application and can help teachers at Public Elementary School 02 Ciputat to teach as a mobile application-based learning media.

Second, "The Effect of Duolingo Application on Students' English Vocabulary Mastery" was written by Husnur Rosyidah Aulia, Eka Wahjuningsih and Rika Andayani in 2020. This study used Quasi-Experimental with a post-test-only design. The results of this study showed a significant influence on the use of the Duolingo Application on vocabulary mastery. In this study there is a problem that must be carried out in future research, namely the research results are less visible because only 2 meetings were held, so the suggestion from researchers is that research can be carried out in more than 2 meetings. In this case, the research was conducted on grade 8 junior high school students.

Third, "Duolingo as a Bilingual Learning App: A Case Study" was written by Heba Bahjet Essa Ahmed in 2016. This study used a mixed method approach using quantitative and qualitative research which includes observation, assessment, and interview. The results of this study said that the Duolingo Application is an application suitable for learning a second language for beginners, it's just that Duolingo has to add a more varied vocabulary in terms of vocabulary, grammar and language. This has been successfully proven by his research, the subject of which is a male school student whose age is 12 years old and who lives in Riyadh, Saudi Arabia.

From several previous studies that I have obtained, research using the Duolingo application has never been used for research on English for

young learners. Researcher found a gap in that the research used the Duolingo application media for elementary school students by using a test instrument, namely in the form of a pre-test and post-test. This research is expected to have an impact on student achievement and increase motivation in students' interest in learning English. On the other hand, previous studies have suggested to researcher maximize the application of Duolingo to get the expected results, so that researchers will carry out treatment with the Duolingo application more than 2 times.

2.6 Research Hypothesis

From the explanations that have been described, this study has an influence, namely the use of Duolingo application as variable X in vocabulary mastery as variable Y. It can be formulated into an alternative hypothesis and the statistical hypothesis will be tested for the null hypothesis and the alternative hypothesis of the difference in the gain score between the experimental group and the control group.

CHAPTER III

RESEARCH METHODOLOGY

This chapter discusses research design, research variable, research population and sample, data sources, validity and reliability of research, techniques in data collection, and data analysis

3.1 Research Design

This research uses quantitative research, it is a research method based on experience in the form of numbers that can be counted. In quantitative research, this is a form of investigating problems to be collected by determining data and measuring variables. This research is focused on experimental research methods and this research is also used to test the hypothesis. It can be concluded that the method has the objective of explaining the causal relationship between one variable and another variable (variable X and variable Y).

In this study, researcher used a quasi-experimental. Sugiyono (2013) explains that there are 2 quasi-experimental design forms, namely the time-series design and the nonequivalent control group design. This quasi-experimental is a development of true-experimental. The following is an overview of the research design.

Table 3.1 Description of the Quasi-Experimental design

Kelompok	Pre-Test	Treatment	Post-Test
Experimental	Y ₁	X	Y ₂
Control	Y ₁	-	Y ₂

From the table provided, it is illustrated that the study will use two groups to be observed, namely the experimental group and the control group. In the experimental group, researcher will conduct research by using Duolingo learning media and the control group will not be treated.

3.2 Time and Setting of the research

This research was conducted at the MIN 1 Malang, which is located at Jl. Bandung Number 7C, Penanggungan, Klojen sub-district, Malang City, East Java. This research was carried out in the even semester of the 2022/2023 school year to be exact, in February and March 2023. The setting was chosen because MIN 1 Malang is already familiar with technology in its learning, but learning media has never been used in the form of an application to learn English especially to focus on vocabulary. In addition, English teachers at MIN 1 Malang need effective learning media for students, especially in learning a second language.

Table 3.2 Schedule of the Research

No.	Activity	Date
1.	Observation	2 nd , December 2022
2.	Pre Test	11 th , February 2023
3.	Giving Treatment 1	11 th , February 2023
4.	Giving Treatment 2	4 th , March 2023
5.	Giving Treatment 3	7 th , March 2023
6.	Post Test	7 th , March 2023

3.3 Research Variable

Variables are anything in any form determined by researcher to be studied. Sugiyono (2011) defines variables as attributes of scientific fields or certain activities such as height and weight as attributes of people and organizational structure and coordination are examples of variables in administrative activities. Variables are divided into two types, namely independent variable which is variable that affect or cause changes and the second is the dependent variable, which means the variable that is affected or becomes the result.

The final results of this study will be determined by the positive or negative reinforcement of research activity. This research involves 2 variables. The researcher conducted the independent variable (X) that is the Duolingo application and used vocabulary mastery as the dependent variable (Y). In this study, the researcher focused on observing the vocabulary mastery of MIN 1 Malang students who were given different treatments but were given the same pre-test and post-test.

3.4 Research Population and Sample

The population is a generalization area consisting of objects or subjects that have certain qualities and characteristics determined by researchers to be studied and then draw conclusions (Sugiyono, 2011). The population is not only people but also objects and natural objects that participate in research. The sample is part of the number and characteristics possessed by that population if the population is large then the researcher can't study and examine all of the population so a sample is needed to take

some of the population which really must be representative if the sample is not representative then the sample is will make wrong conclusions about the research to be carried out.

The subject of the research to be examined was the 5th-grade students of MIN 1 Malang. From the population, learning will be carried out in two classes as the sample: 5G class and 5H class each consist 22 students. Class 5G as the experimental class with a total of 16 female and 6 male students, while in class 5H as the control class with a total of 14 female and 8 male students. Researcher choose grade 5 at MIN 1 Malang because based on the observation that researcher had done with the English teacher at MIN 1 that learning media had never been done in the form of an application for English lessons. All class 5 students are 252 students, classified in the table below.

Table 3.3 Students' number and classes

No.	Classes	The number of the students
1.	5-A	28
2.	5-B	28
3.	5-C	27
4.	5-D	28
5.	5-E	28
6.	5-F	28
7.	5-G	28
8.	5-H	28
9.	5-I	28
Total Number		252

3.5 Data Sources

The collection of data or data sources in this study was carried out to obtain the information needed as a complement to achieve the research objectives. Data collection is the most strategic step in research because the main objective of the research is to obtain data (Sugiyono, 2013).

In this study entitled "The Effectiveness of Duolingo Application in Vocabulary Mastery for English for Young Learners in MIN 1 Malang " researcher will collect data based on a Pre and Post-Test.

3.5.1 Primary Data

Primary data sources or commonly referred to as main data sources, namely data that is given to researchers directly. In this research, the primary data obtained was in the form of responses and the results were filled in by students as respondents. This research was conducted using a test from the data that would be taken from the results of the pre-test and post-test from students in the experimental group and the control group.

3.5.2 Data Source Secondary

Secondary data is additional data that has no direct relationship with primary data. Secondary data is additional data that can be taken from books, journals, personal documents and official written documents. In this study researcher took secondary data sources from books, journals and several articles.

3.6 Research Instrument

The instrument used in this study was a vocabulary test, including the pre-test and post-test. The vocabulary test is given to students in writing with a total of 25 questions and 30 minutes. The pre-test and post-test questions have 3 parts that must be done, the first is that students must answer multiple-choice questions. Then the second part students have to look for vocabulary that matches its meaning by drawing lines. Finally, they

are asked to make sentences from the vocabulary provided. Scores will be given to students who answer the questions that have been provided and each answer will be given a value of 4 and there are total it is 100.

3.7 Validity and Reliability Testing

The implementation of this research will be assisted by the instrument as a test tool. The research instrument will be tested for validity and reliability to measure the truth and reliability of the instrument to be used.

3.7.1 Validity

A validity test is the precision or accuracy of an instrument in data collection. To support the regression analysis, validity and reliability tests must be carried out, the purpose of this test is to test the validity of the questionnaire and other instruments. This is useful to see whether the questions and statements provided are appropriate or if there are any that should be discarded. Validity tests can be tested via Microsoft Excel or SPSS. This study has content validity, construct validity, and item validity.

1. Content Validity

Content validity is a test that questions how far a test measures the level of mastery of certain content, content, or material that should be mastered according to the purpose of teaching, this is explained in the opinion of (Matondang, 2009). A test that has good content validity is a test that measures mastery of the material that should be mastered by the teaching content stated in the outline of the teaching program. To find out

whether the test used is valid or not, namely by conducting a review of the test grid to ensure that the test indeed represents the whole that is mastered proportionally.

Table 3.4 Validity Content

Basic Competence	
3.3	Memahami kata, frasa, dan kalimat yang berkaitan dengan Healthy Foods.
3.8	Memahami kata, frasa, dan kalimat yang berkaitan dengan My Environment Friend.
3.9	Memahami kata, frasa dan kalimat yang berkaitan dengan Objects in the Environment.

2. Construct Validity

Construct validity is validity that questions how far the test items that can measure what is measured are by the specific concept or conceptual definition that has been defined. According to Syamsurizal (2020) construct validity also means that a measuring instrument is said to be valid if it matches the theoretical construction in which the test was made. A test is declared to have construct validity if the questions measure every aspect of thinking as described in the competency standards, basic competencies, and indicators contained in the curriculum. The questions are developed from the grid that has been made

Table 3.5 Construct Validity

No.	Standard Competence	Number Item
1.	Healthy Foods	7
2.	My Environment Friend	11
3.	Objects in the Environment	7
4.	Total Item	25 items

3. Item Validity

For the validity and reliability tests, the researcher will test via excel using the product moment correlation technique, with the following formula:

$$R_{xy} = \frac{N \sum XY - (\sum X)(\sum Y)}{[N \sum X^2 - (\sum X)^2][N \sum Y^2 - (\sum Y)^2]}$$

Description :

R_{XY} = Correlation coefficient between variables X and Y

N = Number of Respondents

$\sum X$ = Total score of the items

$\sum Y$ = Sum of the total scores

$\sum X^2$ = Sum of the squared scores of the items

$\sum Y^2$ = Sum of the total scores for the squares of the items

Value of r count \geq r table in sig. 0,05 with db: n-2 then the item is valid.

