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INTRODUCTION

This chapter describes the background of the problem, identification of the problem, limitation of the problem, formulation of problem, purpose of the research, significance of research and definition of key terms.

A. Background of the Problem

Learning English as a second language presents numerous challenges, particularly for non-native speakers who often encounter difficulties in mastering vocabulary, grammar, and pronunciation. These challenges are compounded by factors such as limited exposure to the language, lack of access to proficient speakers, and insufficient resources. Traditional classroom settings may not provide enough interactive or practical opportunities for students to engage with the language in real-life contexts. The problem of acquiring language components such as vocabulary, grammar, and pronunciation poses significant challenges for students of a second language. Vocabulary acquisition is often hindered by the sheer volume of new words and phrases that must be learned and retained, while mastering grammar requires understanding complex rules and structures that may differ significantly from the learner's native language.

Language is a complex communication system used by humans to convey ideas, thoughts, and feelings. Language components are the basic elements that make up this system and allow the communication process to take place effectively. Understanding the components of language is essential in the study of vocabulary. Difficulties that are usually experienced when learning vocabulary (Nation P. 2001) 1) Difficulty in remembering and recalling words over time. 2) Challenges in understanding and using words appropriately in different contexts. 3) The need to balance learning high-frequency words with lower-frequency, specialized vocabulary.

²⁷ The result of Vesselinov, R., & Grego, J. (2012) This ²⁷ study evaluates the effectiveness of Duolingo in helping users learn new vocabulary. The research concluded that Duolingo can be effective in vocabulary acquisition due to its repetitive and engaging exercises that reinforce learning through spaced repetition and active recall. According to von Ahn (Co-founder of Duolingo), Duolingo's design leverages gamification and adaptive learning algorithms to keep users engaged and motivated. The app's exercises are structured to promote frequent practice, which is crucial for vocabulary retention.

From the above description, the researcher is very confident to improve vocabulary using Duolingo in the fifth grade at MI Mambaul Ulum Dahu for the 204/2025 school year.

¹⁷ **B. Identification of the Problem**

According to the above background, researchers found many kinds of problems experienced by students. First, the material used in teaching books is too complex and rigid. So ⁴⁰ that students have difficulty understanding what the content of the book is obtained by students. Second, teachers do not have creativity in teaching. Most teachers only focus on lecture strategies or only give explanations in front of students. Then, MI or elementary school students who are still young and have just gotten their second language will have difficulty accepting. Moreover, the students still have the soul of children where the child's mindset is still in the stage of playing. So, for serious and monotonous teaching will not be effective for students of this level. And, in this digital era, many schools still use books or old ways to teach English to students.

¹⁷ **C. Limitation of the Problem**

Based on the above identification, the researcher will limit and focus on vocabulary learning using learning media. Using Duolingo learning media to teach students' vocabulary in reading skills in their meaning.

D. Formulation of the Problem

1. How ⁹is the students' vocabulary before being taught using Duolingo?
2. How ⁹is the students' vocabulary after being taught using Duolingo?

E. Purpose of the Research

1. To find out the students' vocabulary before being taught using application Duolingo.
2. To find out the students' vocabulary after being taught using application Duolingo.

F. Significance of the research

For Student

Students can use this research as a reference to learn vocabulary in English through Duolingo. In addition, it can provide a different learning atmosphere.

For Teacher

Teachers can use this research as a reference to teach students' vocabulary in English in different ways, by utilizing audio-visual media such as Duolingo.

For Next Researcher

This research can be a reference to develop more better research.

G. Definition of Key Term

1. ²⁶Vocabulary

Hiebert, E. H., & Kamil, M. L. (2005) The knowledge of words and their definitions is known as vocabulary. Vocabulary is typically classified as either reading or oral vocabulary. Words that we identify when hearing or that we use

when speaking are included in our oral vocabulary. Words that we are familiar with or frequently use in print are included in the reading vocabulary.

2. Young Learner

According to Pinter (2006) young students are defined by their developmental stage, where their cognitive abilities are still developing and their learning experiences are tailored to their age and language proficiency level. The character of young students is students who are still learning by playing.

3. Duolingo

Duolingo is the most popular language-learning platform. Media application for learning language with audio-visual style.

CHAPTER II

THEORETICAL FRAMEWORK

In this chapter, the researcher discusses Vocabulary, Duolingo, Teaching Vocabulary and rationale of the research.

A. Vocabulary ²⁶

1. Definition of vocabulary

Hiebert, E. H., & Kamil, M. L. (2005) The knowledge of words and their definitions is known as vocabulary. Vocabulary is typically classified as either reading or oral vocabulary. Words that we identify when hearing or that we use when speaking are included in our oral vocabulary. Words that we are familiar with or frequently use in print are included in the reading vocabulary. Nation (2001) explains more in detail by claiming that vocabulary is made up of all the vocabulary units, including a single word, sentence, and a broader part of the language that enhances sweetness and comprehension. ¹⁹ Vocabulary is a fundamental component of language learning, encompassing words, phrases, and expressions necessary for communication.

