

**COLLEGE STUDENTS' PERCEPTION OF DUOLINGO AS A MEDIUM
FOR VOCABULARY MASTERY**

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ABSTRAK

PERSEPSI MAHASISWA TERHADAP DUOLINGO SEBAGAI MEDIA UNTUK PENGUASAAN KOSAKATA

Mutia Sa'adah

Tujuan dari penelitian ini adalah untuk mengetahui persepsi mahasiswa terhadap Duolingo sebagai media untuk penguasaan kosakata. Penelitian ini menggunakan desain mixed-method dan mengumpulkan data melalui kuesioner serta wawancara semi-terstruktur. Partisipan dalam penelitian ini adalah mahasiswa yang telah menggunakan Duolingo selama minimal satu bulan atau telah menyelesaikan Chapter 1, Unit 10. Statistik deskriptif digunakan untuk menganalisis data kuantitatif, sedangkan data wawancara digunakan untuk mendukung dan memperluas hasil penelitian. Hasil penelitian ini menunjukkan adanya persepsi positif terhadap Duolingo, dengan skor rata-rata sebesar 62,6, yang berarti mahasiswa percaya bahwa Duolingo merupakan cara yang baik untuk mempelajari kosakata bahasa Inggris, meskipun masih ditemukan beberapa masalah. Mereka menganggap Duolingo menarik, menyenangkan, dan mudah digunakan untuk mempelajari kosakata baru. Namun, beberapa mahasiswa juga menyebutkan bahwa fitur heart dipersepsikan secara negatif karena membatasi latihan dan terkadang mengganggu proses pembelajaran. Duolingo juga memberikan penjelasan konteks kata yang terbatas dan kurang menyediakan latihan kosakata yang lebih mendalam.

Kata kunci: Duolingo, media pembelajaran, persepsi, mahasiswa, penguasaan kosakata.

ABSTRACT

COLLEGE STUDENTS' PERCEPTION OF DUOLINGO AS A MEDIUM FOR VOCABULARY MASTERY

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The purpose of the research was to find out college students' perceptions of Duolingo as a medium for vocabulary mastery. The study used a mixed-method design and gathered data through questionnaires and semi-structured interviews. The participants were college students who had used Duolingo for at least a month or finished Chapter 1, Unit 10. Descriptive statistics were used to look at the quantitative data, and the interview data were used to back up and expand on the results. The results of this study showed positive perception about Duolingo, with a mean score of 62.6, which means they believed it was a good way to learn English vocabulary, but there were still some problems found. They considered Duolingo interesting, enjoyable, and easy to use for learning new vocabulary. However, some students also mentioned that the heart feature was perceived negatively because it limited practice and sometimes interrupted the learning process. Duolingo also provides limited explanation of word context and lacks deeper vocabulary practice.

Keywords: *Duolingo, learning media, perception, college student, vocabulary mastery.*

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FOR VOCABULARY MASTERY**

By:

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Menyatakan bahwa skripsi ini adalah karya dari pelaksanaan penelitian saya sendiri. Sepanjang sepengetahuan saya, karya ini tidak berisi materi yang ditulis orang lain, kecuali bagian-bagian tertentu yang saya gunakan sebagai acuan. Apabila ternyata terbukti bahwa pernyataan ini tidak benar, sepenuhnya menjadi tanggung jawab saya.

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Mutia Sa'adah was born in Bandar Lampung on June 8, 2004. She is the second of three children of Al-Imron and Niswatun Hasanah. Her elder brother is Muhammad Zahid Alim, and her younger brother is Muhammad Nurrahman.

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In her seventh semester, she gained teaching experience by working as a teacher of young learners at an English course for several months. Through this experience, she developed her teaching, classroom management, and communication skills, as well as practical experience in the field of English education.

MOTTO

لَا يُكَلِّفُ اللَّهُ نَفْسًا إِلَّا وُسْعَهَا

“*Allah* does not burden a soul beyond that it can bear.”

(*Al-Baqarah*, 2:286)

DEDICATION

In the divine name of *Allah Subhanahu Wa Ta'ala*, the researcher dedicates this thesis to her beloved family, the University of Lampung, all lecturers, and herself as the writer.

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I. INTRODUCTION

This chapter explains about background of the research, question of the research, objectives of the research, the uses of the research, scope of the research, and definition of terms.

1.1. Background of the Research

Proficiency in English is essential in today's globalized world. The importance of mastering English comes from its role as a tool for international cross-cultural communication (Daniswara et al., 2024). In the process of learning English, vocabulary acquisition is fundamental. A limited vocabulary often poses a challenge for students, particularly in expressing ideas in written and spoken forms (Al-Hassan and Abdulaziz, 2019). Moreover, restricted vocabulary knowledge can lower students' motivation when engaging in listening and reading activities. Without mastering vocabulary base, effective communication cannot be achieved. Nonetheless, improving vocabulary fluency remains a considerable challenge. One of the initial difficulties student faces is memorizing an amount foreign language words (Ghalebi et al., 2020).

Therefore, learners are required to independently strengthen their vocabulary through consistent practice using mobile devices (Hasan et al., 2022), as well as through the use of language learning applications and platforms. Despite this, vocabulary mastery continues to be problematic for many students due to limited exposure to authentic language input and small opportunities for practice in real life contexts. Traditional instructional methods often do not

fully address these challenges. However, the advancement of digital technologies has provided new alternatives for language learning.

Technology is becoming more and more important in education these days, especially when it comes to learning English. Due to advances in technology, it is now easier and more useful to learn English. People can study the language whenever and wherever they want (Aziz et al., 2018). Mobile devices and other technologies can be useful tools when used to improve methodological efficiency, making it possible for students to access educational resources from anywhere. These tools not only help with translating texts or vocabulary, but they also work as interactive platforms that help people improve their English language skills through well-organized systems (Apoko et al., 2023). Duolingo is a mobile app that is thought to be helpful for students who want to improve their vocabulary skills in different situations.

Duolingo is an app that helps people learn languages by letting them interactively learn on their phones or computers. Severin Hacker and Luis von Ahn made Duolingo in 2011. Since then, it has become one of the most popular tools and is well-known for helping people learn new languages. It was the most downloaded language learning app in the world as of September 2023, with over 16 million mobile downloads in just one month (Daniswara et al., 2024). The app is free to use and has a gamified learning system that rewards users for completing interactive exercises and keeping up daily streaks (Apoko et al., 2023). Duolingo's lessons cover topics that are relevant to learners' daily lives, like food, family, and travel. These themes embrace vocabulary and cultural content with minimal grammar explanations, focusing primarily on vocabulary exposure and repetition. Furthermore, Duolingo has been found to help students developing English knowledge, especially in vocabulary mastery. It is also stated that Duolingo can increase learner motivation in practicing English skills (Tiara et al., 2021).