3.7.2 Reliability

The reliability test is used to determine the consistency of the measuring instrument, and whether the measuring instrument is consistent or reliable if the measurement is repeated. Reliability has the meaning of being trusted that the measuring instrument can be trusted to give the right results, reliability is calculated after calculating the validity test. This reliability test can also be calculated using SPSS and Microsoft Excel. In this study, the validity and

reliability tests were calculated or tested using Microsoft Excel. To calculate reliability, it was divided into 2, namely:

1. Scale Reliability

To measure the reliability of a scale or questionnaire, *Cronbach's Alpha* formula could be used, as follows:

$$R_{tt} = \left[\frac{k}{k-1} \right] \left[1 - \frac{\sum S_1^2}{S_t^2} \right]$$

Description :

R_{tt} = Instrument reliability coefficient (total test)

k = Number of valid questions

$\sum S_1^2$ = Number of item variants

S_t^2 = Variant of the total score

Value of r count > r table 5 %, then the item is accepted

2. Test Reliability

To set the reliability of the test using the formula KR -20. because the test is dichotomous, namely the correct answer is given a score of 1 and the wrong answer is given a score of 0. The KR-20 formula is as follows:

$$R_{tt} = \left[\frac{k}{k-1} \right] \left[\frac{v_t - \sum pq}{v_t} \right]$$

Description :

R_{tt} = Test reliability

k = Number of valid items

v_t = Variance score of total tests

p = Proportion of subjects who answered the questions correctly

q = Proportion of subjects who answered the questions incorrectly (1-p)

$\sum pq$ = Number of multiplication results between p and q

Table 3.6 Interpretation of Correlation Coefficient Values

Coefficient Interval	Correlation Level
0,00 – 0,199	Very Low
0,20 - 0,399	Low
0,40 – 0,599	Medium
0,60 – 0,799	Strong
0,80 – 1,000	Very Strong

3.8 Data Collection Technique

3.8.1 Pre-Test

The pre-Test is a test to measure students' ability to understand the material before the research treatment. This pre-test will affect the post-test after the application of vocabulary learning using the Duolingo application. The pre-test will be carried out in both groups, namely, in the experimental group or the control group, a pre-test will be carried out before giving the treatment and the tests in this pre-test cover multiple choice where students must choose the correct answer from the question. Then students have to look for vocabulary that matches the picture and draw the appropriate line, for the last students make sentences from the vocabulary provided.

3.8.2 Treatment

After giving the pre-test, the researcher will give treatment using the Duolingo application. This treatment will be given to all students in the experimental group, while the control group will be treated with learning as is usually done by the teacher in class. The research



treatment will be carried out at least 3 times in learning. In the first treatment, students will use the Duolingo application with the earliest level which is the easiest and will be continued with a post-test.

3.8.3 Post-Test



Post-test is an evaluation method that is carried out after the use of treatment on a matter being studied to determine the extent to which students' understanding of the learning material is provided. This post-test affects the treatment that has been carried out. The goal is to obtain the final competency of how much students master the learning material. The post-test that will be given is the same as the pre-test, students must answer multiple-choice questions. Then students will be provided with pictures and they have to write English and the meaning that matches the picture. Then for the last, Students make sentences from the vocabulary provided. However by holding the pre-test and post-test the researcher will find out whether there is a change between before and after the application of the Duolingo application at MIN 1 Malang.

Table 3.7 Blueprint for Pre-Test and Post-test Questions

No KD	Basic Competence	Indicator	Learning Objectives
3.3	Memahami kata, frasa, dan kalimat yang berkaitan dengan Healthy Foods.	<ul style="list-style-type: none"> - Knowing English vocabulary related to healthy foods. - Complete practice questions about healthy foods. 	<ul style="list-style-type: none"> - Students can construct sentences from words and phrases related to healthy foods. - Students can translate English vocabulary related to healthy foods.
3.8	Memahami kata, frasa, dan kalimat yang berkaitan dengan My Environment Friend.	<ul style="list-style-type: none"> - Knowing English vocabulary related to the environment is our friend. - Complete practice questions about the environment are our friends. 	<ul style="list-style-type: none"> - Students can construct sentences from words and phrases related to the environment is our friend. - Students can translate English vocabulary related to the environment is our friend.
3.9	Memahami kata, frasa dan kalimat yang berkaitan dengan Objects in the Environment.	<ul style="list-style-type: none"> - Knowing English vocabulary related to objects around us. - Memorize the meaning of words related to objects around us. 	<ul style="list-style-type: none"> - Students can construct sentences from words and phrases related to objects around them. - Students can translate English vocabulary related to objects around them.

Test Format	Test Technique	Item Number	Level Soal	Questions		No KD
				1	2	
Multiple Choice	Students are given pre-test and post-test in the form of questions A. Put the cross (X) as the correct answer for the question given!	1,2,3,45,6,7,89,10	C1	1. <i>Apel ini sangat enak.</i> The English sentences is... a. This apple is very delicious. b. This apple is very late. c. This apple is very small.	2. <i>Bayam ini sangat segar.</i> The English sentences is... a. This spinach is very fresh. b. This broccoli is very fresh. c. This spinach is very delicious.	3.3
			C3	2. Look at this picture. This is...  a. water b. milk c. bread	2. Look at this picture. This is...  a. water b. milk c. bread	
			C3	3. Which includes a fruit? a. Banana b. Carrot c. Milk	3. Which includes a vegetable? a. Banana b. Carrot c. Milk	3.3
			C3	4. Soto and fried chicken are kinds of... a. food	4. Tomato and broccoli are kinds of... a. food	

				b. drink c. vegetable	b. drink c. vegetable	
			<i>C3</i>	5. Arrange the words below into a good sentences. is - he – a – doctor a. Is a he doctor. b. He is a doctor. c. doctor is he.	5. Arrange the words below into a good sentences. a - teacher – she – is a. Is a she teacher. b. A teacher is she. c. She is a teacher.	3.8
			<i>C1</i>	6. Nadia: “Do you like drawing?” Intan :“...” a. Yes, I do. b. Yes, I am. c. Yes, you like.	6. Ozair : “Do you like dancing?” Hanif :“...” a. Yes, I do. b. Yes, I am. c. Yes, you like.	3.8
			<i>C1</i>	7. Zunnay : “Hello Selly, are you busy now?” Selly : “I’m not busy, why Zunnay?” Zunnay : “Let’s go to the.... I want to read books. Selly : “Okay, let’s go”	7. Afnan : “Hello Adiba, what are you doing?” Adiba : “Hello Afnan, I’m cooking fried chicken” Afnan : “Wow! Do you like cooking?.” Adiba : “Of course, I like cooking. Let’s go to the.....and cook for lunch”	3.8

				<p>a. library b. kitchen c. bedroom</p>	<p>a. library b. kitchen c. bedroom</p>	
		<i>C3</i>	<p>8. Look at this picture. What profession is she?</p> <p>a. She is a doctor. b. She is a teacher. c. She is a chef.</p> 	<p>8. Look at this picture. What profession is she?</p> <p>a. She is a doctor. b. She is a teacher. c. She is a chef.</p> 	3.8	
		<i>C1</i>	<p>9. My mom ... every morning.</p> <p>a. cooked b. cooking c. cooks</p>	<p>9. I a book everyday.</p> <p>a. read b. reading c. reads</p>	3.9	
		<i>C2</i>	<p>10. Translate the sentence below into a right translation. <i>Ayah saya membaca koran setiap pagi.</i></p> <p>a. My father reads the newspaper every morning. b. My mother reads the newspaper every morning.</p>	<p>10. Translate the sentence below into a right translation. <i>Kita harus pergi ke rumah sakit sekarang.</i></p> <p>a. We have to go to the hospital as soon as possible. b. We have to go to the hospital now.</p>	3.9	

				c. My father reads the newspaper every night.	c. We have to go to the hospital tonight.	
Match the pictures	B. Draw a line from the picture in the left column that matches to vocabulary in the right column	1,2,3,4 5, 6, 7, 8, 9, 10	<i>C1</i>			
Paragraph	C. Make a good sentences from the words given!	1,2,3 4,5	<i>C3</i>	21. Cook 22. Noodle 23. Nurse 24. Football 25. Book	21. Read 22. Water 23. Teacher 24. Basketball 25. Paper	3.9 3.3 3.8 3.9 3.9

3.9 Data Analysis

Data analysis is the process of arranging data sequences, organizing them into a pattern, category and basic descriptive unit. Analysis data were collected from respondents to be analyzed. In this study, quantitative data were used which were obtained from pre-test and post-test student scores as well as questionnaires that had been filled out by respondents which would then be analyzed using Microsoft Excel. The data to be obtained by this study includes evidence that supports or does not support the research hypothesis. This study was tested using statistical methods to obtain significant differences in scores in the effectiveness and use of instructional media in the form of the Duolingo application for vocabulary mastery, the results of which will be used to be able to improve vocabulary comprehension in EYL students. In analyzing the data in this study through the following steps

3.9.1 The Normality Test

This normality test has the goal of knowing whether data comes from a normally distributed population or not. This normality test is taken from the selected data, namely pre-test data. Normality testing, homogeneity testing and hypothesis testing in this study were carried out using Microsoft Excel.

1. Hypothesis :

H_0 : Gain score data for students in the experimental class and control class come

from populations that are **normally** distributed.

H_1 : Gain score data for students in the experimental class and control class come from populations that are **not** normally distributed

2. Significance Level: $\alpha = 0.05$
3. Statistical Test: Using Microsoft Excel
4. Formula : $z = \frac{x-\bar{x}}{s}$
5. Decision criteria :

H_0 is rejected if $L \text{ count} \leq L \text{ Table}$

3.9.2 The Homogeneity Test

Test Homogeneity test is a test that is intended to find out whether the variance of the data from the abilities contained in the control class and the experimental class are the same or not. This homogeneity test is also seen from the pretest value in each control group and the experimental group. Normality testing, homogeneity testing and hypothesis testing in this study were carried out using Microsoft Excel.

1. Hypothesis :

H_0 : The gain score data group comes from a population that has homogeneous variations

H_1 : The gain score data group comes from a population that has **non-homogeneous** variations

2. Significance Level: $\alpha = 0.05$
3. Statistical Test: Using Microsoft Excel.
4. Decision criteria :
if $\text{Sig. } F \text{ Table} \leq F \text{ Count}$ then homogeneous.

3.9.3 Hypothesis Test

A hypothesis test is part of inferential statistics which aims to conclude a population based on data that has been obtained from the sample hypothesis. The hypothesis is also a temporary answer to a problem in the form of a scientific allegation and the truth must be proven first through research. The statistical hypothesis is a hypothesis regarding the assumption of conditions in a population, due to testing this hypothesis with statistics, the process of testing this hypothesis can be accepted or rejected. Normality testing, homogeneity testing and hypothesis testing in this study were carried out using excel. Testing this hypothesis using the *t-test: Two-Sample Assuming Equal*.

1. Hypothesis :

H_0 : $t \leq 0,05$ Duolingo Application to vocabulary mastery is **effective** in terms of the achievement of increasing students' understanding.

$H_1: t > 0,05$ Duolingo Application to vocabulary mastery is **not effective** in terms of the achievement increasing students' understanding.