2. Type of vocabulary

According to (Richards, J. C., & Schmidt, R. : 2010) The Importance of distinguish between receptive (listening and reading) and productive (speaking and writing) ³⁰ vocabulary. It can be concluded that vocabulary is divided into listening ⁵⁰ vocabulary, reading vocabulary, speaking vocabulary, and writing vocabulary.

a. Listening Vocabulary

¹⁸ Nation, I. S. P. (2013) Listening vocabulary is the set of words that an individual understands when listening to speech. This includes the ability to identify and decipher words, phrases, and sentences that are heard in context, among other extensive language skills. It is an important part of

language ownership, as it helps individuals understand conversations, conferences, and other hearing impairments. Listening to vocabulary allows students to attend discussions, to understand the meaning of the context and respond correctly. Listening vocabulary grows over time with practice and exposure. For language students, strategies like active listening, repetition, and context-based learning can help improve their ability to recognize and understand spoken words.

b. Speaking Vocabulary

Schmitt, N. (2020) The vocabulary that a person may actively utilize in speech is known as their speaking vocabulary. It includes all of the terms and expressions that a person can appropriately and fluently produce in naturally occurring spoken language. Developing oral vocabulary requires continuous practice and contact with spoken language. Participating in conversations, participating in discussions and pronunciation are effective ways to expand your vocabulary.

c. Writing Vocabulary

Webb, S., & Nation, I. S. P. (2017) One's writing vocabulary is the set of words they are able to write. It is made up of words that one may use to effectively convey ideas in writing, spell correctly, and use in a range of contexts. Writing vocabulary requires a deeper understanding of the meaning of words, spelling them accurately and using them appropriately in different contexts. Good vocabulary allows a person to express their ideas clearly, convincingly, and effectively.

d. Reading Vocabulary

Schmitt, N., & Schmitt, D. (2020) The collection of words one can understand and use when reading is known as one's reading vocabulary. It is made up of words that readers can comprehend, interpret, and make sense of in a range of written settings. Vocabulary plays an important role in understanding reading, as a strong vocabulary allows a person to understand its meaning, explain information with accuracy and interact with many types

of documents, such as books, articles, and documents. The more vocabulary people read, the easier it is to understand complex ideas and new concepts. In contrast to listening vocabulary, which is obtained from oral interaction, reading vocabulary is built by visual contact with words, often requiring knowledge of spelling, the structure of words and the meaning of words and meanings in context.

In this research, the researcher focuses on elementary school student's skills in reading vocabulary.

3. The Role of Vocabulary

Without the ability to speak, reading would not exist in human society. We briefly define language components and related terminology in this part because they correspond with our demarcations for several reading elements. Five fundamental parts have been discovered by linguists. With growing quantity and gradual refinement, together with more sophisticated comprehension and more complex sites of usage, language acquisition advances through these components.

a. Phonology

Phonology is the study of a language's speech structure, which includes standard pronunciation standards as well as fundamental speech unit patterns. Phonemes are the smallest sound units that comprise a language. According Prefetti and Stafura (2014) Phonology is the study of language's sound structure, including how sounds are arranged and operate within a language.

b. Morphology

The study of morphemes—the smallest units of meaning—takes us to the next level of language. According to Bower et al (2010) The study of morphemes, the smallest units of meaning, including roots, prefixes, and suffixes, and how they combine to produce words, is known as morphology.

c. Syntax

Syntax is the study of how words and their most fundamental meaning units are joined to form sentences. When we speak, words must be grouped together according to our language's grammatical rules, or syntax. According to Ellis (2016) ⁸⁴ The rules and guidelines that control a language's sentence structure—more especially, the way words are put together to create phrases and sentences—are referred to as syntax.

d. Semantics

According to Greves et al. (2014) Semantics is the study of word meanings and how they are perceived, learned, and used. In addition to offering the necessary tools for comprehension, our language's grammatical structure allows us to use a great deal of figurative language and detailed descriptions, which give our conversations more depth and richness. Semantics is the study of how meaning is expressed in language. Our ability to distinguish between different people is based on our comprehension of semantics. Neither "is cold" nor "green with envy" alters its hue; instead, they both have more to do with our nervousness about trying new things than with the limbs on the tips of our toes.

e. Pragmatic

According to Roever & Kasper (2021) It is ideal to view pragmatics in second language acquisition through the lens of interactional competence, which is the capacity to regulate language usage in real-time social circumstances in a dynamic and efficient manner in addition to using linguistic resources appropriately. Our language's grammatical structure not only offers the necessary tools for comprehension, but it also allows for a wealth of metaphorical language and detailed descriptions that give our conversations depth and complexity. The term semantics describes how a language expresses meaning. Semantic awareness is what enables us to identify individual identity.

