

CHAPTER I

INTRODUCTION

This chapter presents the background of the research, the research problem, the research questions, the research objectives, the significance of the research, and the scope and limitation of the study. It provides an overview of the research focus and the rationale for examining the effectiveness of the Duolingo application on students' vocabulary mastery.

A. Background of the Research

Vocabulary mastery is one of the most essential aspects of learning English, particularly in the context of English as a Foreign Language (EFL). Vocabulary serves as the foundation for developing other language skills, including listening, speaking, reading, and writing. Without sufficient vocabulary knowledge, students may experience difficulties in understanding texts, expressing ideas, and communicating effectively in English. Therefore, vocabulary mastery plays a crucial role in determining students' overall English proficiency and academic achievement. According to Nation, vocabulary knowledge is central to language use because learners need a sufficient number of words to comprehend and produce language successfully.¹ Similarly, Schmitt states that vocabulary is a key component of communicative competence and language acquisition.² Thus, vocabulary

¹ I. S. P. Nation, *Learning Vocabulary in Another Language*, Third edition, Cambridge Applied Linguistics Series (Cambridge University Press, 2022), 15.

² Norbert Schmitt, *Vocabulary in Language Teaching*, Cambridge Language Education (Cambridge University Press, 2000), 4.

mastery should become one of the primary focuses of English language instruction at the junior high school level.

Ideally, English language learning should facilitate the systematic development of vocabulary through meaningful exposure, repeated practice, and the use of vocabulary in relevant contexts so that students can actively use English in authentic communication situations. However, in reality, many students still experience difficulties in mastering English vocabulary. They often struggle to memorize new words, understand word meanings in context, and use vocabulary appropriately in speaking and writing activities.³ Based on preliminary observation conducted at MTsS GUPPI Pogalan Trenggalek, several eighth-grade students showed limited vocabulary knowledge and lacked motivation to learn vocabulary through conventional teaching methods. This issue was further empirically evidenced by the students' vocabulary pre-test results involving 26 respondents. The descriptive analysis revealed that the students' initial vocabulary mastery was far from optimal; 38.5% (10 students) scored in the low category, and the majority, namely 57.7% (15 students), fell into the moderate category, while only a mere 3.8% (1 student) managed to achieve a high score. This condition clearly indicates that the students' initial vocabulary mastery is not yet well-developed and confirms that an

³ Hazratqulova Robiya et al., *THE ROLE OF VOCABULARY IN LEARNING LANGUAGE*, 2, no. 5 (2024).

innovative, engaging learning strategy is urgently needed to improve students' vocabulary mastery.

Furthermore, vocabulary mastery has become increasingly important as students are expected to develop strong academic abilities to face future educational challenges. One of the national assessments that measures students' academic competence in Indonesia is the Academic Ability Test (Tes Kemampuan Akademik/TKA). Although eighth-grade students have not yet taken the TKA, strengthening vocabulary mastery from an early stage is essential because vocabulary knowledge supports reading comprehension, language understanding, and overall English achievement, which are important aspects in academic assessments and future learning success.⁴ Therefore, improving vocabulary mastery is not only important for present learning outcomes but also serves as an early preparation for students' future academic challenges.

To address these challenges, technology-based language learning has gained considerable attention. One of the most widely discussed approaches is Mobile Assisted Language Learning (MALL), which refers to language learning supported by mobile devices such as smartphones and tablets. MALL provides flexible, accessible, and interactive learning opportunities, allowing students to learn anytime and anywhere according

⁴ Kementerian Pendidikan Dasar dan Menengah Republik Indonesia, 'Hasil Tes Kemampuan Akademik (TKA)', Kementerian Pendidikan Dasar Dan Menengah, 2025, <https://tka.kemendikdasmen.go.id/hasiltka/>.

to their own pace.⁵ The integration of mobile technology into language learning has been found to increase students' motivation, engagement, and learning autonomy. Moreover, recent studies have shown that mobile-assisted vocabulary learning contributes positively to vocabulary acquisition and students' learning outcomes.⁶