Duolingo is also easy for people of all ages to use because of its interesting display and structured lesson format. Its easy-to-use interface and interactive

features make it a positive and motivating place to learn, which helps with online language instruction. Duolingo's goal is to make it easier to learn both vocabulary and grammar. According to Daniswara et al. (2024), the application provide multiple activities, including pronunciation practice, word translation, image-word association tasks, and dictation exercises. These things make learning more interesting. Because of this, many people know that Duolingo is a good way for learners to improve their English skills.

Duolingo is a popular language-learning app that works, but it does have some issues. One big problem with the app is that it teaches people through translation, which might not be enough to get them ready to use the language in real life. Some people say that translating material into the user's native language is a good way to teach, while others say it isn't. You can only try the free version a few times (lives), and you can't use it in real-life communication situations (Zholdas et al., 2024). The exploration of relevant research reveals similarities in the use of Duolingo in English language learning, but still, differences and gap exist in the literature. Therefore, this study aims to investigate college students' perceptions of Duolingo as a medium for vocabulary mastery, focusing on the effectiveness of the application.

1.2. Question of the research

Based on the background of the study, the researcher formulates the following research question: What are college students' perceptions of using Duolingo as a medium for vocabulary mastery?

1.3. Research objectives

In line with the research question, the objective of this study is to explore college students' perceptions of using Duolingo as a medium for their vocabulary mastery. Beside that, this study also want to explore more deeply about their perception towards the effectiveness and limitations of the app.

1.4. The Uses of the Research

This research is valuable for several key reasons. This study contributes to the expanding domain of digital language acquisition by examining the efficacy of Duolingo in vocabulary mastery.

Second, the results can help students, teachers, and people who make the curriculum in real life. Educators can make smart decisions about how to use Duolingo in online or blended language learning settings if they know how college students feel about it. This can help students become more interested in learning, more involved, and better at using new words

Third, the results can help developers of educational technology by showing them which parts of Duolingo help or hurt vocabulary mastery. These ideas can help make language apps that are more effective and focused on the learner

This research can also help college students. It can give you practical and research-based tips on how to use Duolingo better to help you learn new words, especially if you don't speak English as your first language. In summary, this study supports the improvement of language education by informing teaching strategies, guiding technology design, and helping learners choose tools that match their needs.

1.5. Scope of the Research

This study looks at how college students feel about using Duolingo to their vocabulary mastery. It focuses only on students who are already using the Duolingo app for learning English. The research will take place over a few months and will use both quantitative and qualitative by conducting a questionnaire and doing interviews. The study is limited to a small group of college students, which means the results may not represent all students. However, both of the instruments will help give a clear picture of their thoughts and experiences with using Duolingo to help with vocabulary.

1.6. Definition of Terms

To help readers better understand the study, the following key terms are defined below.

1. Duolingo

Duolingo is a free app that works on computers and mobile devices. It offers language courses in over 23 languages and has about 200 million registered users around the world. According to the official website of Duolingo, the application was officially launched in 2012 by Luis von Ahn and Severin Hacker from Carnegie Mellon University to support the learning and acquisition of foreign or second languages chosen by learners.

2. Vocabulary

Vocabulary is one of the essential aspects of language that must be learned. Mastering vocabulary is important because it forms the foundation for speaking, writing, listening, and overall communication. Learners must first understand vocabulary in order to develop other language skills. This means not only knowing what words mean, but also knowing how to use them correctly in a given situation (Richards & Renandya, 2002).

3. Media

Media are considered important instructional tools that help convey content and improve the effectiveness of language learning (Heinich et al., 2005). According to Danesi (2009), media refers to the different forms, tools, and systems that constitute mass communication as a whole, which include newspapers, magazines, radio, television, and websites.

II. LITERATURE REVIEW

This chapter presents a literature review that supports the understanding and interpretation of the findings in this study. It includes a detailed discussion of the key concepts related to perception, Duolingo, and vocabulary mastery, based on an extensive and focused review of relevant sources.

2.1. Perception

2.1.1. Definition of Perception

According to Wood (2015), perception is the active process of making meaning by choosing, organizing, and interpreting people, things, events, situations, and other things. Perception is the mental process by which people make sense of what they see, hear, touch, taste, and smell. Robbins and Judge (2013) also talked about perception as how people make sense of what they see, hear, or feel by putting those experiences in order and giving them meaning. Another definition from Altman et al. (1985), perception is the way stimuli are selected and grouped by a person in such a way that the stimuli can be meaningfully interpreted.

In education, understanding how students see things is important because it helps you understand how they learn. For instance, looking at how students feel about language learning apps like Duolingo can help teachers figure out how useful and interesting these tools are from the students' point of view. Researchers can learn what works, what problems students have, and how to make learning tools better by getting detailed feedback from students in their own words.

In this study, perception is crucial for comprehending college students' attitudes and experiences regarding Duolingo as a tool for vocabulary acquisition. Because each student uses technology and learning materials in their own way, their own views help us better understand Duolingo's strengths and weaknesses. This research utilizes interviews to document students' thoughts, emotions, and experiences, emphasizing the app's role in enhancing their vocabulary development. This emphasis on individual perspectives closely aligns with the research objectives, which prioritize the significance individuals ascribe to their daily learning experiences.

2.1.2. Types of Perception

According to Irwanto, as cited by Shandi (2020), after an individual interacts with the objects being perceived, the result of perception can be divided into two types:

1) Positive perception

Positive perception refers to a perception that reflects a person's knowledge or familiarity with an object, followed by efforts to make use of it. This perception usually leads to active behavior, such as accepting and supporting the object being perceived.

2) Negative perception

Negative perception refers to a perception that also reflects a person's knowledge or familiarity with an object, but results in a response that is not in line with the object. This leads to passive behavior, such as rejecting or opposing the object being perceived.

In conclusion, both positive and negative perceptions always influence a person's actions. Whether a person forms a positive or negative perception depends on how they interpret and describe their knowledge about the object they perceive.