2. Significance Level: $\alpha = 0.05$
3. Test Statistics: Using Microsoft Excel.
4. Decision Criteria:

H_0 is rejected if $\text{Sig.} \leq \alpha 0.05$ or $t \text{ count} > t \text{ table}$

3.10 Research Procedures

In the technique data collection that will be carried out by researcher, several stages will later be carried out by researchers to conduct research, including:

3.10.1 Preparing Research Proposal

In the preparation stage of this proposal, one of the first stages is carried out by researcher to submit or submit it to the Faculty of Education and Teacher Training (FITK) State Islamic University of Maulana Malik Ibrahim Malang. In preparing this proposal, researchers describe or explain in detail so that later it can be understood and understood to be used as a benchmark in further research.

3.10.2 Arrange Licensing

At this stage, the researcher takes care of a permit letter from the faculty which will be submitted to the school to conduct research at a location that will later be used as a place for researchers as a place of research.

3.10.3 Preparing Equipment and Instruments

Before carrying out the research, researcher must make research instrument tests.

3.10.4 Taking Action and Assessing the Field

In the next stage after conducting the proposal examination, the researcher goes into the field to conduct research by carrying out several stages of the research such as conducting a pre-test then treatment using the media to be studied and finally conducting a post-test. In addition, research was also carried out to collect data, analyze the results of data from research.

3.10.5 Research Implementation Phase

1. Data Collection

At this stage data collection was carried out by researcher, including:

a. Observation in the field in progress.

Before meet with the English teacher, the researcher was directed to meet the vice public relations head and then directed to meet the grade 5 English teacher. The researcher observations included the number of grade 5 students, the lessons used daily and whether they had ever used the Duolingo application before.

b. Observing the place in the application of The Effectiveness of Duolingo Application in vocabulary mastery in MIN 1 Malang.

- c. Conduct Pre Test for students

The pre-test questions were distributed to students with a total of 25 questions and 35 minutes of processing time.

- d. Apply learning by using the Duolingo Application (3 times treatment).
- e. Doing a post-test for students.

The post test questions were distributed to students with the same questions as the pre test and the processing time was 35 minutes.

2. Data Identification

At this stage, the data that has been obtained is collected into one starting from the pre-test and post-test. To facilitate researcher in analyzing data as desired.

3.10.6 Final Stage of Research

In this last stage, the researcher designs the results of the research so that the results of the research can be read, understood and known by the reader, then these results will be compiled in the form of conclusions from the research results.

CHAPTER IV

FINDINGS AND DISCUSSION

This chapter consists of data analysis, normality testing, homogeneity testing, data analysis, hypothesis testing and discussion.

4.1 Finding

At this point the researcher will explain the results found during the research which includes data analysis from the pre test and post test for each class in the experimental and control classes.

4.1.1 Data Analysis of Pre-Test

The pre-test activity was carried out on February 11, 2023. In this activity students were asked to work on the questions that had been provided, which consisted of 25 questions consisting of 3 parts. the questions were addressed to a sample with a total of 22 people in each control class and experimental class. The researcher choose class 5G as the experimental class and class 5H as the control class from the large population of class 5 MIN 1 Malang.

The pre-test questions were given to both classes with the same number of questions. However, in the experimental class treatment was carried out using the Duolingo application as a medium in vocabulary mastery, while the control class was not treated using the application and only taught by the teacher as usual, so the purpose of this pre-test is to find out the student's ability to achieve vocabulary comprehension by using the Duolingo application in the experimental class and to see the difference without using the application in the

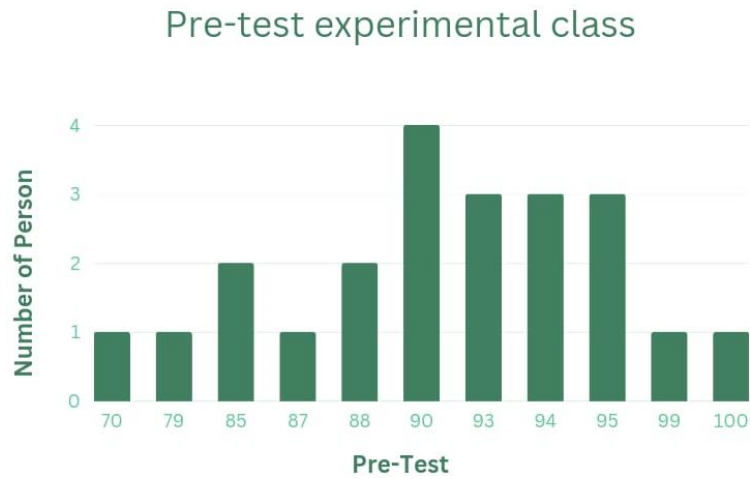
control class. The results of the student pre-test are presented in table 4.1 below:

Table 4.1 Student's Score Pre-Test Experimental Class

No.	Initials Name	Pre-Test Score
1.	AAH	85
2.	AAK	85
3.	AAA	95
4.	AHMF	95
5.	AMW	99
6.	AWS	90
7.	BRE	94
8.	CSNA	94
9.	DTS	93
10.	EFRS	70
11.	GAAH	94
12.	HAN	93
13.	INL	93
14.	KAAS	90
15.	LAIL	90
16.	LSA	95
17.	MDG	79
18.	MNIA	100
19.	NAR	90
20.	NSG	87
21.	ORM	88
22.	SA	88
Σ		1987
Average Score		90,32

From the results of the pre-test contained in table 4.1 seen from the results of class 5G MIN 1 Malang as an experimental class, it can be found that the lowest score of the student's pre-test is 70 and the highest score is 100. To analyze descriptive data from the results of the pre-test in the experimental class, researcher use Microcoft excel. The distribution of student scores can be seen in the histogram chart below:

Diagram 4.1 Pre-Test Experimental Class



Based on the above histogram graph in the range 70-80 there are 2 students, in the range 81-90 there are 9 students, and in the range 91-100 there are 11 students. The distribution of scores are shown from the lowest to the highest score along with the frequency or number of students in each student's score in each class. It can be concluded that the results of student scores displayed on the histogram graph from the 22 experimental class students, it was proven that 20 students were effective in the pre-test and 2 of them were ineffective. In order to find out the descriptive data from the calculation of the experimental class pre-test values are as follows :

Table 4.2 Descriptive Statistic of Pre-test Experimental Class

<i>Pre- Test Eksperimental Class</i>	
Mean	90,31818
Standard Error	1,408672
Median	91,5
Mode	90
Standard Deviation	6,607257
Sample Variance	43,65584
Kurtosis	3,346648
Skewness	-1,47508
Range	30
Minimum	70
Maximum	100
Sum	1987
Count	22

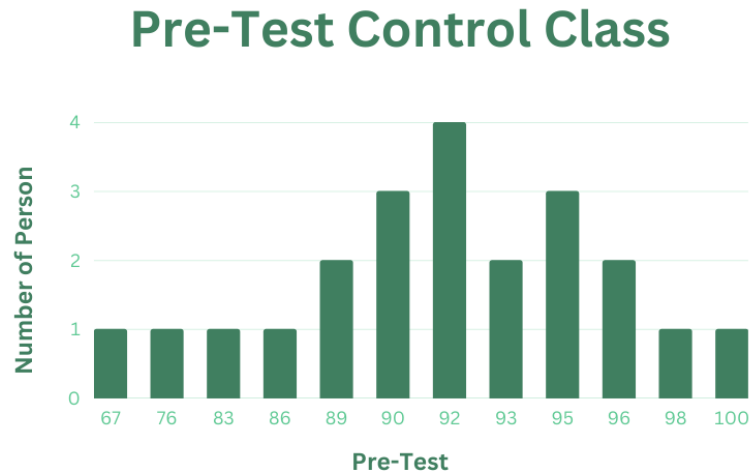
From table 4.2 it is stated that the mean value of the pre-test experimental class is 90.31 then the median value is 91.5 and the standard deviation value of the pre-test experimental class is 6.60. From the table above it can be seen that the total number of students in class 5G is 22 students, the minimum score of students is 70 and the maximum score is 100. From the data above it can be seen that the standard deviation is smaller than the mean of the total student scores so it can be concluded that the pre-test of the experimental class is good data quality.

Table 4.3 Student's Score Pre-Test Control Class

No.	Initials Name	Pre-Test Score
1.	ADAR	90
2.	AKA	89
3.	ANA	67
4.	BGK	96
5.	DAH	92
6.	DAP	96
7.	FAA	98
8.	FS	95
9.	FAT	92
10.	FAP	93
11.	HANH	95
12.	HDN	86
13.	KMA	90
14.	KKA	92
15.	MAW	93
16.	MAR	90
17.	NN	89
18.	NAP	100
19.	PSCA	92
20.	RD	76
21.	YBSR	95
22.	ZZF	83
Σ		1989
Average Score		90,41

From the pre-test results contained in table 4.3 seen from the results of class 5H MIN 1 Malang students as the control class, it can be found that the lowest score of the student's pre-test is 67 and the highest score is 100. To analyze descriptive data from the pre-test results in the control class, researcher use microsoft excel. The distribution of student scores can be seen in the histogram chart below:

Diagram 4.2 Pre-Test Control Class



Based on the above histogram graph there are 2 students in the range 70-80, in the range 81-90 there are 6 students, and in the range 91-100 there are 13 students. It can be seen that the distribution of scores are displayed from the lowest to the highest along with the frequency or number of students in each student's score in each class, from the 22 experimental class students, it was proven that 20 students were effective in the pre-test and 2 of them were ineffective. In order to find out the descriptive data from the calculation of the control class pre-test values are as follows :

Table 4.4 Descriptive Statistic of Pre-test Control Class

Pre-Test Control Class	
Mean	90,40909
Standard Error	1,566228
Median	92
Mode	92
Standard Deviation	7,34626
Sample Variance	53,96753
Kurtosis	4,39913
Skewness	-1,89032
Range	33
Minimum	67
Maximum	100
Sum	1989
Count	22

From table 4.4 it is stated that the mean value of the pre-test in the control class is 90.40, the median value is 92 and the standard deviation is 7,34. From the table above it can be seen that the total number of students in class 5H is 22 students, the minimum score of students pre test is 67 and the maximum score is 100. It implied that the standard deviation is smaller than the mean of the total student scores. From this point, the pre-test of the control group is good data quality. After knowing the value of the pre-test in the two group, the researcher carried out the treatment using the duolingo application for 3 treatments. After doing the treatment then proceed with the post-test and it can be seen that the difference in values from before and after doing treatment.