Among various MALL applications, Duolingo is one of the most popular language learning platforms used worldwide. Duolingo incorporates various educational features, including gamification, immediate feedback, repetition, and adaptive learning, which support vocabulary acquisition in an enjoyable and interactive way.⁷ Through game-like activities, students are encouraged to practice vocabulary regularly while receiving instant feedback on their learning progress. The application also provides personalized learning experiences that adapt to learners' abilities and progress, making vocabulary learning more engaging and effective.⁸

Several previous studies have demonstrated the effectiveness of Duolingo in improving students' vocabulary mastery. Pradana and Ramendra found that Duolingo significantly improved students' vocabulary

⁵ Shawn Loewen et al., 'Mobile-Assisted Language Learning: A Duolingo Case Study', *ReCALL* 31, no. 3 (2019): 293–311, <https://doi.org/10.1017/S0958344019000065>.

⁶ Kübra Okumuş Dağdeler, 'A Systematic Review of Mobile-Assisted Vocabulary Learning Research', *Smart Learning Environments* 10, no. 1 (2023): 19, <https://doi.org/10.1186/s40561-023-00235-z>.

⁷ Duolingo, Inc., 'About Duolingo', Duolingo, accessed 26 January 2026, <https://www.duolingo.com/info>.

⁸ Mitchell Shortt et al., 'Gamification in Mobile-Assisted Language Learning: A Systematic Review of Duolingo Literature from Public Release of 2012 to Early 2020', *Computer Assisted Language Learning* 36, no. 3 (2023): 517–54, <https://doi.org/10.1080/09588221.2021.1933540>.

mastery and writing competence among eighth-grade students.⁹ Similarly, Nurhayati and Suryaman reported that the implementation of Duolingo increased students' vocabulary mastery as well as their motivation to learn English.¹⁰ Aliya also revealed that Duolingo effectively enhanced vocabulary mastery among ninth-grade students in an Islamic junior high school.¹¹ Furthermore, Yuniar, Syawal, and Hijrah found that the AI-based Duolingo application significantly improved vocabulary mastery among Indonesian EFL learners.¹² In addition, a systematic literature review conducted by Rouabhia and Kheder concluded that Duolingo has a positive impact on vocabulary learning due to its interactive and gamified features.¹³

However, despite the growing number of studies on Duolingo and vocabulary learning, most previous studies have been conducted in general junior high school settings. Although some studies have investigated the effectiveness of Duolingo among madrasah students, they were primarily conducted in urban educational contexts and involved different student populations. For instance, Aliya examined the effectiveness of Duolingo

⁹ Wayan Radita Yuda Pradana and Dewa Putu Ramendra, *THE EFFECTIVENESS OF USING DUOLINGO ON STUDENTS' VOCABULARY MASTERY AND WRITING COMPETENCE OF THE EIGHTH GRADE STUDENTS*, 18, no. 02 (2023).

¹⁰ Evi Nurhayati and Maman Suryaman, 'The Implementation of the Duolingo App in Increasing Students' Vocabulary Mastery', *Jurnal Pendidikan Bahasa Inggris Undiksha* 11, no. 3 (2024): 258–63, <https://doi.org/10.23887/jpbi.v11i3.47287>.

¹¹ Annisa Faza Aliya, *DEPARTMENT OF ENGLISH EDUCATION FACULTY OF EDUCATIONAL SCIENCES SYARIF HIDAYATULLAH STATE ISLAMIC UNIVERSITY JAKARTA*, n.d.

¹² Yuniar Yuniar et al., 'The Effectiveness of AI-Based Application Duolingo in Enhancing Students' Vocabulary Mastery among Indonesian EFL Learners', *Sintaksis : Publikasi Para Ahli Bahasa Dan Sastra Inggris* 4, no. 1 (2026): 30–41, <https://doi.org/10.61132/sintaksis.v4i1.2463>.