2.1.3. The Factors Affecting Perception

there are two main factors that influence a person's perception according to the theory from Langton et al. (2016), the way we see and understand things around us is influenced by three main factors: the perceiver, the target, and the situation where it all happens.

a) The Perceiver

This is the person who is doing the observing. Who they are has a big impact on what they see and how they understand it. How they see things is influenced by their personality, attitude, what they care about, their past experiences, and what they expect to see.

b) The Target

The person or thing being watched is also important. Some things about the target, like how it looks, how it acts, or how different it is from everything else, can make it stand out and change how people think about it.

c) The Situation

The setting or context is also very important. The way we see something can change depending on the time, place, lighting, temperature, or even the mood of the moment.

In conclusion, what we see and how we understand it depends on who we are, what we're looking at, and what's going on around us at the time.

2.2. Vocabulary

2.2.1. Definition of Vocabulary

Vocabulary refers to the understanding of words and their meanings (Carter, 2014). Another definition, According to Linse and Nunan (2005), vocabulary is the collection of English words known by a person. Students need to learn this basic skill in order to learn other language skills like reading, writing, listening, and speaking. To communicate well, you need to have a strong vocabulary because it helps you say and understand things. It is hard for students to learn other language skills if they don't have a good vocabulary. Hatch and Brown

(1995) say that vocabulary is a group of words that people use in a certain language or by themselves. Hiebert and Kamil (2005) elaborate on vocabulary as the comprehension of word meanings in both oral and written contexts, encompassing both receptive and productive applications. Neuman and Dwyer (2009) also say that vocabulary is the words in English that a person needs to know in order to talk to other people correctly. This shows how important vocabulary is for clear communication. To put it another way, you need a good vocabulary to communicate your thoughts and ideas clearly, accurately, and effectively. If students don't have a good vocabulary, they might have trouble learning and using English correctly. Vocabulary is very important for learning English because it helps you talk to and understand other people. Students may find it hard to say what they want to say even if they know a lot about grammar.

In conclusion, vocabulary serves as the foundation of language learning. It is necessary for effective communication, and students need a wide vocabulary to fully develop their language skills. A strong vocabulary enables learners to understand and use the language more confidently and fluently.

2.2.2. Aspect of Vocabulary

According to Nation (2001), knowing a word is not just about knowing what it means. Learners also need to know what the word looks like, sounds like, and how to use it in different situations. Nation says that vocabulary knowledge has three main parts: form, meaning, and use. These three things help people use words correctly when they talk and write.

1. Form

Form is the way a word sounds, how it is spelled, and the parts that make it up, like a prefix, root, or suffix. Students can say and write a word correctly if they learn its form.

2. Meaning

What the word means is what it refers to, which includes the ideas or things that go along with it. Nation (2001) also says that students need to know how the shape of a word relates to its meaning. This makes it easier for them to remember and understand the word.

3. Use

Use is how a word fits into a sentence. It includes the word's grammar, what other words it goes with (collocations), and when it is okay to use the word. For instance, if it is formal or informal, or how often it is used. This helps students use the word correctly in different situations.

2.2.3. Types of Vocabulary

Cameron (2001) divides vocabulary into two groups based on how they help make sentences: content words and function words. Nouns, main verbs, adjectives, and adverbs are all content words that have lexical meaning. These words are very important for getting across the main ideas in a sentence. In the sentence "She writes a letter," the words "writes" and "letter" are content words because they show what the main action is and what the object is.

Function words, on the other hand, give grammatical structure instead of lexical meaning. They are prepositions, articles, conjunctions, and auxiliary verbs. These words may not mean anything on their own, but they are needed to make sentences that are grammatically correct and make sense. The word "a" in the same sentence, for example, is a function word that helps show the noun "letter." Language learners need to know the difference between content words and function words. Being able to do both types of things well not only helps you express your ideas clearly, but it also helps you write sentences correctly, which is important for communicating well in both spoken and written English.

It is clear from the explanations that vocabulary can be grouped in different ways, depending on what each expert is interested in. Some researchers focus on vocabulary that can be used in speech and writing, as well as vocabulary that can be understood and recognized through reading and listening. Suardi and Sakti (2019) put vocabulary into four groups: oral, writing, listening, and reading. These groups are based on how learners use or receive vocabulary through different language skills. Cameron (2001), on the other hand, divides vocabulary into content words and function words, looking at how each word helps to build meaning and grammar in sentences. These classifications take different approaches, but they both stress how important vocabulary is for language development from different angles. This shows that vocabulary is a key part of learning both language structure and how to communicate.

2.3. Duolingo

2.3.1. Definition of Duolingo

Duolingo is a free language-learning website that has become well-known around the world for its unique method. The Duolingo for Schools guidebook (2016) says that it is the biggest online language learning site in the world. It uses scientific principles and adaptive learning methods to make learning more interesting and effective. It came out in 2012 and is meant to let people learn at their own pace through short, fun lessons. Writing, reading, listening, and speaking are all things you do in these lessons.

Duolingo helps users learn new words, phrases, and sentences by having them listen to things, use flashcards, and take multiple-choice quizzes. Tasyakuriana (2023) says that the Duolingo platform is a good way for students to learn English because it keeps them motivated and helps them learn new words. It encourages self-directed learning by being free and easy to access online, so people can study whenever and wherever they want. Numerous prior research have shown that Duolingo greatly

influences vocabulary acquisition (Ajisoko, 2020). His quantitative analysis revealed that learners provided good comments about the application, feeling more motivated, competent, and finding the content easier to comprehend. Duolingo not only helps people get better at grammar, but it also makes it easier for people to talk to each other around the world. Its interactive features make learning a language more fun and modern. Duolingo's lessons are based on things that students already know about, like food, family, and travel. These themes help you learn new words and some basic grammar and culture. The explanations are short, though, and the main goal is to learn new words and practice them by repeating them (Shortt et al., 2021). People of all ages, from kids to teens to adults, use this learning app that feels like a game. It's also great for people who are learning a new language. Shortt also says that Duolingo has about 95 languages that you can learn. Users are asked to pick the language they want to learn before they start.

2.3.2. The Features of Duolingo

Duolingo has many features that help people learn languages in a fun and easy way. These features can change how college students think about how useful the app is for learning new words. The app has short, interactive lessons that help with vocabulary learning. These lessons include matching words to pictures, picking the right translations, filling in blanks, and listening to spoken words or sentences. Duolingo not only teaches these basic lessons, but it also gives students extra practice and keeps track of their progress. Its game-like interface makes learning interesting and fun. The app also changes the level of difficulty based on how well the user is doing, so everyone can learn at their own pace. Duolingo keeps people interested by using game-like features like daily streaks, points (XP), and rewards (like gems or lingots). These features are popular with college students who are used to using mobile apps and enjoy learning through technology. These features support students in developing their vocabulary. Therefore, the Duolingo app assesses students' vocabulary mastery through features such as:

- 1) Choosing the right meaning, users have to choose the correct meaning of the words.