4. Teaching Vocabulary

Teaching vocabulary involves the systematic instruction and facilitation of learning words and phrases in a language, aiming to enhance students' ability to comprehend, produce, and effectively use the language in various contexts. Experts and research provide insights into effective approaches to teaching vocabulary, emphasizing strategies that promote retention, understanding, and application. Here are some key aspects of teaching vocabulary:

a. Methods and Approaches:

Teachers employ various methods to teach vocabulary, such as explicit instruction (directly teaching word meanings and usage), implicit learning (learning through context and exposure), and interactive techniques (activities that engage students actively in using new words).

b. Contextual Learning:

Effective vocabulary instruction often involves presenting words in meaningful contexts that relate to students' interests, experiences, and learning goals. This approach helps reinforce understanding and application of vocabulary in real-life situations.

c. Multi-modal Instruction:

Integrating multiple modes of learning—listening, speaking, reading, and writing—supports comprehensive vocabulary development. Activities that engage students in using vocabulary across different skills promote deeper learning and retention.

d. Assessment and Feedback:

Assessing vocabulary knowledge through formative and summative means helps educators gauge students' progress and adjust instruction accordingly. Providing constructive feedback on vocabulary usage encourages students to refine their language skills.

e. Technology and Resources:

Utilizing digital tools, multimedia resources, and online platforms can enhance vocabulary teaching by offering interactive exercises, adaptive learning experiences, and opportunities for self-paced practice.

f. Cultural and Contextual Considerations:

Recognizing the cultural context in which vocabulary is used can enrich students' understanding and appreciation of language. Teaching vocabulary in culturally relevant contexts enhances engagement and connection with the language.

g. Lifelong Learning Perspective:

Encouraging students to adopt strategies for independent vocabulary acquisition and exploration fosters lifelong learning habits. Emphasizing the importance of continuing to expand and refine vocabulary skills beyond formal instruction supports ongoing language development.

5. Assessment Vocabulary

Vocabulary evaluation refers to specific terms and language used to describe, evaluate, and measure student understanding and performance. This vocabulary includes words such as "rubric" and "formative assessment" that apply evaluation criteria. It is related to ongoing research during the learning process to direct improvement. A "summative assessment" appears at the end of the study time and measures overall performance. Terms such as "criterion-referenced" refer to comparing student performance to specified criteria, while "norm-referenced" are compared to colleagues' performance. Vocabulary such as "diagnostic assessment" helps identify a student's strengths and weaknesses before a new topic begins. "Feedback" is important to guide students on what they are doing well and where they can improve.

B. Media

Media refers to various methods of communication to exchange information, ideas, and entertainment with various audiences. Media includes traditional formats such as newspapers and television, as well as modern digital platforms such as social media and streaming services. The media plays a crucial role in shaping public opinion, spreading knowledge and connecting with people around the world. (Salwen and Stacks : 2008) discuss media as channels of communication that can be categorized into traditional media (e.g., print, radio, television) and new media (e.g., digital platforms, social media). They explore how media influence communication processes and the dissemination of information.

15 I. MALL

Mobile Assisted Language Learning (MALL) refers to the use of mobile devices, such as smartphones, tablets, and other handheld devices, to facilitate the learning of a language. It encompasses a range of applications and activities designed to leverage the unique features of mobile technology to support language acquisition and practice. Stockwell, G. (2010). The concept of MALL is rooted in the principles of flexibility, accessibility, and contextual learning. Mobile devices enable students to access language learning resources anytime and anywhere, offering opportunities for personalized and adaptive learning experiences. MALL integrates various multimedia resources, interactive applications, and communication tools to create engaging and effective language learning environments.

2. Kinds of Media

The concept of media in the context of education and language learning is broad and encompasses various types of tools and platforms used to facilitate learning.

a. Audio Media

Audio media refers to any form of communication or content based on information, entertainment, or sound to convey a message. This includes formats such as radio shows, podcasts, audiobooks, music, audio recordings, and more. Audio media is effective in telling, educating, and reaching the stories of audiences who prefer to read and listen rather than see. (Rost, M. : 2013) Audio media refers to any auditory material used in language learning to develop listening skills. This includes recordings of spoken language, music, radio tape recorder, and any other media where the primary mode of communication is auditory.

b. Visual Media

Visual Media is a form of communication in which images, graphics, or videos are used to convey information, ideas, or entertainment. This includes photos, illustrations, infographics, movies, TV shows, and online videos. Visual Media is very effective in attracting attention, simplifying complex information, and appealing to emotions through visual communication. (Mayer, R. E. : 2009) Visual media refers to the use of images, diagrams, charts, animations, videos, and other visual elements to support and enhance learning. These visuals are intended to complement textual and auditory information, making complex concepts easier to understand and remember.

c. Audio – Visual Media

Audio-visual media combines sound and visual elements to convey a message, tell and nurture a story. Examples include TV shows, movies, online videos, video games, and programs that are sent live. This type of media contains many senses, so this is something to keep in mind in Foreign Exchange and is effective in education, entertainment, and providing information. (Berk, R. A. : 2009) Audiovisual media refers to content that combines both visual and auditory elements, such as videos, films, television programs, and online video platforms. This media can be used to

provide a richer and more engaging learning experience by stimulating multiple senses simultaneously.

In this research, the researcher used Audio-Visual Media, which is a learning application called Duolingo.