4.1.2 Data Analysis of Post-Test

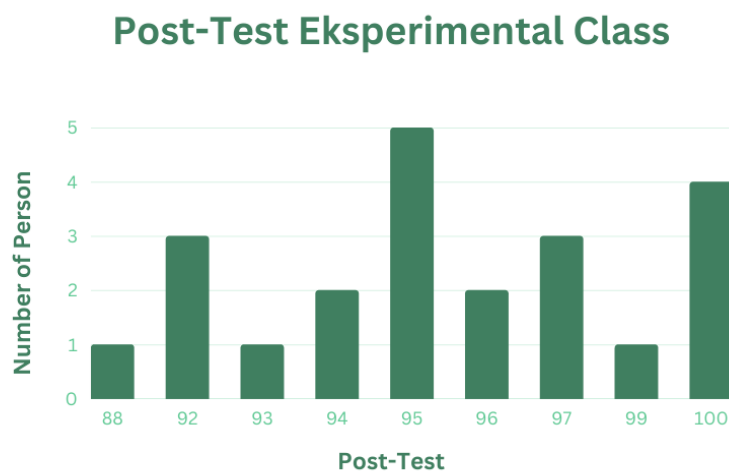
The post-test activity was carried out on March 7th, 2023. The test done after the treatment of Duolingo Application was carried out on the same day as the third treatment, the post-test was carried out after applying the treatment 3 times using the Duolingo application. In this activity, students were assisted to answer some questions related to their ability in vocabulary mastery. The questions are the same with the test on the pre-test. The result of the post-test could be seen as follows, see table 4.5:

Table 4.5 Student's Score Post-Test Experimental Class

No.	Initials Name	Post-Test Score
1.	AAH	92
2.	AAK	92
3.	AAA	96
4.	AHMF	95
5.	AMW	100
6.	AWS	96
7.	BRE	97
8.	CSNA	95
9.	DTS	97
10.	EFRS	88
11.	GAAH	94
12.	HAN	99
13.	INL	97
14.	KAAS	92
15.	LAIL	95
16.	LSA	95
17.	MDG	93
18.	MNIA	100
19.	NAR	100
20.	NSG	100
21.	ORM	95
22.	SA	94
Σ		2102
Average Score		95,55

From the results of the post-test in table 4.5 seen from the results of class 5G MIN 1 Malang as an experimental class, it can be found that the lowest score for post-test is 88 and the highest is 100. There were four students reach 100, so almost all students pass the test based on the minimum score of mastery level. The distribution of student scores can be seen in the histogram chart below:

Diagram 4.3 Post-Test Experimental Class



Based on the above histogram graph in the range 88-94 there are 7 students, and in the range 91-100 there are 15 students. The distribution of scores are shown from the lowest to the highest score along with the frequency or number of students in each student's score in each class. It can be concluded that the results of student scores displayed on the histogram graph are 22 students and there are no student scores that are below ineffective. In order to find out the descriptive data from the calculation of the experimental class post-test values are as follows :

Table 4.6 Descriptive Statistic of Post-test Experimental Class

<i>Post-Test Eksperimental Class</i>	
Mean	95,545455
Standard Error	0,6668634
Median	95
Mode	95
Standard Deviation	3,1278667
Sample Variance	9,7835498
Kurtosis	0,1620688
Skewness	-0,314557
Range	12
Minimum	88
Maximum	100
Sum	2102
Count	22

From table 4.6 it is stated that the mean value of the post-test experimental class is 95.54 then the median value is 95 and the standard deviation value of the pre-test experimental class is 3,127. From the table above it can be seen that the total number of students in class 5G is 22 students, the minimum score of students is 88 and the maximum score is 100. From the data above it was found that the standard deviation is smaller than the mean of the total student scores so it can be concluded that the post-test of the experimental group is good data quality.

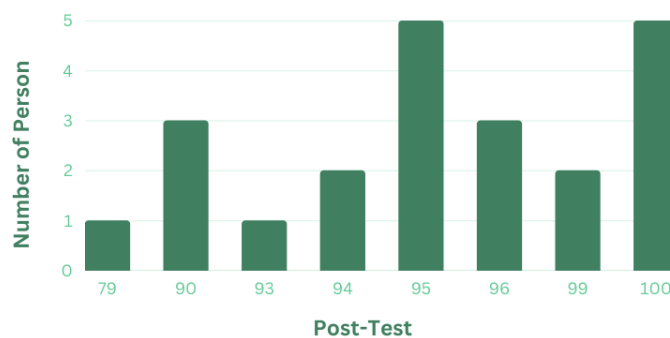
Table 4.7 Student's Score Post-Test Control Class

No.	Initials Name	Post-Test Score
1.	ADAR	96
2.	AKA	90
3.	ANA	79
4.	BGK	95
5.	DAH	100
6.	DAP	96
7.	FAA	100
8.	FS	100
9.	FAT	90
10.	FAP	100
11.	HANH	99
12.	HDN	96
13.	KMA	94
14.	KKA	95
15.	MAW	95
16.	MAR	90
17.	NN	95
18.	NAP	100
19.	PSCA	93
20.	RD	94
21.	YBSR	99
22.	ZZF	95
Σ		2091
Average Score		95,05

Based on the post-test results contained in table 4.7, the data showed that the lowest score of the student's post-test is 79 and the highest score is 100.

Diagram 4.4 Post-test Control Class

Post-Test Control Class



Based on the above histogram graph in the range 75-84 there is 1 student, in the range 85-94 there are 6 students, and in the range 95-100 there are 15 students. It can be seen that the distribution of scores are displayed from the lowest to the highest along with the frequency or number of students in each student's score in each class from the 22 students, it was proven 21 students were effective and 1 of them ineffective. In order to find out the descriptive data from the calculation of the experimental class pre-test values are as follows :

Table 4.8 Descriptive Statistic of Post-test Control Class

<i>Post-Test Control Class</i>	
Mean	95
Standard Error	1,086716
Median	95
Mode	95
Standard Deviation	4,97996
Sample Variance	24,8
Kurtosis	4,295935
Skewness	-1,66725
Range	21
Minimum	79
Maximum	100
Sum	1995
Count	21

From table 4.8 its shown that the mean score of the post-test is 95, it was displayed that almost all score of the respondents was good. and the standard deviation is 4.97. From the table above it can be seen that the total number of students in class 5H is 22 students, the minimum score of students is 79 and the maximum score is 100. From the data above it can be seen that the standard deviation is smaller than

the mean of the total student scores so it can be concluded that the post-test control class scores is good data quality.

4.1.3 Students' Achievement in Vocabulary Mastery before and After using Duolingo Application for English Young Learners

After the pre-test, treatment using the Duolingo Application and post-test were carried out, the researcher obtained the results of the pre-test and post-test scores in each class. Then it can be seen that the mean student score increases after learning using the duolingo application. See from the table below:

Table 4.9 Result of Pre-Test and Post-Test Experimental Class

No.	Initials Name	Difference	
		Pre-Test	Post-Test
1.	AAH	85	92
2.	AAK	85	92
3.	AAA	95	96
4.	AHMF	95	95
5.	AMW	99	100
6.	AWS	90	96
7.	BRE	94	97
8.	CSNA	94	95
9.	DTS	93	97
10.	EFRS	70	88
11.	GAAH	94	94
12.	HAN	93	99
13.	INL	93	97
14.	KAAS	90	92
15.	LAIL	90	95
16.	LSA	95	95
17.	MDG	79	93
18.	MNIA	100	100
19.	NAR	90	100
20.	NSG	87	100
21.	ORM	88	95
22.	SA	88	94
Average		90,32	95,55

From the table of pre-test and post-test score in the experimental group, there is a difference in student scores. It can be seen in better improvement of students' average score from students' vocabulary achievement. The average score of the post-test was 95.55, this finding implied that from 22 students it was proven that all students were effective.

Table 4.10 Result of Pre-Test and Post-Test Control Group

No.	Initials Name	Difference	
		Pre-Test	Post-Test
1.	ADAR	90	96
2.	AKA	89	90
3.	ANA	67	79
4.	BGK	96	95
5.	DAH	92	100
6.	DAP	96	96
7.	FAA	98	100
8.	FS	95	100
9.	FAT	92	90
10.	FAP	93	100
11.	HANH	95	99
12.	HDN	86	96
13.	KMA	90	94
14.	KKA	92	95
15.	MAW	93	95
16.	MAR	90	90
17.	NN	89	95
18.	NAP	100	100
19.	PSCA	92	93
20.	RD	76	94
21.	YBSR	95	99
22.	ZZF	83	95
Average		90,41	95,05

From the table of pre-test and post-test score in the control group, there is a difference in student scores. From these 2 results, it can be seen an increase in student scores, besides that it has been found that the average value of the pre-test control class is 90.41 and the

average post-test control class is 95.05. It can be concluded from the above results that the average pre-test is higher lower than the average value of the post-test.

4.1.4 Result of Validity Testing

Testing the validity of the items was carried out with construct and content validity with lecturers and teachers. Researcher tested 50 questions to grade 5 students who were not included in the experimental and control classes. Researcher tested 50 questions on 5D grade students and the trial was completed in 1 meeting with a time of 35 minutes. This item validity test was conducted on February 4th, 2023.

In this study, researcher used Microsoft Excel to test the validity, by using the Corel formula in Microsoft Excel to determine the r count in each question data, the following results are obtained:

Picture 4.1 Validity Testing

No	Initials	Class	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
1	AK	SD	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	ABA	SD	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3	ESL	SD	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4	YPA	SD	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
5	AAH	SD	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6	NAA	SD	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
7	MAG	SD	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
8	RAK	SD	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
9	BDW	SD	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
10	JAD	SD	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
11	SPH	SD	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
12	IFR	SD	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
13	AHA	SD	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
14	I	SD	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
15	AKF	SD	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
16	NBA	SD	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
17	MAR	SD	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
18	SSR	SD	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
19	RAF	SD	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
20	TA	SD	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
21	D	SD	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
22	NAP	SD	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
23	RZM	SD	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
24	ARF	SD	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
25	NK	SD	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
26	KNA	SD	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Soal Yang Benar			26	26	26	26	26	22	26	26	1	26	26	26	26	26	26	26	26	26	26	26	25	24	22	23	21
r tabel			0.3882	0.3882	0.3882	0.3882	0.3882	0.3882	0.3882	0.3882	0.3882	0.3882	0.3882	0.3882	0.3882	0.3882	0.3882	0.3882	0.3882	0.3882	0.3882	0.3882	0.3882	0.3882	0.3882	0.3882	
r hitung			1	1	1	1	1	0.0499	1	1	0.2810	1	1	1	1	1	1	1	1	1	1	-0.0527	0.4183	0.6584	0.3630	0.3171	
V			V	V	V	V	V	TV	V	V	TV	V	V	V	V	V	V	V	V	V	V	V	V	V	TV	TV	

26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	hasil
1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	45
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	49
1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	47
1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	0	44
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	48
1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	0	0	1	0	40
1	1	1	1	1	1	0	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	45
1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	46
1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	38
1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	48
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	50
1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	47
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	48
1	1	1	0	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	45
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	47
1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	46
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	49
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	47
1	1	1	1	1	1	0	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	44
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	49
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	47
0.3882	0.3882	0.3882	0.3882	0.3882	0.3882	0.3882	0.3882	0.3882	0.3882	0.3882	0.3882	0.3882	0.3882	0.3882	0.3882	0.3882	0.3882	0.3882	0.3882	0.3882	0.3882	0.3882	0.3882	0.3882	
1	1	1	0.0338	1	0.1214	1	1	0.4235	0.2726	0.6323	0.6323	0.6323	0.6323	0.6323	0.6323	0.6323	0.6323	0.6323	0.6323	0.6323	0.6323	0.6323	0.6323	0.6323	
V	V	V	TV	V	TV	V	V	V	TV	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	

From the results of the validity above, it can be seen that the researcher has calculated the question data with Microsoft Excel with 50 data, on question numbers 1-50 it was found that $r_{count} > r_{table}$, the validity test carried out was 13 invalid questions, namely in question number 6, 9, 21, 24, 25, 29, 31, 35, 46, 47, 48, 49, and 50. After the questions were declared valid after being tested using Microsoft Excel, it was found that the questions included as valid were questions number 1, 2, 3, 4, 5, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 22, 23, 26, 27, 28, 30, 32, 33, 34, 36, 37, 38, 39, 40, 41, 42, 43, 44, and 45.