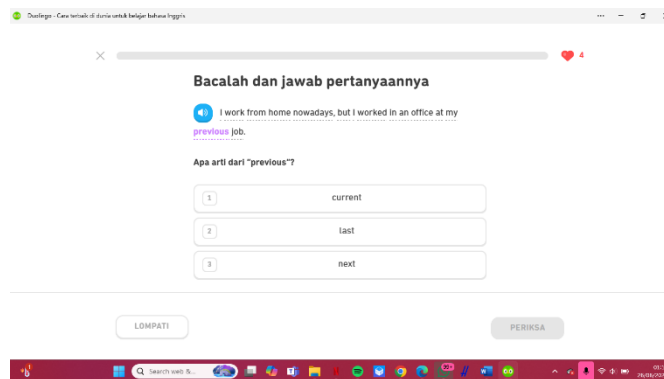


Figure II.1 Duolingo exercise vocabulary meaning

- 2) Matching words to picture, in the lower level there will be some exercise like this where users have to select the correct word matches the picture.

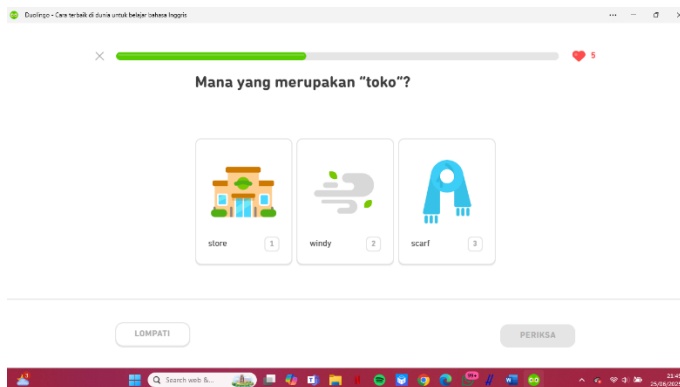


Figure II.2 Duolingo exercise matching words

- 3) Choosing correct translation, users have to choose the correct translation of the word or sentence.

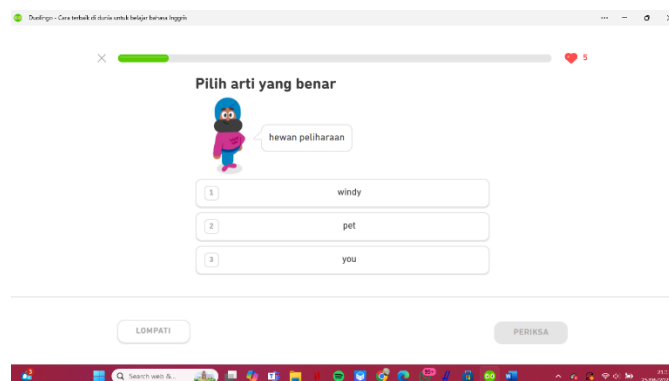


Figure II.3 Duolingo exercise word translation

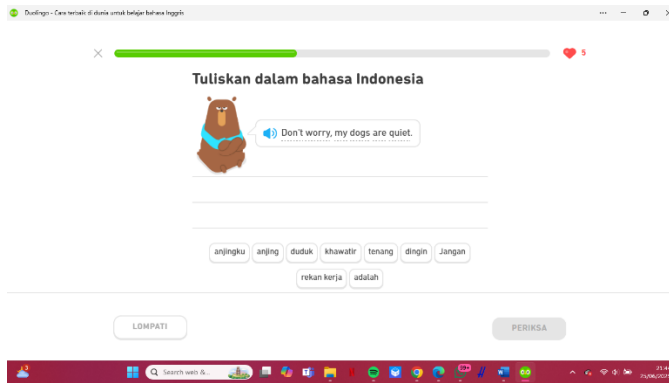


Figure II.4 Duolingo exercise sentence translation

- 4) Filling in blanks, users have to fill the blank space of the sentence by following the patterns or the picture given.

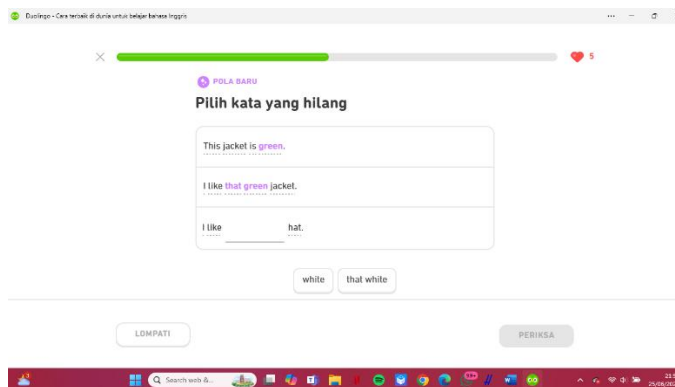


Figure II.5 Duolingo exercise word choosing

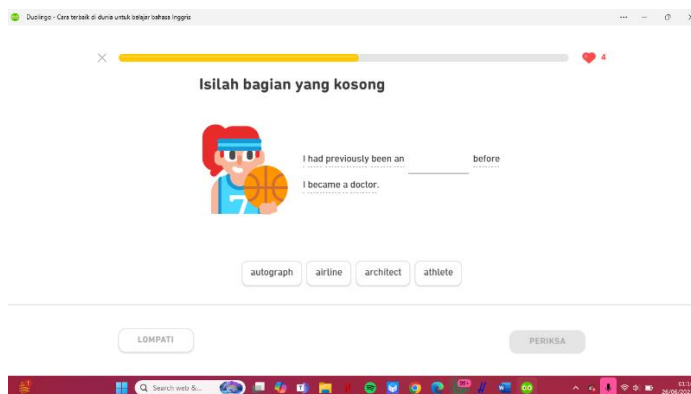


Figure II.6 Duolingo exercise filling in blank

- 5) Matching words to the translation, users asked to match each words given with the translation.