¹¹ C. Duolingo

Duolingo is a popular language-learning app that offers free, interactive lessons in a game-like format. It helps users learn vocabulary, grammar, speaking, listening, and reading skills across many languages. The app uses rewards, streaks, and challenges to keep students motivated and engaged.

1. Features

¹¹ Duolingo is a popular language-learning platform ⁴⁴ that offers a variety of features designed to help users learn a new language effectively and enjoyably.

a. Gamification Elements:

¹³ Points and Levels: Users earn points for completing lessons and can level up as they progress.

¹³ Streaks: Daily practice streaks motivate users to practice regularly.

Leaderboards: Users can compete with friends and other students on weekly leaderboards.

b. Interactive Lessons:

Variety of Exercises: Lessons include multiple-choice questions, fill-in-the-blanks, translation tasks, listening exercises, and speaking practice.
Instant Feedback: Immediate feedback helps users correct mistakes and learn from them on the spot.

c. Spaced Repetition System:

Review Sessions: Duolingo uses spaced repetition to help users review words and concepts at optimal intervals to enhance memory retention.

d. Personalized Learning Path:

Adaptive Learning: The app adapts to the user's learning pace and proficiency level, offering customized lessons based on their performance.

Skill Trees: Each language course is organized into a tree of skills, which are further divided into lessons. Users progress through the tree, unlocking new skills as they complete lessons.

e. Vocabulary and Grammar Tips:

Tips and Notes: Many lessons include tips and notes that explain grammar rules and provide context for new vocabulary.

Practice and Review: Specific practice sessions focus on difficult words and grammatical structures that need reinforcement.

f. Cultural Insights:

Stories and Cultural Notes: Some courses include stories and cultural notes to provide context and enhance understanding of the language in real-life situations.

g. Duolingo Stories:

Interactive Stories: Short, interactive stories that help improve reading and listening comprehension through engaging narratives.

Comprehension Questions: Stories come with questions to test comprehension and reinforce learning.

h. Duolingo Podcasts:

Audio Stories: Language-specific podcasts that offer immersive listening practice through storytelling.

Transcripts: Accompanying transcripts help users follow along and understand the content better.

i. Duolingo Events:

Language Meetups: Virtual and in-person events where users can practice speaking with others, often facilitated by experienced language speakers or teachers.

j. Language Learning Community:

Discussion Forums: Users can join discussions, ask questions, and share insights with the Duolingo community.

Clubs and Groups: Users can join language clubs or groups to compete in challenges and support each other's learning.

k. Duolingo Plus:

Ad-Free Experience: A subscription service that removes ads from the app.

Offline Access: Allows users to download lessons and practice offline.

Progress Tracking: Enhanced tracking and personalized insights into learning progress.

l. Mobile and Desktop Access:

Multi-Platform Availability: Duolingo is available on both mobile (iOS and Android) and desktop platforms, ensuring flexibility in how users access and use the app.

m. Multiple Language Courses:

Wide Range of Languages: Offers courses in over 30 languages, including popular options like Spanish, French, German, and less common ones like Hawaiian and Navajo.

n. In-App Purchases:

Lingots and Gems: In-app currency that users can earn and spend on various features, such as streak freezes, extra hearts, and more.

o. Practice Tests:

Checkpoint Quizzes: Users can take quizzes at various checkpoints to test their knowledge and reinforce learning before moving on to new content.

In using the Duolingo application, several features are used, including the Gamingfication Element. The characteristic of students is play. The researchers used this feature because Duolingo is basically an application for learning while playing. Then, Interactive Lesson. Duolingo has many types of fresh lessons for students who don't get bored quickly. And Spaced Repetition System. This feature can be used by students to repeat learning whenever they want.

D. Review of Related Research

Journal of Aldi Aziz Fadlullah, Arya Elang Purnama Chasan, Ersya Dwi Maharsi and Firda Fadila Fitri (2023) This study examines perceptions of Duolingo as a tool for learning English. In this study, an experimental sample was taken from 5th grade elementary school, using the pre-test and post-test groups in the study. The researcher found that the students had difficulties in mastering English vocabulary. Some of the factors include, the lack of teacher motivation in developing class vocabulary and mastering student vocabulary, the teacher only takes vocabulary from books, English is not a compulsory subject so there are only 2 (two) hours a week and the tendency for children to be older to play. Based on the problems above, the researchers interest in choosing the Duolingo application is that the application uses game techniques that make its use easy and fun. Gamification is a game-based learning and aesthetic mechanism that stimulates people to think, play, motivate and solve problems (Kapp, 2012). This study found that the Duolingo app can be used as a teaching tool to improve students skills. in grade 5 elementary school in class to improve their English. This means that the hypothesis is accepted and Duolingo can be used to expand vocabulary. The researcher recommends that English teachers use the Duolingo application to teach English vocabulary,

because this application can stimulate students interest in learning processes and activities.