4.1.5 Result of Reliability Testing

The reliability test was carried out after testing the validity of each item. Reliability tests are also used to measure the same object and produce the same data. In this study, researcher conducted reliability tests on questions that had been tested using Microsoft Excel with the following results:

4.1.6 Result of Normality Testing

In this study, a normality test was carried out to find out whether the data that has been obtained is normally distributed or not. The normality test carried out in this study is the Lilliefors normality test with the condition that the data is normally distributed. If $L_{count} \leq L_{table}$, then the data is normally distributed with a significance level of 0.05.

Picture 4.3 Normality Testing Pre-Test Eksperimen Class

NO.	Eksperimental	Z	FZ	SZ	FZ-SZ																
1	70	-3.075131182	0.00103205	0.045454545	0.044402496																
2	79	-1.712992538	0.043356956	0.090909091	0.047532135																
3	85	-0.804900108	0.210438663	0.181818182	0.028620481																
4	85	-0.804900108	0.210438663	0.181818182	0.028620481																
5	87	-0.502202632	0.307762496	0.227272727	0.080489769																
6	88	-0.350853893	0.362848982	0.318181818	0.044667163																
7	88	-0.350853893	0.362848982	0.318181818	0.044667163																
8	90	-0.048156417	0.480795792	0.5	0.019204208																
9	90	-0.048156417	0.480795792	0.5	0.019204208																
10	90	-0.048156417	0.480795792	0.5	0.019204208																
11	90	-0.048156417	0.480795792	0.5	0.019204208																
12	93	0.405889798	0.657588213	0.636363636	0.021224576																
13	93	0.405889798	0.657588213	0.636363636	0.021224576																
14	93	0.405889798	0.657588213	0.636363636	0.021224576																
15	94	0.557238536	0.711317768	0.772727273	0.061409504																
16	94	0.557238536	0.711317768	0.772727273	0.061409504																
17	94	0.557238536	0.711317768	0.772727273	0.061409504																
18	95	0.708587275	0.760709682	0.909090909	0.148381227																
19	95	0.708587275	0.760709682	0.909090909	0.148381227																
20	95	0.708587275	0.760709682	0.909090909	0.148381227																
21	99	1.313982228	0.905573907	0.954545455	0.048971547																
22	100	1.465330966	0.928584679	1	0.071415321																
						RATA-RATA	90.31818														
						STANDAR DEVIASI	6.607257														
						L HITUNG	0.148381														
						L TABEL	0.173														
						KESIMPULAN	JIKA L HITUNG < L TABEL MAKA DATA BERDISTRIBUSI NORMAL														

From the normality data above, it was obtained that the normality results for the experimental class pre-test were $0.148 < 0.173$ so the pre-test experimental class values were normally distributed.

Picture 4.4 Normality Testing Pre-Test Control Class

NO.	KONTROL	Z	FZ	SZ	FZ-SZ																
1	67	-3.18653	0.000719948	0.045454545	0.044735																
2	76	-1.96142	0.024915103	0.090909091	0.065994																
3	83	-1.00855	0.156594575	0.136363636	0.020231																
4	86	-0.60018	0.274192563	0.181818182	0.092374																
5	89	-0.19181	0.423945262	0.272727273	0.151218																
6	89	-0.19181	0.423945262	0.272727273	0.151218																
7	90	-0.05569	0.477795592	0.409090909	0.068705																
8	90	-0.05569	0.477795592	0.409090909	0.068705																
9	90	-0.05569	0.477795592	0.409090909	0.068705																
10	92	0.21656	0.585724533	0.590909091	0.005185																
11	92	0.21656	0.585724533	0.590909091	0.005185																
12	92	0.21656	0.585724533	0.590909091	0.005185																
13	92	0.21656	0.585724533	0.590909091	0.005185																
14	93	0.352684	0.637837364	0.681818182	0.043981																
15	93	0.352684	0.637837364	0.681818182	0.043981																
16	95	0.624931	0.73399199	0.818181818	0.08419																
17	95	0.624931	0.73399199	0.818181818	0.08419																
18	95	0.624931	0.73399199	0.818181818	0.08419																
19	96	0.761055	0.776687947	0.909090909	0.132403																
20	96	0.761055	0.776687947	0.909090909	0.132403																
21	98	1.033303	0.849268838	0.954545455	0.105277																
22	100	1.30555	0.904147176	1	0.095853																
						RATA-RATA	90.40909														
						STANDAR DEVIASI	7.34626	7.34626													
						L HITUNG	0.151218														
						L TABEL	0.173														
						KESIMPULAN	JIKA L HITUNG > L TABEL MAKA DATA BERDISTRIBUSI TIDAK NORMAL														

with a result of $0.148 < 0.173$, pre-test control with a value of $0.151 < 0.173$, post-test experimental with a result of $0.114 < 0.173$ and post-test control with a result of $0.154 < 0.173$. All of these results are stated to be normally distributed because if $L\ Count < L\ Table$, the data is normally distributed. The normality test using the Liliefors test is normally distributed and corresponds to the variable with the results H_0 being accepted and H_a being rejected.

4.1.7 Result of Homogeneity Testing

After analyzing the normality of the data, this study it was continued with the calculation of homogeneity analysis. This homogeneity analysis is statistical, namely the population that is calculated must be homogeneous so that the measurement results are valid and accurate. According to Usmani (2020), this homogeneity test was carried out as a condition for calculating the independent sample t-test and ANOVA analysis.

In this study, researchers analyzed data using Microsoft Excel to obtain F-test results. For homogeneity testing in this study with testing criteria if $\text{Sig. } F\ Table \leq F\ Count$ then the data is homogeneous. Following are the results of homogeneity test calculations with Microsoft Excel:

Picture 4.7 Homogeneity Testing

Eksperiment	Control		
70	67		
79	76		
85	83		
85	86		
87	89	varians 1	43,65584
88	89	varians 2	53,96753
88	90		
90	90	F hitung	1,236204
90	90	f tabel	2,084189
90	92		
90	92		
93	92	KESIMPULAN	JIKA F HITUNG < DARI F TABEL MAKA DATA HOMOGEN
93	92		
93	93		
94	93		
94	95		
94	95		
95	95		
95	96		
95	96		
99	98		
100	100		

From the results of the homogeneity test above using the criteria if $\text{Sig. } F \text{ Table} \leq F \text{ Count}$, so the data is homogeneous, the calculated $F \text{ count}$ is 1.236204 and the $F \text{ table}$ value is 2.084189. So from the data that has been obtained by testing predetermined criteria, it can be concluded that the data from the two classes tested are homogeneous data with data $1.236204 \leq 2.084189$, so the data in this study are homogeneous.

4.1.8 Results of T-Test and Hypothesis Testing

After the researcher conducted validity and reliability tests, researchers found that the data contained in this study were valid and reliable. Then after getting the results of the validity and reliability tests the researcher proceeded to calculate and analyze the normality test and homogeneity test so that the researcher concluded that the data

that had been obtained in this study were normally distributed and homogeneous.

From the last step the researcher analyzed the data, namely conducting a hypothesis test or t-test to find out whether there was a significant influence between the class that was given the Duolingo application treatment and the class that did not apply it. Researchers use Microsoft Excel to perform data analysis and get the results that can be seen in the image below:

Picture 4.8 Results Gain score Experimental class and control class

Experimental group				control group			
no	pre test	post test	gainscore eksperimental	no	pre test	post test	gainscore control
1	85	92	7	1	90	96	6
2	85	92	7	2	89	90	1
3	95	96	1	3	67	79	12
4	95	95	0	4	96	95	-1
5	99	100	1	5	92	100	8
6	90	96	6	6	96	96	0
7	94	97	3	7	98	100	2
8	94	95	1	8	95	100	5
9	93	97	4	9	92	90	-2
10	70	88	18	10	93	100	7
11	94	94	0	11	95	99	4
12	93	99	6	12	86	96	10
13	93	97	4	13	90	94	4
14	90	92	2	14	92	95	3
15	90	95	5	15	93	95	2
16	95	95	0	16	90	90	0
17	79	93	14	17	89	95	6
18	100	100	0	18	100	100	0
19	90	100	10	19	92	93	1
20	87	100	13	20	76	94	18
21	88	95	7	21	95	99	4
22	88	94	6	22	83	95	12

Picture 4.9 Hypothesis Testing

t-Test: Two-Sample Assuming Equal Variances		
	<i>gainscore eksperimental</i>	<i>gainscore control</i>
Mean	5,227	4,636
Variance	24,565	24,814
Observations	22,000	22,000
Pooled Variance	24,689	
Hypothesized Mean Difference	-	
df	42,000	
t Stat	0,394	<i>T count</i>
P(T<=t) one-tail	0,348	
t Critical one-tail	1,682	
P(T<=t) two-tail	0,695	
t Critical two-tail	2,018	<i>T table</i>

From the results of hypothesis testing using the t-test: two samples assuming equal variances in Microsoft Excel above, the researcher finds that the results of the hypothesis test in this study if $\text{Sig.} < 0.05$ or $T \text{ count} < T \text{ table}$ then reject H_0 and there are significant differences in this study. However, if $\text{Sig.} > 0.05$ or $T \text{ count} > T \text{ table}$ then accept H_0 and in this study, there is no significant difference between before and after application. From the results in the picture above, it can be seen that $T \text{ count} < T \text{ table}$, namely $0.394 < 2.080$, then H_0 is rejected and H_a is accepted, so it can be concluded that research using the Duolingo application in class 5 students MIN 1 Malang is declared effective and there are changes in before application and after application.

