
Duolingo: A Qualitative Study on Vocabulary Acquisition

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ekawahyuni@undiksha.ac.id**Abstract**

This qualitative study aims to investigate how the teacher implements the Duolingo application as an English vocabulary learning media and to explore students' opinions on using the Duolingo application in one public high school in Bali. The data in this study were collected through interviews, classroom observation, and questionnaire. The findings show that the teacher integrated the Duolingo application during the activity stage by elaborating on brain warm-up activities adopted from questions, exercises, and material in the Duolingo application. The main activity of using the Duolingo application as a learning medium was divided into several groups, and then the teacher instructed students to work on the learning targets available in Duolingo with sections and units that the teacher had determined. Students reported that learning to use Duolingo provided an engaging and practical experience and helped them improve their vocabulary skills significantly. Students highlight the interactive features of the Duolingo application as motivated and user-friendly, leading to consistent vocabulary learning habits. These findings suggest that integrating Duolingo in the language classrooms can enhance vocabulary and student engagement, offering educators tools to support traditional teaching methods and promote active, self-directed learning



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INTRODUCTION

Vocabulary mastery is essential in learning English, significantly impacting students' communication skills and academic performance (Afzal, 2019). However, many students struggle with vocabulary acquisition, leading to difficulties in pronunciation, spelling, and confidence in using English (Okkan & Aydın, 2020). Ineffective teaching methods, such as rote memorization without context, often confuse students and make vocabulary learning tedious (Romatilah, 2014). Limited exposure to English outside the classroom, particularly in non-English speaking environments like Indonesia, hinders students from practicing and reinforcing their vocabulary skills. A lack of resources, such as access to English books, digital tools and interactive learning platforms, further exacerbates these challenges (Okkan & Aydın, 2020). These barriers contribute to difficulties in pronunciation, spelling, and confidence in

using English.

With technological advancements, traditional learning methods are being supplemented by digital tools, particularly in vocabulary learning (Khatoony & Nezhadmehr, 2020; Zhonggen, 2018). Technology also benefits teachers by streamlining administrative tasks, such as managing attendance, preparing lesson plans, and assessing students (Bond et al., 2018; Shraim, 2019). Project-based learning is more effective when integrated with technology, creating an engaging learning atmosphere (Padmadewi et al., 2021). For students, digital tools enhance various skills, including reading, writing, listening, and speaking, through video-based learning (Ghavifekr & Rosdy, 2015). However, Kusuma (2022) claims that technology-based learning is ineffective in rural areas because the teacher is not qualified enough. This issue can be solved with Blended teaching. It combines continuous learning by using e-learning combined with traditional face-to-face teaching methods in the classroom and learning independently (Arta et al., 2019). There are six basic teaching skills determined by the Partnership for Advance Clinical Education (PACE), including (1) Learning opening skills, (2) Planning, (3) Presentation/Teaching, (4) Student presentations to see understanding, (5) Use of learning media, (6) Closing the lesson (Padmadewi et al., 2021). Luciana (2020) states that lesson plans implemented in Indonesia must contain several aspects, such as strategies, materials, different goals based on students' needs, and assessment.

Purnawan et al., (2022) stated that learning using gamification has beneficial effects that impact student success and progress by providing personal and meaningful feedback and vocabulary material through various exciting features. Duolingo is one of the gamification apps used not only for independent learning but also in classroom learning, with participants divided into two levels: beginners and intermediate (Ahmed, 2015). Duolingo can naturally improve a person's language skills with the regularity provided (Suryana et al., 2021). However, Apoko et al. (2023) stated that Duolingo is difficult to use and cannot be accessed without an internet connection. Duolingo also contains advertisements that sometimes make the users uncomfortable, and premium features must be purchased if users want to get certain facilities or features. Students will be invited to practice regularly at varying times according to their choice, so naturalization will give them fluency and familiarity in learning the language.