Journal of ⁴⁶ Muhammad Safdar Bhatti, Asif Iqbal, Zahida Rafique, Shaista Noreen and ² Faiqa Tabassum “Short stories as an innovative EFL teaching technique to improve Pakistani elementary students’ English vocabulary” (2022) Short stories are becoming very popular around the globe. Learning vocabulary, a crucial component of learning a foreign language, is at the heart of teaching a language and is important for language students. The researchers believe that vocabulary plays a crucial part in learning any language. Therefore, it is crucial to look at the best strategies for enhancing vocabulary learning. With the aim of effectively utilizing short stories to improve vocabulary at the primary level, the current study was created to raise awareness among elementary-level teachers about how they might develop the English vocabulary of their students. The study was experimental with a pretest-posttest design. Sixty students were randomly selected from an elementary school in Bahawalpur, Pakistan. Twenty-five close-ended questions (MCQs) type questions for pre-test and post-test and the English reading assessment survey (ERAS) questionnaire were used to collect data, and the data were analyzed by using SPSS. The results show that most students spoke about three things: the value of short stories in vocabulary learning, their interest in reading short stories, and their approval of using short stories. The study implies that primary school English teachers should use short stories to increase their students’ vocabulary.

Journal of ⁴³ Pangkuh Ajisoko ⁴ “The Use of Duolingo Apps to Improve English Vocabulary Learning” (2020) Education is a process of learning knowledge and skills. Learning English is skill-based learning that requires diverse approaches and techniques. Current education is much affected by technological advances. The use of technology is the latest solution to answer the challenges of learning English. As with advancement of English language learning means, duolingo completes to innovate way of learning language on mobile phone basis. The

focus of this research is to explore the use of Duolingo apps in improving students vocabulary in Borneo University of Tarakan. The research design of this research is pre-experimental research with pre-test and post-test. This research will involve 10 students as sample with 30 days practicing duolingo apps using “regular” intensity of practice (20 xp per day). The Research instruments were tests and questionnaire to answer the research questions. How is the use of duolingo in improving students’ vocabulary? Based on the quantitative data, the students’ score is increased. The result is expected to provide information for teachers and students in having extensive language learning practice in handy form.

E. Rationale

Duolingo represents a prominent example of how technology can facilitate language acquisition, particularly in vocabulary acquisition. Understanding how effective Duolingo is in teaching vocabulary can provide insights into the broader potential of technology in education. Vocabulary is fundamental to language proficiency across all skills—listening, speaking, reading, and writing. Investigating how well Duolingo builds vocabulary can shed light on its impact on overall language skills development among students. Duolingo's accessibility and wide availability make it a potential tool for students worldwide, including those who may not have access to traditional language learning resources. Studying its efficacy in vocabulary acquisition addresses issues of equity in education.

Duolingo offers structured lessons organized into skill trees that systematically introduce and reinforce vocabulary. Students progress through levels, unlocking new words and concepts gradually. Vocabulary is presented in context through sentences and phrases, helping students understand how words are used in real-world situations. This approach enhances retention and application of vocabulary. Duolingo incorporates gamification elements such as points, levels, streaks, and leaderboards. These motivate students to stay

engaged and consistent in practicing vocabulary, fostering a habit of regular learning.

By combining gaming aspects, contextual learning experiences, and structured learning pathways, Duolingo efficiently improves vocabulary skills. By utilizing these techniques, Duolingo encourages engagement, retention, and application of language information in addition to making vocabulary acquisition easier. Its creative use of technology advances language teaching in the digital age by making language acquisition efficient, pleasurable, and accessible to a wide range of international audiences.

F. Hypothesis

Ho: There is no Effect of Learning Application Duolingo to the Fifth Grade Students' Vocabulary at MI Mambaul Ulum Islamic School.

Ha : There is Effect of Learning Application Duolingo to the Fifth Grade Students' Vocabulary at MI Mambaul Ulum Islamic School

RESEARCH METHOD

In this chapter, the writer presents some references which are relevant to the study of research. This chapter describes about variable identification, technique and approach of the research, place and time of the research, population and sample, research instrument, technique of collecting the data, and technique of analyzing the data.

A. Identification of Research Variable

Independent variables are variables that are considered as causal or controlling factors in research. These are variables that are altered or manipulated by researchers to see their impact on dependent variables. According to Sugiyono (2019) "An independent variable is a variable that affects or causes changes or the emergence of dependent variables." On this independent variable is Duolingo. Duolingo is a popular language-learning app that offers free, interactive lessons in a game-like format. In using the Duolingo application, several features are used, including the Gamingfication Element, Interactive Lesson, Spaced Repetition System.

Dependent variables are variables that are influenced by or dependent on independent variables. These are variables that are measured or observed to see how changes in independent variables affect them. Creswell, John W. (2014) "The dependent variable is the response or the criterion variable that is presumed to be affected by or dependent upon the independent variable." On this dependent variable is Vocabulary in reading. Vocabulary in reading refers to the number of words that students understand when they are in written text.

B. Approach and Research Technique

1. Research Approach

This research approach is quantitative research. John W. Creswell (2014) defines quantitative research as a formal, objective, systematic process for obtaining numerical data and analyzing it using statistical methods to understand and explain phenomena. Quantitative research emphasizes objective measurement and quantification of data, allowing researchers to test hypotheses and generalize results to larger populations.