4.2 Discussion

This research was carried out at MIN 1 Malang using experimental quantitative research by conducting tests using tests. Researcher took 2 samples as different classes, namely class 5G as the experimental class and class 5H as the control class. The two classes had the same number of students that 28 students but at the time the research was conducted, only 22 students participated in a series of research activities starting from the pre-test, treatment and post-test. The researcher chose these 2 classes to find out and determine how effective Duolingo application to vocabulary mastery for English young learners was in the experimental class, but in the control class learning was carried out as usual, so that researcher could see the differences between the two classes.

Before the implementation of research activities in the experimental class and control class was carried out, the researcher tested the item items in class 5D students to determine the validity and reliability of the questions to be selected as pre-test and post-test questions. Testing the item items for testing the validity and reliability is indeed necessary before we determine the pre-test and post-test questions, this is following the opinion of Syamsurizal (2020) that the research instrument must be reliable, what meant here is the instrument that will be distributed when the research is good enough to be able to reveal reliable data. The test consists of 50 questions with 30 minutes of processing time, then the researcher calculated the results of the student's work by testing the validity and reliability tests using Microsoft Excel. The results obtained from the validity test contained

13 invalid questions, namely those found in question numbers 6, 9, 21, 24, 25, 29, 31, 35, 46, 47, 48, 49, and 50. As for the reliability test results with the KR formula of 20 is 0.8487 and according to the Interpretation of Correlation Coefficient Values, namely "Very Strong", the data is reliable.

The pre-test was carried out before the application of Duolingo and was followed by the treatment and post-test. To find differences in the pre-test and post-test values for each class, data analysis was carried out using Microsoft Excel on the pre-test and post-test values. It was found that the average pre-test experimental class value was 90.32 and the experimental class post-test was 95.55. The average value of the control class, namely the pre-test 90.41 and the post-test 95.05. From some of the results of the pre-test and post-test values in each class, it can be seen that there is an increase and difference between the pre-test values before the application of Duolingo and the values after the application.

In addition, data analysis was carried out to determine whether the data obtained were normally distributed or not, the data was calculated from the pre-test and post-test values of each class. In this normality test analysis, the goal is to determine the average difference from the data that has been obtained. The normality test results of the pre-test and post-test values in the experimental class were 0.148 and 0.114 while the normality test of the pre-test and post-test values in the control class were 0.151 and 0.154 which was greater than sig 5% or 0.05, namely 0.173. From some of the data above all are normally distributed and can be continued for homogeneity analysis.

The homogeneity analysis aims to show two or more groups of data samples taken from populations that have the same variance. The results of the homogeneity test of the experimental and control classes were to get an f count value of 1.236204 and an f table value of 2.084189 so that from predetermined criteria if f count $<$ f table then the data is declared homogeneous. So from the data above $1.236204 < 2.084189$ and the data is declared homogeneous and can be continued to analyze the hypothesis.

After the data is normally distributed and homogeneous, this study also analyzes the hypothesis using the t-test which is calculated using Microsoft Excel. The results of the calculation of the experimental and control gain scores with df 42.00 and t stat or t count 0.394 and t table 2.080. From the criteria for the results of the hypothesis, if T count $<$ T table, then reject H_0 and H_a is accepted. In the results that have been obtained, the value of T count $<$ T table is $0.394 < 2.080$, then H_0 is rejected and H_a is accepted, so it can be concluded that there is a significant change and can be interpreted as Duolingo Application is effective on student's vocabulary mastery for English young learners.

The results of this study are on the research that has been determined by Ahmed (2016) in learning using the Duolingo application. The results of his research were stated to be effective and suitable for use in second language learning for beginners, besides that his research also stated that the process was successful in learning using the Duolingo application for junior high school students in Riyadh, Saudi Arabia. However, the results of Ahmed's research are different from the results of Irawan et al. (2020)

research. According to them, the application of Duolingo to vocabulary learning in his research was effective but not fully achieved the expected result, due to several obstacles which hindered his research a little and the results are not satisfactory. Thus it can be concluded that these results add to the previous research, namely the application of Duolingo for English young learners is also effectively used in learning vocabulary mastery material by stating that the null hypothesis (H0) of the research is rejected, which shows that the Duolingo application is a medium that effectively influences vocabulary learning outcomes students for English Young Learners.

CHAPTER V

CONCLUSION

In this closing section, the conclusion of all the contents of the discussion that have been discussed in the previous chapter is written, and suggestion.

5.1 Conclusion

From the results of the hypothesis testing research in the previous chapter, there was a significant difference between the pre-test and post-test scores in each class, namely the control and experimental classes. It can be drawn that applying duolingo in vocabulary mastery improving the students' ability in vocabulary mastery, it can be proven by the findings that the mean score of post-test score was higher than the pre-test score. This study was declared effective in learning vocabulary using the Duolingo application with the results of the t-test value of $T_{count} < T_{table}$, namely $0.394 < 2.080$, then H_0 is rejected and H_a is accepted. From the facts that already exist, this research was also declared successful in learning vocabulary.

In addition, Duolingo Application is one of the effective media in teaching and learning vocabulary for English for young learners because Duolingo Application able to provide new experiences to students in learning English, especially in improving vocabulary skills by learning to use applications that are like games that make students enthusiastic about using these applications. Furthermore, learning using the Duolingo

application was declared effective in learning vocabulary for English Young learners in MIN 1 Malang.

5.2 Suggestion

From the results of the research that has been done, the researcher makes several suggestions for several sections:

5.2.1 English Teacher

Researcher suggest teachers especially English teachers, occasionally use the Duolingo application in the learning process. Because by being interested in students in each learning process, students will be more enthusiastic in carrying out the learning process, especially in learning English young learners. Teacher must give attention and motivation to students in every learning process.

5.2.2 Further researcher

This research can be used as a reference in the effectiveness of using the Duolingo to Vocabulary Mastery application for English young learners. Suggestions are given for future researchers to be able to conduct research in more depth and use different research methods such as a descriptive approach to finding out more about how the Duolingo application can be used in learning vocabulary.

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APPENDICES

Appendix I Survey Permit



KEMENTERIAN AGAMA REPUBLIK INDONESIA
UNIVERSITAS ISLAM NEGERI MAULANA MALIK IBRAHIM MALANG
FAKULTAS ILMU TARBIYAH DAN KEGURUAN
Jalan Gajayana 50 Telepon (0341) 552398, Faximile (0341) 552398 Malang
<http://www.fitk.uin-malang.ac.id>. Email fitk@uin-malang.ac.id

Nomor : 2103/Un.03.1/TL.00.1/11/2022 15 November 2022
Sifat : Penting
Lampiran :
Hal : **Izin Survey**

Kepada

Yth. Kepala MIN 1 Malang
di
Malang

Assalamu'alaikum Wr. Wb.

Dengan hormat, dalam rangka penyusunan proposal Skripsi pada Jurusan Tadris Bahasa Inggris (TBI) Fakultas Ilmu Tarbiyah dan Keguruan (FITK) Universitas Islam Negeri Maulana Malik Ibrahim Malang. Kami mohon dengan hormat agar mahasiswa berikut:

Nama : Elma Diana Novitasari
NIM : 19180034
Jurusan : Tadris Bahasa Inggris
Semester-Tahun Akademik : Ganjil – 2022/2023
Judul Proposal : **The Effectiveness of Duolingo
Application to Vocabulary Mastery for
English Young Learners**

diberi izin untuk melakukan survey/studi pendahuluan di lembaga/instansi yang menjadi wewenang Bapak/Ibu

Demikian, atas perkenan dan kerjasama Bapak/Ibu yang baik disampaikan terima kasih.

Wassalamu'alaikum Wr. Wb.

Dekan,
Dekan Bidang Akademi

Muhammad Walid, MA
NIP. 19730823 200003 1 002

Tembusan :

1. Ketua Program Studi TBI
2. Arsip

Appendix II Research Permission Letter



KEMENTERIAN AGAMA REPUBLIK INDONESIA
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[http:// fitk.uin-malang.ac.id](http://fitk.uin-malang.ac.id). email : fitk@uin_malang.ac.id

Nomor : 42/Un.03.1/TL.00.1/01/2023
Sifat : Penting
Lampiran : -
Hal : Izin Penelitian

06 Januari 2023

Kepada
Yth. Kepala MIN 1 Malang
di
Malang

Assalamu'alaikum Wr. Wb.

Dengan hormat, dalam rangka menyelesaikan tugas akhir berupa penyusunan skripsi mahasiswa Fakultas Ilmu Tarbiyah dan Keguruan (FITK) Universitas Islam Negeri Maulana Malik Ibrahim Malang, kami mohon dengan hormat agar mahasiswa berikut:

Nama : Elma Diana Novitasari
NIM : 19180034
Jurusan : Tadris Bahasa Inggris (TBI)
Semester - Tahun Akademik : Genap - 2022/2023
Judul Skripsi : **The Effectiveness of Duolingo Application to Vocabulary Mastery for English Young Learners in MIN 1 Malang**
Lama Penelitian : **Januari 2023** sampai dengan **Maret 2023**
(3 bulan)

diberi izin untuk melakukan penelitian di lembaga/instansi yang menjadi wewenang Bapak/Ibu.

Demikian, atas perkenan dan kerjasama Bapak/Ibu yang baik disampaikan terimakasih.

Wassalamu'alaikum Wr. Wb.



Tembusan :

1. Yth. Ketua Program Studi TBI
2. Arsip

Appendix III Instrument Validation Letter



KEMENTERIAN AGAMA REPUBLIK INDONESIA
UNIVERSITAS ISLAM NEGERI MAULANA MALIK IBRAHIM MALANG
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Jalan Gajayana 50. Telepon (0341) 552398. Faximile (0341) 552398. Malang
<http://fitk.uin-malang.ac.id>. email: fitk@uin-malang.ac.id

Nomor : B-0672/Un.03/FITK/PP 00 9/01/2023 26 Januari 2023
Lampiran : -
Perihal : Permohonan Menjadi Validator (Ahli Instrumen)

Kepada Yth,
Basori, M.S.Ed
di -
Tempat

Assalamualaikum Wr. Wb.