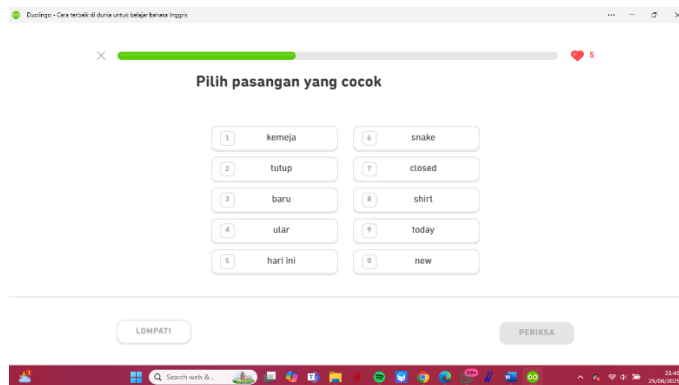


Figure II.7 Duolingo exercise translation matching word

- 6) Listening practice, users have to arrange the utterance in the audio given.

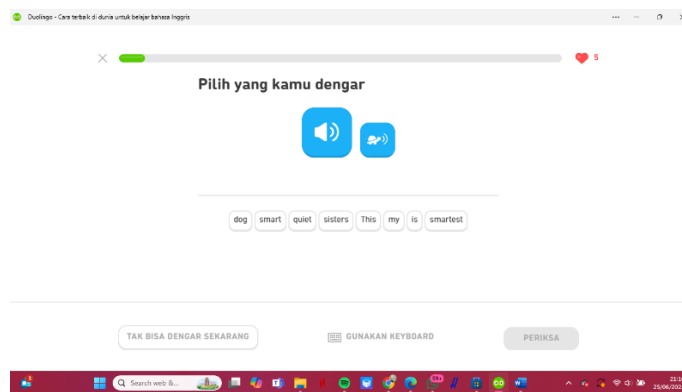


Figure II.8 Duolingo exercise listening practice

- 7) Speaking practice, users asked to speak repeating the utterance given.

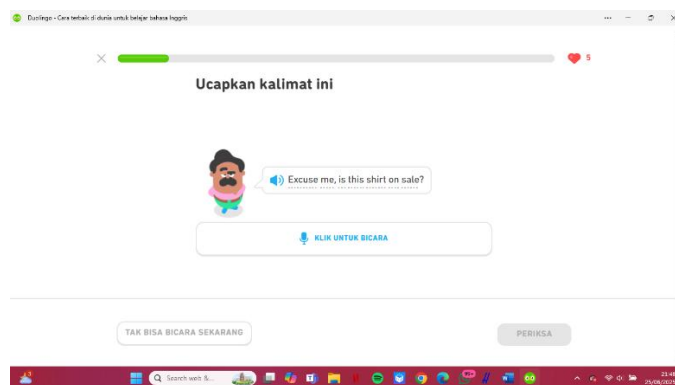


Figure II.9 Duolingo exercise speaking practice

By learning how college students feel about these features, we can better understand how Duolingo can support vocabulary in colleges students'.

2.3.3. Duolingo in Learning Vocabulary

Duolingo has a lot of features that help students learn new words in a structured and easy-to-understand way. The lessons start with short, easy sentences and then get harder with grammar and vocabulary. Each activity builds on the last one, so students can review what they've learned and learn something new at the same time. This step-by-step way of learning helps students remember new words better and learn how to use them in different situations.

Duolingo not only teaches you new skills, but it also gives you useful grammar tips in the form of examples before you start learning a new skill. These notes help students learn how to use words and sentence patterns correctly. This is especially useful for college students who are still learning how to speak and write and need clear instructions. The app also includes listening and speaking activities, matching games, and translation exercises, all of which make learning more active and enjoyable. Because Duolingo is designed like a game, it keeps learners motivated through points, levels, and daily streaks. This fun approach helps students stay consistent with their practice, which is very important for building vocabulary over time. This makes Duolingo feel less like a regular textbook and more like a fun way to learn for a lot of college students.

In conclusion, Duolingo helps you learn vocabulary by giving you a step-by-step and interactive way to do it. The simple design, helpful explanations, and fun activities make it a good and useful way for college students to learn new words in English. Many students might find Duolingo helpful for learning a new language because of its features.

2.4. Previous Studies

Several studies show that students generally have positive attitudes toward using Duolingo in language learning.

Jaelani and Sutari (2020) conducted a study to explore students' perceptions of using Duolingo to learn vocabulary. The participants were 30 second-grade students from a junior high school in Bogor. The researchers used surveys and interviews to find out that students liked Duolingo. They thought the app was useful, fun, and easy to use. It helped students learn new words both in and out of the classroom. After using the app, students were also more interested in and motivated to learn English. This study shows that Duolingo can help junior high school students learn new words

Nguyen and Dan (2024) looked into how Duolingo could help students understand what they hear in an EFL setting. There were 39 third-year English majors from Can Tho University in Vietnam who took part. The results showed that students liked Duolingo's listening features and thought they were fun and helpful for their language learning. The study's main goal was to look at listening skills, but the results also showed that using Duolingo regularly helped with other language skills, like vocabulary growth. The study backs up the idea that Duolingo gives students flexible and interactive ways to learn.

Renova and Kurniawan (2025) did qualitative research with English Education students at Universitas Muhammadiyah Surakarta to find out how they felt about using Duolingo to learn a language. The study found that people thought Duolingo was a fun and helpful way to learn English. Students liked how the app was interactive and had activities like matching sentences and vocabulary exercises. They said that Duolingo made them more interested in and motivated to learn English vocabulary. This study backs up the idea that Duolingo can be used to learn vocabulary, especially in college settings.

Apoko et al. (2023) did a study with 95 college students from different majors to find out how they felt about Duolingo as a tool for learning vocabulary. The study used both numbers and words to get information. Most students said that

Duolingo helped them learn more words. The fact that it was based on games, was flexible, and was easy to get to made it a good choice for self-study. This study shows that Duolingo can help college students learn new words.

In general, these earlier studies show that many people think Duolingo is a helpful and fun way to learn new words. A lot of students liked the app and got better at using English words. Most of the research that has been done so far has used quantitative or quasi-experimental methods. Very few studies have looked at college students' in-depth experiences with Duolingo over time. There aren't many studies that look at students' opinions in both quantitative and qualitative way. Also, these earlier studies looked at a number of things, such as how students generally felt about Duolingo, how it helped them learn new words, and how it affected specific skills like listening. The goal of this study is to fill that gap by looking at how students feel about Duolingo's vocabulary mastery program, focusing on its strengths and weaknesses, and using quantitative and qualitative method to get a better understanding of their learning experience.