2. Technique

This research technique is Quasi research. According to Brown (1988) "quasi-experimental research is similar to a true experiment in that it involves treatment and impact measurement, but does not use random assignments in group formation." Using this method, researchers could ascertain how Duolingo, the independent variable, affected the dependent variable. Aside from that, the researcher conducted research in 1 (one) class. The researcher gave the students a pre-test and post-test to analyze the use of Duolingo in vocabulary reading skills.

C. Place and Time

1. Place

The research will be held at MI Mambaul Ulum Dahu Jln. Masjid RT/RW 02/01 Dsn. Dahu, Jatirejo, Kec. Banyakan, Kab. Kediri. This school was chosen as the place of research because it is where researcher work. Makes it easy to coordinate with students and schools.

2. Time

This research will be carried out from September to October 2024. The time range was chosen so that the process of planning, implementing, and analyzing data could be carried out optimally. All stages of research will follow a schedule

that has been designed so that the research objectives are achieved according to the set time.

D. Population and Sample

1. Population

This research will be carried out by students of MI Mambaul Ulum Dahu. The number of students is around 400 student, consist of male and female students.

2. Sample

This research will be carried out by students of MI Mambaul Ulum Dahu. The number of students of fifth grade is around 24 student, consist of 16 male students and 8 female students.

E. Research Instruments and Collecting Data

1. Research Instrument

Menurut Cresswell (2012)³⁷ Research instruments are tools used to collect, measure, and analyze data related to research variables. These instruments vary depending on the approach—quantitative, qualitative, or mixed methods. The research uses 2 types of tests, namely pre-test and post test. A systematic procedure for measuring a person's knowledge, abilities, attitudes, or characteristics. There are 2 test, consist Pretest and Posttest. Fraenkel et al., (2012) “A pretest is a test administered before the experimental treatment is given. It is used to determine the starting point of the participants.”. While post-test Fraenkel et al., (2012) “A posttest is a test given after the experimental treatment to see what effect, if any, the treatment had.”. There are 2 test, consist of pre-test, treatment, and post-test. The test will have using 30 point questions of test. For the score, The researcher will multiply by 100 each correct question,¹⁸

after which it will be divided by the total number of questions. The topic used by the researcher is Food and Drink.

2. Collecting Data

⁶¹In order to collecting data, the research here used test. Test used in order to obtain valid and reliable data. In this research, the technique of collecting data taht the research is by pretest, treatment, and posttest. The activities are as the following:

a. Pretest

The pretest was given to class V. The researcher gave a written test without giving a treatment before using Duolingo media. A total of 15 tests, consisting of: 10 questions on the meaning of vocabulary and 5 question on image matchmaking.

b. Treatment

After the test was carried out, then treatment was carried out for 2 meetings. The researcher taught vocabulary with Duolingo media. Duolingo materials are related according to the topics taught about Food and Drink. Each stage there will be an image or word that will appear. Students identify the vocabulary they are reading and the teacher will write on the board. Then, students are asked to repeat the vocabulary taught. Researchers tell the meaning of each word.

c. Posttest

The researcher gave posttest after treatment to the same class to evaluate their vocabulary mastery after using Duolingo media. Posttest has the same structure as Pretest. A total of 15 tests, consisting of: 10 questions on the meaning of vocabulary and 5 question on image matchmaking.

F. The Technique of Data Analysis⁴⁸

The analysis technique used in this study is to compare the results of the pretest and posttest¹⁸ to determine the effectiveness of the treatment given. After that, the data from Posttest and Pretest are analyzed using SPSS using Paired-Sample Test.

³ To analyze the hypothesis, it is necessary to know the significance of the t-test when compared to the t-table by following the rules below:

If the t-score > t-table at the 1% significance level (0.01), it means that this study is highly significant. So, H_a is accepted and H_o is rejected.³

³ If t-score > t-table at the 5% significance level (0.05) means that this study is significant. So, H_a is accepted and H_o is rejected.

If t-score < t-table at the 5% (0.05) significance level, it means that this study is not significant. So, H_a is rejected and H_o is accepted.³

CHAPTER IV

RESEARCH FINDINGS AND DISCUSSION

It is important to report the result of the study clearly and completely. In this chapter of the research, the writer would like to describe the result from the overall processes that have been done. There are four sub chapters into the description of research finding, data analysis, testing of hypothesis and discussion.

A. Description of Variable Data

In this sub-chapter will discuss the description of the variable data. The variable data in this research are independent and dependent variable.

1. Description of Independent and Dependent Variables

In this study, there are two types of variables, namely independent variables and dependent variables. The independent variable in this study is the use of Duolingo, and vocabulary as the dependent variable. The purpose of this study is to analyze the effect of Media on the vocabulary of class V students at MI Mambaul Ulum Dahu in the 2023/2024 academic year.

In conducting this research, the researcher took one class at MI Mambaul Ulum Dahu, namely grade V-5. The class consists of 24 students. The researcher took one class because it was easier to obtain data, and the results could be more valid.