Sehubungan dengan proses penyusunan skripsi mahasiswa berikut:

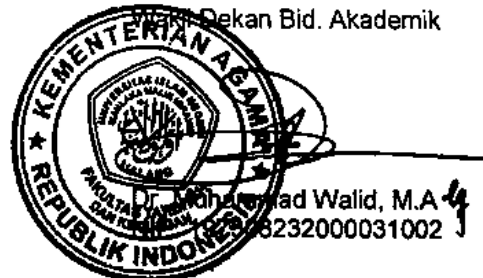
Nama : Elma Diana Novitasari
NIM : 19180034
Program Studi : Tadris Bahasa Inggris (TBI)
Judul Skripsi : The Effectiveness of Duolingo Application To
Vocabulary Mastery For English Young Learners In
MIN 1 Malang
Dosen Pembimbing : Dr. Alam Aji Putera, M.Pd

maka dimohon Bapak/Ibu berkenan menjadi validator media skripsi tersebut. Adapun segala hal berkaitan dengan apresiasi terhadap kegiatan validasi sebagaimana dimaksud sepenuhnya menjadi tanggung jawab mahasiswa bersangkutan.

Demikian Permohonan ini disampaikan, atas perkenan dan kerjasamanya yang baik disampaikan terima kasih.

Wassalamu'alaikum Wr. Wb.

a.n Dekan
Wakil Dekan Bid. Akademik



Appendix IV Validation Sheet

Validation Sheet English Vocabulary Test

"The Effectiveness of Duolingo Application to Vocabulary Mastery for English Young Learners in MIN 1 Malang"

Validator : Basori, M.S.Ed
NIP : 19860411201931008
Expertise : Development of learning media
Instance : Maulana Malik Ibrahim State Islamic University Malang
Validation Date : 27 / 01 / 2023
(dd/mm/yyyy)

A. Introduction

This validation sheet aims to get an assesment from the Validator on my research instrument in the form of 75 English language questions in the form of multiple choice, draw a line and make a sentences. This instrument will address the research subject, namely the 5th-grade elementary school students. Any comments and suggestions given are very important for the researcher to improve the quality of the instrument. Thank you for your willingness to be a validator un my research.

B. Guidance

1. In this section, assess by ticking (V) with the following criteria to the columns below:
 - 1 : Very Poor
 - 2 : Poor
 - 3 : Average
 - 4 : Good
 - 5 :Excellent
2. Please give comments and suggestion in the columns below.

C. Validation Sheet

No.	Aspect	Score				
		1	2	3	4	5
1.	Suitability of Instrument with basic competencies Basic Competence 3.3 Memahami kata, frasa, dan kalimat yang berkaitan dengan Healthy Foods. 3.8 Memahami kata, frasa, dan kalimat yang berkaitan dengan My Environment Friend. 3.9 Memahami kata, frasa dan kalimat yang berkaitan dengan Objects in the Environment.					✓ ✓ ✓
2.	Instrumen Indicator Clarity of question items contained in the research instrument			✓		
3.	Clarity of instructions on each question in the research instrument.		✓			
4.	The research instrument is relevant with the research objectives.				✓	
5.	The research instrument can help the researcher find out students' abilities in vocabulary skills.					✓
6.	The research instrument is easy to understand.					✓
7.	Each question has one correct or most correct answer.					✓
8.	The research using proper grammar.			✓		
9.	The choice of answers to the research instrument is appropriate and logical in terms of material.				✓	
10.	The subject matter must be formulated clearly and unequivocally.			✓		

D. Suggestion

- Gambar yang dipilih menggunakan gambar yang jelas.
- Instruksi setiap soal diperjelas.
- Diberi example pada bagian B dan c.

E. Conclusion

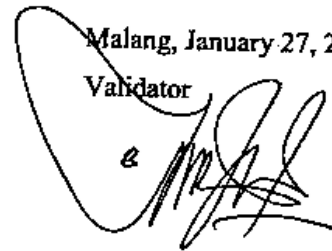
Based on the validation sheet above, it can be concluded that the instruments that have been made is:

Please cross out (abcd) the answer that doesn't match the conclusion you gave.

1. ~~The instrument can be used without revision.~~
2. ~~The instrument can be used with slight revision.~~
3. The instrument can be used with many revision
4. ~~The instrument cannot be used.~~

Malang, January 27, 2022

Validator



Basori M.S.Ed
19860411201931008

Appendix V Try-Out Test English Vocabulary

Part 1

Name : _____

Class : _____

A. Put the cross (X) the correct answer for the question given!

1. *Apel ini sangat enak.*
The English sentences is...

- a. This apple is very delicious.
- b. This apple is very late.
- c. This apple is very small.

6. Nadia : “Do you like drawing?”
Intan : “...”

- a. Yes, I do.
- b. Yes, I am.
- c. Yes, you like.

2. Look at this picture.
This is....



- a. water
- b. milk
- c. bread

7. Zunnay : “Hello Selly, are you busy now?”

Selly : “I’m not busy, why Zunnay?”

Zunnay : “Let’s go to the.... I want to read books.”

Selly : “Okay, let’s go”

- a. library
- b. kitchen
- c. bedroom

3. Which includes a fruit?

- a. Banana
- b. Carrot
- c. Milk

8. Look at this picture.
What profession is she?



- a. She is a doctor.
- b. She is a teacher.
- c. She is a chef.

4. Soto and fried chicken are kinds of....

- a. food
- b. drink
- c. vegetable

9. My mom ... every morning.

- a. cooked
- b. cooking
- c. cooks

5. Arrange the words below into a good sentences.

is - he - a - doctor

- a. Is a he doctor.
- b. He is a doctor.
- c. A doctor is he.



10. Translate the sentence below into a right translation.











Ayah saya membaca koran setiap pagi.

- a. My father reads the newspaper every morning.
- b. My mother reads the newspaper every morning.
- c. My father reads the newspaper every night.

B. Draw a line from the picture in the left column that matches to vocabulary in the right column

Example:

PICTURE		VOCABULARY
	● ——— ● ● ——— ●	Doctor
		Milk

PICTURE		VOCABULARY
11. 	● ——— ● ● ——— ● ● ——— ● ● ——— ● ● ——— ● ● ——— ● ● ——— ● ● ——— ● ● ——— ● ● ——— ● ● ——— ● ● ——— ● ● ——— ● ● ——— ● ● ——— ● ● ——— ● ● ——— ● ● ——— ● ● ——— ● ● ——— ●	Eating
12. 		Newspaper
13. 		Writing
14. 		Teacher
15. 		Water
16. 		Swimming
17. 		Students
18. 		Books
19. 		Bread
20. 		Chef

C. Make a good sentences from the words given!

Example:

a. Speak : You speak Arabic.

b. Pizza : He likes pizza.

21. Cook : _____

22. Noodle : _____

23. Nurse : _____

24. Football : _____

25. Book : _____

- مع النجاح -

- Good Luck! -

Part 2

Name : _____

Class : _____

A. Put the cross (X) the correct answer for the question given!

26. *Bayam ini sangat segar.*
The English sentences is...

- a. This spinach is very fresh.
- b. This brocolli is very fresh.
- c. This spinach is very delicious.

31. Ozair : “Do you like dancing?”
Hanif : “...”

- a. Yes, I do.
- b. Yes, I am.
- c. Yes, you like.

27. Look at this picture.
This is....



- a. water
- b. milk
- c. bread

32. Afnan : “Hello Adiba, what are you doing?”

Adiba : “Hello Afnan, I’m cooking fried chicken”

Afnan : “Wow! Do you like cooking?.”

Adiba : “Of course, I like cooking. Let’s go to the.....and cook for lunch”

- a. library
- b. kitchen
- c. bedroom

28. Which includes a vegetable?

- a. Banana
- b. Carrot
- c. Milk

33. Look at this picture.
What profession is she?



- a. She is a doctor.
- b. She is a teacher.
- c. She is a chef.

29. Tomato and brocolli are kinds of....

- a. food
- b. drink
- c. vegetable

34. I a book everyday.

- a. read
- b. reading
- c. reads

30. Arrange the words below into a good sentences.

a - teacher – she – is

- a. Is a she teacher.
- b. A teacher is she.
- c. She is a teacher.



35. Translate the sentence below into a right translation.











Kita harus pergi ke rumah sakit sekarang.

- a. We have to go to the hospital as soon as possible.
- b. We have to go to the hospital now.
- c. We have to go to the hospital tonight.

B. Draw a line from the picture in the left column that matches to vocabulary in the right column

Example:

PICTURE		VOCABULARY
	• •	Doctor
		Milk

PICTURE		VOCABULARY
36. 	•	Fisherman
37. 	•	Tomato
38. 	•	Drinking
39. 	•	Carrot
40. 	•	Pencil
41. 	•	Police
42. 	•	Eraser
43. 	•	Singing
44. 	•	Nurse
45. 	•	Painting

C. Make a good sentences from the words given!

Example:

- a. Speak : You speak Arabic.
b. Pizza : He likes pizza.

46. Read : _____
47. Water : _____
48. Teacher : _____
49. Basketball : _____
50. Paper : _____

- مع النجاح -

- Good Luck! -

Appendix VI Pre-Test English Vocabulary

PRE TEST

Name : _____

Class : _____

A. Put the cross (X) the correct answer for the question given!

1. *Apel ini sangat enak.*

The English sentences is...

- a. This apple is very delicious.
- b. This apple is very late.
- c. This apple is very small.

6. Shila : "Do you like swimming?"

Aprilla : "..."

- a. Yes, I do.
- b. Yes, I am.
- c. Yes, you like.

2. Look at this picture.

This is...



- a. water
- b. milk
- c. bread

7. Zunnay : "Hello Selly, are you busy now?"

Selly : "I'm not busy, why Zunnay?"

Zunnay : "Let's go to the.... I want to read books."

Selly : "Okay, let's go"

- a. library
- b. kitchen
- c. bedroom

3. Which includes a fruit?

- a. Banana
- b. Carrot
- c. Milk

8. Look at this picture.

What profession is she?



- a. She is a doctor.
- b. She is a teacher.
- c. She is a chef.

4. Soto and fried chicken are kinds of...

- a. food
- b. drink
- c. vegetable

9. I fried rice this morning.

- a. cooked
- b. cooking
- c. cook

5. Arrange the words below into a good sentences.

is - he - a - doctor

- a. Is a he doctor.
- b. He is a doctor.
- c. A doctor is he.


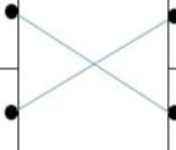

10. Translate the sentence below into a right translation.












Ayah saya membaca koran setiap pagi.

- a. My father reads the newspaper every morning.
- b. My mother reads the newspaper every morning.
- c. My father reads the newspaper every night.