Previous studies recognized that students responded positively and were interested in learning English with Duolingo to improve vocabulary mastery (Apoko et al., 2023; Klimova & Polakova, 2020). The studies discussed student perceptions regarding technology-based learning or mobile-assisted language learning (MALL), and both have learning outcomes that refer to positive responses or provide results that students feel that learning English, especially vocabulary, will be more effective. A study conducted by Ajisoko (2020) produced findings that Duolingo is very helpful in improving students' vocabulary mastery. Similar positive findings can be found in research conducted by Hidayah and Asari (2022) in their study on the analysis of motivation for learning English through the Duolingo and Hello English applications, which showed that more than half of non-English major college students were motivated and felt enjoyed when using these two applications. This study supports the idea that mobile-assisted language learning, Duolingo, helps students learn English, including vocabulary and fundamental skills (reading, listening, writing, speaking). Preliminary observations at Public High School in Bali indicate that Duolingo is effectively used as a

vocabulary learning tool, helping students improve their cognitive and social-emotional skills. Research also highlights positive student perceptions of Duolingo, reinforcing its role as an effective vocabulary learning medium (Apoko et al., 2023; Klimova & Polakova, 2020). While previous studies highlight Duolingo's positive impact on student motivation and language proficiency, gaps remain in understanding its implementation in classroom settings and its effectiveness in Indonesian public schools. This study addresses these gaps by exploring how Duolingo is integrated into classroom teaching and examining students' perceptions, offering insights for educators seeking to incorporate technology-based tools for vocabulary learning.

METHOD

Design

This research adopted a descriptive qualitative research design. This method suitable for this study because it allowed in-depth exploration of complex phenomena, such as integration of Duolingo in vocabulary learning and students' opinion of this application. According to Creswell (2015), qualitative research starts with understanding a unique phenomenon and gives overall attention to the actual situation. This research investigated gamification-based learning: (1) How does the teacher implement the Duolingo application in learning English vocabulary? (2) What are students' opinions on using the Duolingo application? This research was conducted at one public high school in Bali.

Participants

The subjects of this research are 8th-grade students and an English teacher who uses the Duolingo application as a learning media. The teacher who teaches are proficient in the use of technology and have good teaching experience. The subject criteria of this research are a teacher who has experience using the Duolingo application for at least one semester and students who already have experience learning vocabulary using the Duolingo application.

Data Collection

For the data collection process, the researcher uses triangulated data collection to answer all research questions. It combined the classroom observation, questionnaires, and interviews, which are usually used in qualitative research to further strengthen the data collection results to strengthen the data collection results further.

Data Analysis

The researchers used thematic analysis adopted from Braun and Clarke (2006) which includes includes six steps: familiarizing data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the report.

FINDINGS AND DISCUSSIONS

This research finding from classroom observations revealed that the Duolingo application functions as a learning media used by the teacher and was focused on vocabulary learning, starting with brain warm-up activities, working on practice questions or quizzes in Duolingo to student presentations which adapted to the material so that in one lesson could include learning outcomes in the module as well as vocabulary and target practice in the Duolingo app.

Table 1. Observation Sheet Summary

Indicator	Teacher's Activity	Student's Activity
Pre-activity	The teacher enters and greets the class, The class leader leads Pelajar Pancasila greeting,	Students stand up to greet the teacher, followed by the class leader leading the