In this study, all students in class V-5 were given a pre-test, treatment, and post-test. This was done in four meetings: September 13, September 20, September 27, October 04, 2024. The description of each meeting is as follows:

a. Students' vocabulary before being taught by using Duolingo

One week before the research was conducted. On the first day of the research, the researcher entered the class and started the activity by greeting

and explaining about the pre-test that would be conducted. After that, the researcher distributed the pre-test sheets to the students.

This meeting was held on September 13, 2024. On this day, the researcher gave a pre-test to the students to find out their vocabulary skills before being taught using Duolingo media. This pre-test was in the form of 10 written tests and 5 matchmaking pictures with material about Food and Drink. The pre-test scores can be seen on the table. The Minimum Completion Criteria (KKM) score for the English subject for class V MI Mambaul Ulum Dahu is 75. So, students who get a score of less than 75 are considered to have failed.

b. Teaching vocabulary using Duolingo

1) First meeting

In this meeting, the researcher gave the first meeting to students in grade V-5. This first meeting was held on September 20, 2024. The researcher began the activity by inviting students to pray together before starting the lesson. After that, the researcher greeted the students and took attendance. The researcher then accesses the Duolingo app and gave an example to the students first. In this meeting, the researcher used the vocabulary learning method through Duolingo.

The researcher prepared Duolingo media about Food that was used for teaching. Students prepare books and stationery for writing that are on Duolingo. The researchers provided the results before using Duolingo. The researcher gave the name Food according to the one in Duolingo. Students listen to and write down the vocabulary that students hear from researchers. The researcher repeated vocabulary related to Food.

2) Second meeting

In this meeting, the researcher gave the second meeting to students in grade V-5. This second meeting was held on September 27, 2024. The

researcher began the activity by inviting students to pray together before starting the lesson. After that, the researcher greeted the students and took attendance. The researcher then accesses the Duolingo app and gave an example to the students first. In this meeting, the researcher used the vocabulary learning method through Duolingo.

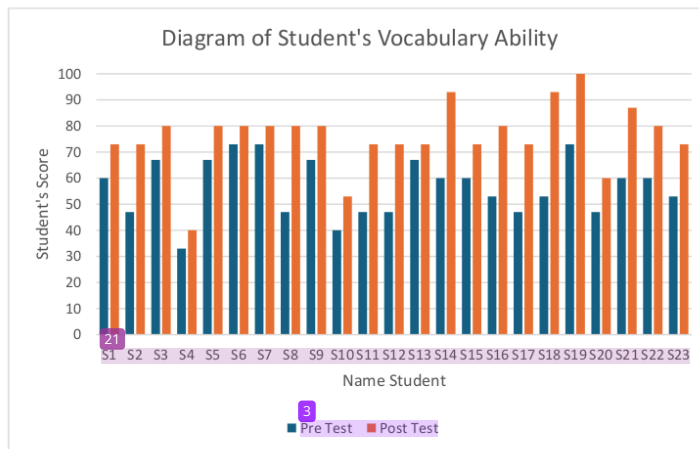
The researcher prepared Duolingo media about Drink that was used for teaching. Students prepare books and stationery for writing that are on Duolingo. The researchers provided the results before using Duolingo. The researcher gave the name Drink according to the one in Duolingo. Students listen to and write down the vocabulary that students hear from researchers. The researcher repeated vocabulary related to Drink.

c. Students' vocabulary after being taught by using Duolingo

The post-test was conducted on October 04, 2024. On this day, the researcher entered class V-5 and started the activity by greeting and explaining the purpose of the post-test, which was to determine the extent to which students' vocabulary skills had improved after being given learning using Duolingo media.

The post-test given had the same format as the pre-test, namely in the form of 10 written tests and 5 matchmaking pictures with material about Food and Drink, but with different variations of questions. Students worked on the questions individually and the results would be used as comparative data from the pre-test. The post-test scores can be seen on the table. The Minimum Completion Criteria (KKM) score for the English subject for class V-5 MI Mambaul Ulum Dahu is 75. So, students who get a score of less than 75 are considered to have failed.

2. Procedure Data Analysis



In this part, the procedure carried out by the researcher before analyzing the data is described. It relates to the research questions of this study, which are: how is the vocabulary mastery of fifth-grade students before and after being taught using Duolingo, and what is the effect of using Duolingo on the vocabulary scores of V-5 students at MI Mambaul Ulum Dahu in the academic year 2023/2024.

To answer those research questions, the researcher gave the V-5 students a vocabulary test, which was divided into a pre-test and a post-test. After that, the researcher corrected the results of both the pre-test and post-test. The data were analyzed using a t-test. Before analyzing the data, the researcher presented the frequency distribution results of the pre-test and post-test.

Then the above data is entered into the SPSS application for analysis. The data was analyzed using the Paired Sample Test.

		22 Mean	N	Std. deviation	Std. Error Mean
	Pre Test	55.88	24	11.392	2.325
	Post Test	75.96	24	12.450	2.541

The Pre Test score was obtained with an average learning outcome or mean of 55.88. As for the Post Test score, the average score of learning outcomes was 75.96. The number of students used as a research sample was 24 students. The value of Std. Deviation or Standard Deviation in the Pre Test was 11,392 and the Post Test was 12,450. And finally, the Std. Error Mean score for the Pre Test was 2.325 and for the Post Test was 2.541.