B. Draw a line from the picture in the left column that matches to vocabulary in the right column

Example:

PICTURE		VOCABULARY
		Doctor
		Milk

PICTURE		VOCABULARY
11. 		Eating
12. 		Newspaper
13. 		Writing
14. 		Teacher
15. 		Water
16. 		Swimming
17. 		Students
18. 		Books
19. 		Bread
20. 		Chef

C. Make a good sentences from the words given!

Example:

a. Speak : You speak Arabic.

b. Pizza : He likes pizza.

21. Cook : _____

22. Noodle : _____

23. Nurse : _____

24. Football : _____

25. Book : _____

- مع النجاح -

- Good Luck! -

Appendix VII Post-Test English Vocabulary

POST TEST

Name : _____

Class : _____

A. Put the cross (X) the correct answer for the question given!

1. *Apel ini sangat enak.*

The English sentences is...

- a. This apple is very delicious.
- b. This apple is very late.
- c. This apple is very small.

2. Look at this picture.

This is...



- a. water
- b. milk
- c. bread

3. Which includes a fruit?

- a. Banana
- b. Carrot
- c. Milk

4. Soto and fried chicken are kinds of...

- a. food
- b. drink
- c. vegetable

5. Arrange the words below into a good sentences.

is - he - a - doctor

- a. Is a he doctor.
- b. He is a doctor.
- c. A doctor is he.

6. Shila : "Do you like swimming?"

Aprilla : "..."

- a. Yes, I do.
- b. Yes, I am.
- c. Yes, you like.

7. Zunnay : "Hello Selly, are you busy now?"

Selly : "I'm not busy, why Zunnay?"

Zunnay : "Let's go to the.... I want to read books.

Selly : "Okay, let's go"

- a. library
- b. kitchen
- c. bedroom

8. Look at this picture.

What profession is she?



- a. She is a doctor.
- b. She is a teacher.
- c. She is a chef.

9. I fried rice this morning.

- a. cooked
- b. cooking
- c. cook



10. Translate the sentence below into a right translation.











Ayah saya membaca koran setiap pagi.

- a. My father reads the newspaper every morning.
- b. My mother reads the newspaper every morning.
- c. My father reads the newspaper every night.

B. Draw a line from the picture in the left column that matches to vocabulary in the right column

Example:

PICTURE		VOCABULARY
	● ●	Doctor
		Milk

PICTURE		VOCABULARY
11. 	●	Eating
12. 	●	Newspaper
13. 	●	Writing
14. 	●	Teacher
15. 	●	Water
16. 	●	Swimming
17. 	●	Students
18. 	●	Books
19. 	●	Bread
20. 	●	Chef

C. Make a good sentences from the words given!

Example:

a. Speak : You speak Arabic.

b. Pizza : He likes pizza.

21. Cook : _____

22. Noodle : _____

23. Nurse : _____

24. Football : _____

25. Book : _____

- مع النجاح -

- Good Luck! -

POST TEST

95


Name : Maia U

Class : 5H

A. Put the cross (X) the correct answer for the question given!

- 36
1. *Apel ini sangat enak.*
The English sentences is...

 - a. This apple is very delicious.
 - b. This apple is very late.
 - c. This apple is very small.
 2. Look at this picture.
This is....


 - a. water
 - b. milk
 - c. bread
 3. Which includes a fruit?


 - a. Banana
 - b. Carrot
 - c. Milk
 4. Soto and fried chicken are kinds of....

 - a. food
 - b. drink
 - c. vegetable
 5. Arrange the words below into a good sentences.
is - he - a - doctor

 - a. Is a he doctor.
 - b. He is a doctor.
 - c. A doctor is he.
 6. Shila : "Do you like swimming?"
Aprilla : "..."

 - a. Yes, I do.
 - b. Yes, I am.
 - c. Yes, you like.
 7. Zunnay : "Hello Selly, are you busy now?"
Selly : "I'm not busy, why Zunnay?"
Zunnay : "Let's go to the.... I want to read books."
Selly : "Okay, let's go"



 - a. library
 - b. kitchen
 - c. bedroom
 8. Look at this picture.
What profession is she?












 - a. She is a doctor.
 - b. She is a teacher.
 - c. She is a chef.
 9. I fried rice this morning.

 - a. cooked
 - b. cooking
 - c. cook
 10. Translate the sentence below into a right translation.
Ayah saya membaca koran setiap pagi.

 - a. My father reads the newspaper every morning.
 - b. My mother reads the newspaper every morning.
 - c. My father reads the newspaper every night.

B. Draw a line from the picture in the left column that matches to vocabulary in the right column
 Example:

PICTURE		VOCABULARY
	•	• Doctor
	•	• Milk

PICTURE		VOCABULARY
11. 	•	• Eating
12. 	•	• Newspaper
13. 	•	• Writing
14. 	•	• Teacher
15. 	•	• Water
16. 	•	• Swimming
17. 	•	• Students
18. 	•	• Books
19. 	•	• Bread
20. 	•	• Chef

C. Make a good sentences from the words given!

19

Example:

- a. Speak : You speak Arabic.
b. Pizza : He likes pizza.

21. Cook : She likes cook
22. Noodle : My brother eating noodle
3 23. Nurse : He is a Nurse
24. Football : My father playing a foot ball
25. Book : My mother reads a book

- مع النجاح -

- Good Luck! -

Appendix IX Letter of Completion Research



KEMENTERIAN AGAMA REPUBLIK INDONESIA
KANTOR KEMENTERIAN AGAMA KOTA MALANG
MADRASAH IBTIDAIYAH NEGERI 1 KOTA MALANG
Jalan Bandung Nomor 7C Kota Malang 65113 Telepon (0341) 551176
Website : www.min1kotamalang.sch.id ; E-mail : info@min1kotamalang.sch.id

SURAT KETERANGAN

No: B-134/Mi.13.25.01/PP.00.4/03/2023

Yang bertanda tangan di bawah ini :

N a m a : Siti Aisah, S.Ag. M.Pd
NIP : 197410161997032002
Pangkat / Gol. : Pembina / IV-a
Jabatan : Kepala Madrasah
Unit Kerja : MIN 1 Kota Malang

Menerangkan bahwa yang tersebut di bawah ini :

Nama : Elma Diana Novitasari
NIM : 19180034
Fakultas : Fakultas Ilmu Tarbiyah dan Keguruan
Jurusan : Tadris Bahasa Inggris
Judul Penelitian : The Effectiveness of Duolingo Application to Vocabulary
Mastery for English Young Learners in MIN 1 Malang

Benar-benar telah melakukan penelitian di MIN 1 Kota Malang bulan Februari – Maret 2023.

Demikian surat keterangan ini dibuat untuk dipergunakan sebagaimana mestinya.

Malang, 08 Maret 2023

Kepala,

Siti Aisah, S.Ag. M.Pd
NIP. 197410161997032002

Appendix X Documentation



Validation Testing



Pre-Test Experimental Class



Pre-Test Control Class



Control Class Learning



Treatment 1



Treatment 2



Treatment 3



Post-Test Experimental Class



Post-Test Control Class

Appendix IX Evidence of Guidance Consultation

F. KONSULTASI PROPOSAL SKRIPSI

Konsultasi dan Bimbingan Proposal Skripsi*

Tanggal	Bab/Materi Konsultasi	Saran/Rekomendasi/Catatan	Paraf
26 oktober 2022	menentukan judul.	Mencari 3 jurnal untuk mencari Penelitian sebelumnya.	
31 oktober 2022	Chapter 1 (Background of the study)	- Background lebih detail. - cari 1 jurnal untuk mendukung gap - mencari previous study	
18 November november 2022	Chapter 1	- Mencari pembeda dr penelitian lina - Bab 2 (Duolingo: foto, langkah) - memahami cara hitung (validitas dan reliabilitas) - excel → format / simulasi hitung.	
30 November november 2022	Chapter II and III	- membuat blueprint soal test - menyiapkan syarat untuk sempro - cek plagiasi - daftar seminar proposal (desember)	
5 Desember 2022	Chapter I, II, III	- mengumpulkan proposal Chapter I, II, III - mengumpulkan blueprint soal.	

Malang, 5 Desember 2022
Dosen Wali/Pembimbing,






Dr. Alam Aji Putera, M.Pd
NIP.19890421201802011153

Catatan:
Lembar konsultasi dan bimbingan Proposal Skripsi yang sudah memperoleh persetujuan/tanda tangan Dosen Wali/Pembimbing sah digunakan sebagai lampiran dalam Proposal dan dapat difotocopy.

Appendix XII Thesis Consultation Logbook

Buku Kepenasehatan Akademik Jurusan Tadris Bahasa Inggris (TBI)

G. KONSULTASI DAN BIMBINGAN SKRIPSI
Konsultasi dan Bimbingan Skripsi

Tanggal	Bab/Materi Konsultasi	Saran/Rekomendasi/Catatan	Paraf
29 Januari 2023	Revisi chapter 1,2,3 Setelah seminar proposal	- Melakukan validasi instrument - setelah validasi instrumen bisa langsung melakukan Penelitian.	
27 Januari 2023	Validasi instrument Penelitian	- melakukan penelitian.	
27 maret 2023	Chapter iv dan v	- melengkapi lampiran-lampiran - menyiapkan Analisis data (SPSS)	
30 maret 2023	Chapter I, II, III, IV dan V	- mengumpulkan thesis - mendaftar sidang	
3 April 2023	Tanda tangan Approval sheet		

Malang, 3 April 2023
Dosen Pembimbing,



NIP. 1989042120180201153

Appendix XIII Curriculum Vitae

Curriculum Vitae

Nama Lengkap : Elma Diana Novitasari
Tempat, Tanggal Lahir : Lamongan, 23 Agustus 2001
Jenis Kelamin : Perempuan
Agama : Islam
Fakultas : Tarbiyah dan Ilmu Keguruan
Jurusan : Tadris Bahasa Inggris
Perguruan Tinggi : UIN Malang
Alamat Rumah : Jl. Joyo Suko gang Metro 2 no. 45 Kel. Merjosari,
Kec. Lowokwaru, Kota Malang
No. Hp / Telp : 085749141112
Alamat Email : elma.adek23@gmail.com



Riwayat Pendidikan

1. 2004-2005 Playgroup Al-Madaniyah Malang
2. 2005-2007 RA Muslimat NU 1 Malang
3. 2007-2013 SDI Surya Buana Malang
4. 2013-2016 SMP Al-Munawwariyyah Malang
5. 2016-2019 SMA Babul Khairat Purwosari
6. 2019-2023 UIN Malang

Malang, April 03 2023

Mahasiswa,

Elma Diana Novitasari

NIM. 19180034