III. METHODS

This chapter explains about the research methodology that includes place and time of the research, research methodology and design, participants of the research, research instruments, research data collection, and technique of data analysis.

3.1. Place and Time of The Research

This study will be completed between August and November of 2025, as planned. This research will take place at the University of Lampung. It is located at Jalan Prof. Dr. Jl. Prof. Dr. Ir. Sumantri Brojonegoro No.1, Kota Bandar Lampung, Lampung 35141.

3.2. Research Method and Design

The aim of this study is to explore college students' perceptions of how useful Duolingo is for vocabulary mastery. According to Creswell (2004), research design is the exact steps that are taken during the research process, such as gathering data, analyzing it, and writing a report. To do this, the researcher used a mixed-method design, which combined both qualitative and quantitative methods to get a better picture of the research topic (Creswell, 1999). A mixed methods research design is a procedure for collecting, analyzing, and mixing both quantitative and qualitative methods in a single study or a series of studies to understand a research problem (Creswell and Clark, 2011). This research method uses both types of data to provide different kinds of information. Closed-ended data are used to obtain quantitative data, while open-ended data are used to collect qualitative data.

This study employed a quantitative approach to measure and analyze students' perceptions of using Duolingo for learning English vocabulary. This method

provided an objective assessment of how effective the app is in enhancing students' vocabulary comprehension and mastery. To complement these findings, a qualitative approach was used to explore in more depth the factors influencing students' experiences, including the limitations and challenges they encounter while using Duolingo.

Quantitative data, such as scores obtained from research instruments, produce numerical results that can be statistically analyzed. These data help identify the frequency and strength of trends and are useful for describing patterns among a large group of participants. In contrast, qualitative data, such as open-ended interviews, capture participants' own words and provide multiple perspectives, offering a more detailed and nuanced understanding of the research topic. When one combines quantitative and qualitative data, "we have a very powerful mix" (Miles & Huberman, 1994, in Creswell, 2012).

Therefore, this study uses both quantitative and qualitative approach to explore college students' perceptions of using Duolingo to their vocabulary mastery, focusing on its' effectiveness and limitations. Data for the study will be collected through questionnaire and semi-structured interviews. The participants' responses will be presented descriptively to address the research questions.

3.3. Participant of the Research

In this study, the researcher used two types of data collection: close-ended questionnaires and in-depth interviews. The subjects of this study will be college students from the Faculty of Teacher Training and Education (FKIP), English Education Department major, at the University of Lampung who have been using the Duolingo app for at least one month or have completed Section 1 Unit 10 in the application. These criteria ensure that the participants have had enough experience to give relevant and meaningful responses. To obtain participants who meet the criteria, the researcher will distribute questionnaires to English Department students from the batch 2022, 2023, and 2024 through their respective representatives. At the beginning of the questionnaire, the

researcher will also provide a statement with a yes or no option to confirm whether the participants meet the required criteria.

Before doing the interviews, the researcher will distribute close-ended questionnaires to around 45 students that fulfil the criteria and willing to participate in this research. The purpose of conducting the questionnaire is to gather the information first, before dig the information deeper by doing in-depth interviews. To support and confirm the findings from the questionnaire, A total of 4-6 participants will be selected for in-depth interviews to explore their personal experiences and perceptions about using Duolingo to improve English vocabulary. In qualitative data collection, the number of participants is not based on statistics but on the richness of the information they can provide. Merriam (2009) state that there is no fixed rule for the number of participants in qualitative data collection. What matters is whether the data collected helps answer the research questions in depth.

This strategy is a form of data triangulation, which is used to strengthen the credibility of the findings. As explained by Miles and Huberman (1994), the trustworthiness of a research that has qualitative data in it relies more on the depth and meaning of the data rather than the number of participants

Therefore, combining 45 close-ended questionnaire respondents with 4-6 in-depth interview participants is considered appropriate and reasonable for this mixed-method design study.

3.4. Population and Sample

3.4.1. Population

The population refers to the complete group of individuals relevant to the research. It includes all people who share specific characteristics and qualities identified by the researcher as the focus of the study. In this research, the population consists of 427 active students from the English Education Department at the University of Lampung during the time the research was conducted.

3.4.2. Sample

A sample is a smaller part of the population that represents its main characteristics. In this study, purposive sampling was used to select participants who met certain criteria related to the research. Purposive sampling is a method where the researcher deliberately selects participants possessing particular experience or knowledge pertinent to the study, as opposed to random selection. The subjects of this study were students from the English Department at Universitas Lampung who utilized Duolingo for English vocabulary acquisition. The total number of participants in this study was 45 students, which was determined based on the number of respondents who met the predetermined criteria and were willing to participate in the study. This way, the information gathered could give useful information about their experiences, problems, and thoughts on using the app.

3.5. Research Instruments

This study employed two main instruments to collect data: a Likert-scale questionnaire and semi-structured interviews. These instruments are selected to gather the information first and explore students' perceptions of Duolingo in deeper level. Using more than one type of instrument allows for data triangulation, which enhances the credibility and trustworthiness of the findings. According to Merriam and Tisdell (2016), researchers often combine different data collection tools to enhance the credibility of the findings and provide a fuller picture of the phenomenon being studied. Likewise, Creswell (2013) supports the use of multiple forms of data collection in research, such as interviews, observations, and documents, to provide in-depth understanding.

3.5.1. Questionnaire

A Likert-scale questionnaire was given to 40 students from the same school who had used Duolingo before. This was done to get the information for this study. We used the questionnaire to get numbers about how students felt about using Duolingo to learn vocabulary. In this study that used both qualitative and quantitative methods, the

quantitative data were not seen as secondary or preliminary data, but as an equally important source of information. The questionnaire results were used to find general patterns and trends in how students saw things, and the interview data were used to give more detailed explanations and support for the numbers. The questionnaire consisted of 17 statements, each rated on a five-point Likert scale ranging from "strongly disagree" to "strongly agree." The items are grouped into four thematic areas:

- (1) Duolingo as a vocabulary learning tool,
- (2) limitations and difficulties they face,
- (3) vocabulary application in academic and real-life contexts, and
- (4) overall perception.

This structure allowed the researcher to gain a general understanding of how students perceive Duolingo in relation to their vocabulary development. The questionnaire items are adapted from the instrument used by Jaelani and Sutari (2020), who used a closed-ended instrument to investigate junior high school students' perceptions of using Duolingo, with adjustments to reflect the needs and experiences of college students as the subject of this study.