		N	Correlation	Itself.
	Pre Test & Post Test	24	.660	.000

The value of the Correlation Coefficient (Correlation) is 0.660 with a significant value (Sig.) of 0.000. Since the Sig. value of 0.000 is less than the probability of 0.05, it can be said that there is a relationship between the Pre Test variable and the Post Test variable.

		Paired Differences						
		Mean	Std. deviation	Std. Error	95% Confidence Interval of the Difference		df	Sig. (2-tailed)
					Lower	Upper		
Pre Test	-	20.08	9.877	2.016	-24.254	-15.913	-9.96123	.000
Post Test	3							

The value of Sig. (2-tailed) is 0.000 which means less than 0.05, then H₀ is rejected, and H_a is accepted. So, there is an average difference between the Pre Test and Post Test learning outcomes which means that there is an influence of Duolingo learning in Reading Vocabulary learning.

The Mean Paired Differences score is -20,083. Which means the difference between the average Pre Test result and the average Post Test result is $55,88 - 75,96 = -20,083$ and the difference is between -24,254 to -15,913 (95% Confidence Interval of the Difference Lower and Upper)

- 1) If the value t count > t table, then H₀ is rejected, and H_a is accepted.
- 2) If the value t count < t table, then H₀ is accepted, and H_a is rejected

Based on the data above, t count 9,961 > t table 2,069. So as the basis for decision-making, the data above is concluded that H₀ is rejected, and H_a is accepted. There is an influence of Duolingo learning in reading vocabulary learning.

47 CHAPTER V

Conclusion, Implication, and Suggestion

This final chapter presents the conclusions drawn from the research findings, followed by the theoretical and practical implications, and ends with several recommendations directed toward key stakeholders including teachers, students, curriculum developers, and future researchers.

A. Conclusion

The research has conclusions from this research based on the background of the problem. In dealing with these problems, using different methods, namely by using Duolingo media. By using Duolingo which provides several features such as gamification, repetition, interactive components. Based on the result of the previous chapter, the researcher concludes that Duolingo in vocabulary at fifth grade students of MI Mambaul Ulum Dahu is increasing engagement students to the lessons.

According to the study's findings, utilizing the Duolingo app significantly increased the vocabulary of MI Mambaul Ulum Dahu fifth graders. Based on data analyst with a significant value of 0.000, a less probable value of 0.05, and a mean difference of 20.083, the statistical data lend support to the idea that Duolingo improves vocabulary acquisition. Consequently, Duolingo can be regarded as a useful educational resource for enhancing young learners' vocabulary in English.

B. Implications

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The purpose of this study is to ascertain how students' use of Duolingo affects their vocabulary mastery. The findings have several theoretical and practical Implications for the use of digital media—particularly Duolingo—in vocabulary instruction.

1. Theoretical Implications

The findings of the research advance our theoretical knowledge of vocabulary development via digital resources. It backs up Nation's (2001) and Schmitt's (2020) theories that active interaction with new words and frequent exposure are necessary for successful vocabulary development. These elements are offered by Duolingo through its gamified activities and spaced repetition system. Stockwell (2010) asserts that by offering learners accessible, contextual, and engaging experiences—all of which are amply illustrated in this study using Duolingo—Mobile Assisted Language Learning (MALL) can greatly improve vocabulary learning.

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2. Practical Implications

In terms of practice, this study indicates that educators ought to think about including Duolingo into their lesson plans as an addition to conventional teaching methods. Students have a more engaging option than traditional vocabulary courses because to Duolingo's interactive and game-like features. The increase in post-test results demonstrates that vocabulary learning can be made more efficient and enjoyable by digital media, particularly for elementary school students.

This research suggests that funding language learning tools can enhance academic results for administrators at schools and policymakers. Due of its ease

of use and accessibility, Duolingo is appropriate for educational institutions with low resources. The app can be a useful tool for vocabulary practice at home and in class because it is user-friendly and free.

C. Suggestion

1) For Students

Students are encouraged to use Duolingo regularly to support their vocabulary learning in a fun and engaging way. They should make use of the app's features such as daily practice streaks and interactive quizzes to reinforce what they learn in class. Learning independently with Duolingo will help develop their vocabulary mastery and self-study habits.

2) For Teachers

Teachers can utilize Duolingo as a supplementary tool in the classroom to enhance vocabulary teaching. By combining traditional teaching methods with Duolingo's interactive media, teachers can create a more effective and dynamic learning experience. Teachers are also encouraged to monitor students' progress through the app to provide more personalized guidance.

3) For Future Researcher

Future researchers are recommended to explore the long-term effects of using Duolingo on different language skills such as speaking and writing. It is also important to compare the effectiveness of Duolingo with other digital learning platforms or methods. Expanding the sample size and conducting research in various educational settings can also strengthen the findings and implications of this study.

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