¹³ Ridha Rouabhia and Khalefa Kheder, 'Using Duolingo in Teaching and Learning Vocabulary: A Systematic Review', *Indonesian Journal of English Language Studies (IJELS)* 10, no. 2 (2024): 91–107, <https://doi.org/10.24071/ijels.v10i2.8873>.

among ninth-grade students at MTs Islamiyah Ciputat, South Tangerang.¹⁴ Studies focusing on eighth-grade students in rural madrasah contexts remain limited. Therefore, a research gap exists regarding the effectiveness of Duolingo in improving vocabulary mastery among students in rural madrasah settings.

Based on this gap, this study offers novelty by investigating the effectiveness of using the Duolingo application on students' vocabulary mastery among eighth-grade students at MTsS GUPPI Pogalan Trenggalek, a rural madrasah context that has received limited attention in previous studies. Unlike earlier research that predominantly involved students in urban educational settings, this study focuses on students in a rural madrasah environment and employs a pre-experimental design to examine the effectiveness of Duolingo in improving vocabulary mastery.

B. Research Problem

Based on the preliminary observation conducted on January 19th, 2026, the discussion with the English teacher, and the results of the vocabulary pre-test administered on May 11th, 2026, the research problems are identified as follows:

1. Vocabulary learning in the eighth grade of MTsS GUPPI Pogalan Trenggalek is still dominated by traditional teaching methods, particularly memorization based activities, which provide limited

¹⁴ Aliya, DEPARTMENT OF ENGLISH EDUCATION FACULTY OF EDUCATIONAL SCIENCES SYARIF HIDAYATULLAH STATE ISLAMIC UNIVERSITY JAKARTA.

opportunities for students to learn vocabulary through meaningful and interactive experiences.

2. Students demonstrate low engagement in vocabulary learning activities. Based on the discussion with the English teacher, many students tend to participate passively during vocabulary lessons and show limited interest in learning new words.
3. The results of the vocabulary pre-test indicate that students' vocabulary achievement still needs improvement. Of the 26 students who participated in the pre-test, the average score was only 60.69, with the highest score being 82 and the lowest score being 44.
4. The use of technology-based learning media, particularly game-based language learning applications such as Duolingo, has not been optimally implemented to support vocabulary learning and increase students' engagement in the classroom.
5. Previous studies have generally reported positive effects of Duolingo on vocabulary learning; however, studies investigating its effectiveness among eighth-grade students in madrasah settings, particularly at MTsS GUPPI Pogalan Trenggalek, remain limited.

C. Research Questions

Based on the identified problems, the research question is formulated as follows: Is there a significant difference in eighth grade students' vocabulary mastery scores before and after being taught using the Duolingo application at MTsS GUPPI Pogalan Trenggalek?.

D. Research Objectives

Based on the research question, the objective of this research is as follows: To determine whether the vocabulary mastery of eighth grade students at MTsS GUPPI Pogalan Trenggalek has undergone significant changes before and after the implementation of the Duolingo application.

E. Significance of the Research

1. Theoretical Importance

This research contributes to the theoretical framework of EFL vocabulary teaching, particularly in Mobile Assisted Language Learning (MALL), by providing empirical evidence on gamified mobile applications in formal madrasah education.

2. Practical Significance

For English Teachers

This research provides English teachers with empirical evidence and practical guidance on the use of Duolingo as an alternative learning medium to support vocabulary instruction, increase students' engagement, and create more interactive learning experiences compared to conventional memorization-based methods.

For Madrasah Schools

This research may serve as a reference for madrasah schools in integrating technology-based learning media, particularly Mobile

Assisted Language Learning (MALL) applications, to enhance the quality of English vocabulary instruction.

For Students

The findings of this research are expected to encourages students to learn and practice English vocabulary independently through Duolingo in a more engaging, interactive, and enjoyable way, thereby supporting the improvement of their vocabulary mastery.

F. Scope and Limitation

This research focuses on examining whether there is a significant difference in students' vocabulary mastery before and after the use of the Duolingo application among eighth grade students at MTsS GUPPI Pogalan Trenggalek. Vocabulary mastery is operationalized as the ability to identify, understand, and use English words correctly.