The rating scale serves to determine the outcomes of the questionnaire. The criteria were as follows:

Table 3.5.1. Scale of the Questionnaire

Scale	Criteria
1	Strongly Disagree
2	Disagree
3	Neutral
4	Agree
5	Strongly Agree

Table 3.5.2. Scores of Items

Criteria	Score	Total Items	Total Score of Items
Strongly Disagree	1	17	17
Disagree	2	17	34
Neutral	3	17	51
Agree	4	17	68
Strongly Agree	5	17	85

The table above indicates that the minimum score could obtained is 17 and the minimum score is 85.

3.5.2. Interview Guidelines

This study collected qualitative data through semi-structured interviews to gain a deeper understanding of students' perceptions regarding the use of Duolingo for vocabulary mastery. This interview format was chosen so that participants could answer in different ways and so that they would think about and share their own experiences with Duolingo. There were some main questions that guided the interviews, and when needed, probing and follow-up questions were used to make participants' answers clearer or more complete. The interview questions asked students how they use Duolingo to learn vocabulary, what they think of its strengths and weaknesses, and how useful the vocabulary they learned through the app is for both school and everyday conversation.

Four students were chosen through purposive sampling, with the primary criterion being regular use of Duolingo for English vocabulary acquisition for a minimum of one month or the completion of section 1, unit 10. The interviews took place in a comfortable setting, one-on-one, and recorded for transcription and analysis. To make sure everyone is clear and comfortable sharing their experiences, participants could respond in either English or Bahasa Indonesia.

Renova and Kurniawan (2025) used qualitative interviews to look at how students felt about Duolingo as a way to learn English. The interview guide was based on their work. Their study looked at general perceptions, but the questions in this one were changed to look at more specific things, like how well Duolingo works and what its limits are when it comes to vocabulary mastery, as well as how students used vocabulary in real life and in school. Merriam and Tisdell (2016) assert that interviews constitute one of the most potent instruments in qualitative research, as they enable participants to articulate their meaning-making processes in their own terminology. Creswell (2013) underscores the significance of interviews in qualitative research, especially when the objective is to comprehend perceptions and lived experiences within a defined system or context.

3.6. Table of Specification

Table 3.6.1. Table of Specification for Questionnaire

Variable	Dimension / Section	Indicator	Item Number	Scale	Source
Students' Perception of Duolingo for Vocabulary Mastery	Effectiveness	Perceived usefulness of Duolingo in learning and remembering vocabulary	1, 2, 3, 4, 5	Likert 1–5	Adapted from Jaelani & Sutari (2020)
	Limitations & Challenges	Difficulties, unclear vocab, internet/lives issue, limited topics	6, 7, 8, 9, 10	Likert 1–5	Adapted from Jaelani & Sutari (2020)
	Practical Use & Application	Application of learned vocabulary in academic and real-life contexts	11, 12, 13, 14, 15	Likert 1–5	Adapted from Jaelani & Sutari (2020)
	Overall Perception	General perception and recommendation	16, 17	Likert 1–5	Adapted from Jaelani & Sutari (2020)

Table 3.6.2. Table of Specification for Interview

Variable	Dimension	Indicator	Question Number	Notes	Source
Students' Perception of Duolingo for Vocabulary Mastery	Effectiveness	Experience, helpfulness, effectiveness, useful features	Q1, Q2, Q3, Q4	Semi-structured, open-ended	Adapted from Renova & Kurniawan (2025)
	Limitations & Challenges	Challenges, limitations, need for other sources, suggestions for improvement	Q5, Q6, Q7	Semi-structured, open-ended	Adapted from Renova & Kurniawan (2025)
	Practical Use & Application	Application of vocabulary in real-life or academic contexts	Q8	Semi-structured, open-ended	Adapted from Renova & Kurniawan (2025)
	Overall Perception	Comparison with other methods, overall experience	Q9, Q10	Semi-structured, open-ended	Adapted from Renova & Kurniawan (2025)

3.7. Research Data Collection

To carry out the study, the researcher followed several steps for collecting the research data. Since this research use a mixed-method design, the data collection involved two instruments: Likert-scale questionnaire to gather the information and semi-structured interviews as the main source. This approach aimed to gain both broader patterns and in-depth personal insights of perception regarding the use of Duolingo for vocabulary mastery.

According to Creswell and Clark (2018), In a mixed methods explanatory sequential design, integrative data analysis is conducted in three stages. First, the quantitative data are analyzed. Next, the qualitative data are analyzed. Finally, the qualitative findings are used to explain and support the quantitative results in answering the qualitative research question. This procedure includes the following steps:

- Analyze the quantitative database and note statistical results that need further explanation.
- Determine the purposeful sample (usually selected from individuals who participated in the quantitative phase) that can best provide explanation.
- Design qualitative data collection procedures that identify the types of questions that need to be answered by the purposeful sample.
- Collect and analyze the qualitative data.
- Develop a table or graph (joint display) that illustrates how the qualitative results enhance the quantitative results.
- Interpret the value added by the qualitative explanations

Based on the theory proposed by Creswell and Plano Clark (2018), the researcher conducted the following sequential steps. The first step is preparing the questionnaire, it will be distributed to 40 college students from the same institution who also met the participant criteria. The questionnaire is developed using a Likert scale and consist of 17 statements grouped into key categories: effectiveness, engagement, vocabulary application, limitations, and overall perception. The purpose of this instrument is to gather the information before collecting the interview data by identifying broader patterns in students' perceptions.

The questionnaire will be administered online using Google Forms and shared via class groups and direct invitations. Before answering, participants are given a brief explanation of the study and assured that their responses would be kept anonymous. The questionnaire will intended for quantitative analysis, it provided useful supporting data to triangulate the themes that emerged from the interviews. As stated by Merriam and Tisdell (2016), triangulation through multiple data sources enhances the credibility and trustworthiness of the research.

3.7.1. Quantitative data collection procedure

To gain in depth data, four categories of interview questions will be developed to encourage detailed responses from students about their use of Duolingo to support vocabulary learning. These questions were designed based on the research objectives and supported by related theories, and they will be reviewed and approved by the researcher's academic advisors before being finalized.

Participants for the interview consisted of eight college students who met one of the following criteria:

- (1) they had used Duolingo for at least one month, or
- (2) they had completed up to Section 1, Unit 10 in the application.

These criteria ensured that the participants had meaningful and sufficient experience with Duolingo's vocabulary learning features.

3.7.2. Qualitative data collection procedure

The interviews took place in person, over the phone, or online, depending on what the participants wanted. The researcher and the participant chose a place for each interview session that was private and allowed them to focus. Before each session, the researcher told the participants what the study was about and that they could choose to take part. They also promised that their answers would be kept private. Participants could answer in either English or Bahasa Indonesia, depending on which language they felt more comfortable using. This was done to make sure everyone understood and was comfortable.

Each interview took about ten minutes. Permission were asked to everyone who took part in the interviews to record them so that we could be sure the data was correct when we typed it up. The researcher wrote down the recordings after each session so they could be looked at again. The semi-structured interview format let the researcher ask follow-up questions when needed to get more information about the participants'

answers. This method is in line with Creswell's (2013) advice to let participants naturally share their thoughts and experiences.

When using mixed methods research, quantitative and qualitative data are often reported separately and then combined at the interpretation stage. The researchers looked at the questionnaire's quantitative data and the interviews' qualitative data as equally important sources of information. As Creswell (2013) suggested, the qualitative results were then used to explain and back up the quantitative results.

This study was able to get both general patterns of how students think and deep personal experiences by using both questionnaires and interviews. This combination gave us a better and more complete picture of how college students see Duolingo's role in helping them learn English vocabulary.

3.8. Technique of Data Analysis

The questionnaire in this study used closed-ended questions to explore students' perceptions of using Duolingo for vocabulary learning. The questionnaire was distributed before the interviews to collect quantitative data and identify general patterns in students' responses. The questionnaire results were analyzed as quantitative data using SPSS. The analysis included validity testing using the Pearson Product Moment correlation and r-table in SPSS, and descriptive statistical analysis to identify patterns in students' responses. The interpretation focused on how students responded to each item, including their tendency to agree, disagree, or select neutral options.

However, the researcher did not simply assume that agree always meant a positive opinion or that disagree always meant something negative. Instead, the meaning of each response will be understood based on the content and direction of each statement. If students agreed with a positive statement such as "Duolingo helps me remember new words," this showed a positive perception. But if they agreed with a negative statement like "I feel confused when using Duolingo," this showed a possible challenge or problem. The results from the

questionnaire will also be supported by the interview findings. This process, called triangulation, helped make the conclusions stronger and more trustworthy by using information from more than one source.

The next step is transcribing the interview recordings word-for-word. This helped make sure that the students' answers are recorded exactly as they said them. During this step, the researcher also removed any personal information to keep the participants' identities private. These transcripts served as a solid and trustworthy base for the next steps in the analysis. After transcribing, the researcher read through all the transcripts several times to become fully familiar with the data. This helped the researcher better understand the meaning and details in each response.

According to Miles and Huberman (1994), data analysis includes three main activities that happen at the same time: data reduction, data display, and drawing/verifying conclusions. These are explained below:

a) Data Reduction

Data reduction means choosing the most important parts of the information, focusing on them, and summarizing or organizing them. This step helps to sort out the useful data from the extra details. The researcher also used coding, identified themes, grouped similar answers, and wrote notes to help make sense of the data. Reducing the data helps make it easier to find clear and meaningful results.

b) Data Display

This step involves showing the information in a way that is easy to understand, such as using tables, charts, or diagrams. This helps the researcher see patterns and decide what the data might be saying. A clear display of the data makes it easier to draw conclusions and decide if more analysis is needed.

c) Conclusion Drawing and Verification

In this part, the researcher looks at the data to find the overall meaning and main findings. The researcher then concludes the obtained data, which can describe an object.

V. CONCLUSION AND SUGGESTION

This chapter presents the conclusion of the study and several suggestions based on the findings discussed in the previous chapter. The conclusion is drawn to answer the research questions and reflect the overall results of the study, while the suggestions are provided for students, educators, application developers, and future researchers.

5.1. Conclusion

This study looked at what college students thought about using Duolingo to learn vocabulary. The combined results from the questionnaire and interviews indicate that students generally hold a favorable view of Duolingo for vocabulary acquisition. Most students thought Duolingo was easy to use, useful, and a good way to learn new words. Students were more likely to use the app regularly because they thought the vocabulary activities were simple and easy to understand.

The results also show that Duolingo helps students learn more words and use them in everyday conversations and schoolwork. Students said they could use the words they learned from Duolingo in real-life conversations, on campus assignments, and when reading and understanding written texts. This means that Duolingo helps people use vocabulary in both receptive and productive ways, especially for basic and common words.

But even though these are good things, the study also found that Duolingo has some problems and limitations when it comes to helping people learn vocabulary. The combined data show that Duolingo doesn't give students enough examples and explanations of how to use words, which could make it

harder for them to understand how words work in different situations. Also, students thought that Duolingo alone was not enough to learn vocabulary well and that it needed to be used with other resources like books, videos, or course materials.

Technical problems and app features also turned out to be big problems. It was said that students' learning was interrupted and slowed down by their reliance on an internet connection and the limited "hearts" system. Also, the fact that there weren't many different vocabulary topics was seen as a problem, especially for students who needed a wider range of vocabulary for school or advanced purposes.

In general, this study finds that Duolingo is a useful and fun way for college students to learn new words, especially those who are just starting out or are at an intermediate level. However, it doesn't work as well when it's the only way to learn. So, the best way to use Duolingo is as an extra tool along with other learning materials to learn more vocabulary.

5.2. Suggestion

Based on the findings of this study, several suggestions are proposed. For students, Duolingo is recommended to be used as a complementary learning tool rather than the only source of vocabulary learning. Combining Duolingo with other resources, such as textbooks, videos, or classroom materials, may help students gain a better understanding of vocabulary use and context.

For educators, Duolingo can be used as a supporting learning medium because students in this study perceived the application as interesting and enjoyable. Lecturers may integrate Duolingo into vocabulary learning activities to increase students' engagement and motivation, especially for independent practice outside the classroom, while still providing guidance during formal instruction.

For college students, Duolingo can be used as a supportive tool to help improve vocabulary learning, especially for basic vocabulary practice. However,

students are advised not to rely only on the app and to use it with other learning tools to get a better understanding on how to use vocabulary. Also, students should use Duolingo regularly and learn the way to use its features well to keep making progress in their studies.

Future researchers may explore the use of Duolingo with diverse participant groups or different proficiency levels. Future research may also examine the long-term impact of Duolingo on vocabulary mastery using different research designs. In addition, future studies are recommended to implement Duolingo in actual classroom settings to observe its effectiveness in a more structured learning environment. However, researchers may need to consider the time required for participants to reach certain learning goals within the application.

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