Whilst activity	<p>the Teacher leads a prayer, The teacher explains the material and activities to be done.</p> <p>The teacher explains "Recount Text," covering past tense changes, auxiliary verbs, and regular/irregular verbs. Summative sheets are distributed, and a warm-up game is conducted. Students form groups and complete a 15-minute Duolingo quiz (minimum score 60). After performing the Puja Tri Sandya, each group presents their Duolingo learning outcomes and new vocabulary. The teacher reviews mistakes using Duolingo's "Kesalahan" feature, re-explains the material, and ensures understanding. Students submit quiz scores via a Google Drive link, and the teacher encourages using the "Duolingo Friend" feature for mutual progress.</p>	<p><i>Pelajar Pancasila</i> greeting. All students pray together before listening to the teacher's explanation and directions. Students listen to the teacher's explanation on the topic of "Recount Text" and participate in warm-up games. They ask questions about the simple past tense, then gather in their groups to complete a targeted quiz on Duolingo. After performing the <i>Puja Tri Sandya</i>, each group presents their learning outcomes, including new vocabulary, scores, and progress. Students review their quiz errors using the "Kesalahan" feature and listen to the teacher's explanation of common mistakes, particularly in past tense usage. Group representatives submit Duolingo scores via the provided Google Drive link, and students check their progress with peers through the "Duolingo Friend" feature.</p>
Post-activity	<p>The teacher provides appreciation and feedback from the learning process, deliver learning material that will be studied in the following week, the teacher leads prayer after learning, and the teacher gives greetings.</p>	<p>Students receive appreciation and feedback from the teacher, listen to an explanation of the material for the next meeting, pray together after learning, and greet the teacher before leaving.</p>

The observation shows that teachers effectively integrate Duolingo into vocabulary learning, aligning with teaching module procedures and classroom objectives like 'recount text' and past tense usage. Teachers use Duolingo for formative and summative assessments (minimum score of 60). In pre-activities, they prepare students without Duolingo, focusing on material introduction. Teachers have been using Duolingo in core activities since 2021 to enhance engagement and replace traditional methods. Over six observed lessons on 'recount text' consistently incorporated Duolingo, with activities including brain warm-ups like past tense word connection games and crossword puzzles adapted from Duolingo content, encouraging discussion, critical thinking, and teamwork. Teachers ensure Duolingo themes align with classroom topics by pre-assessing app content and creating related activities. After warm-ups, students use Duolingo for quizzes in groups, limited to one target per session for ten minutes, engagingly reinforcing the day's material.

Teacher used Duolingo as a creative tool to teach English vocabulary, adapting it to students' modern needs. Initially, teachers faced challenges in mastering the app, but after personal use, they found its features engaging, including progress tracking and themed lessons, motivating students to learn new vocabulary daily. Students, often bored with traditional methods, respond well to technology-based learning. Duolingo offers an easy-to-use platform, though requiring internet access. However, limited access to gadgets remains a challenge in rural areas like the setting of this study, where not all students own smartphones or have devices with adequate capacity. To address this, teachers implement group-based learning, ensuring

every student participates regardless of device ownership. Group work fosters collaboration and ensures equal learning opportunities, with the highest group score submitted. Observations confirm that forming groups at the start of lessons helps maintain smooth learning processes despite technological limitations.

Based on the results of the in-depth interview, the initial challenge encountered by teachers was adapting to using the Duolingo application. The teacher feels he is the first person to master how to use and learn the system in Duolingo before using the application as a medium for learning English vocabulary in the classroom. The adaptation process is not short, and it takes weeks to learn the features provided in the Duolingo application. The Duolingo application provides learning from beginner to advanced level, so teachers must first review which level is appropriate for 8th-grade junior high school students. Therefore, Duolingo's learning features and themes also vary and follow what is needed to support learning.

"I like studying using the Duolingo application because we can enjoy playing games and learning with it." **Excerpt 1, S.1**

Student stated that learning vocabulary with the Duolingo application provided an enjoyable experience that made them feel interested and enthusiastic when studying with the Duolingo application. Students think the learning process is not tiresome because they can experience learning while playing games.

"Duolingo allows me to compete with friends, so I am enthusiastic about learning."
Excerpt 2, S32

Even though vocabulary learning at school is used in groups, students are still asked to complete targets on each account to maintain their progress and learning progress. Students said that learning with friends can increase their enthusiasm for learning and encourage them to apply healthy competition so that they can compete to complete the weekly targets required by the teacher. Duolingo can motivate students to learn vocabulary regularly and consistently. Based on students' opinions, when they learn to use Duolingo media, they find much vocabulary that can be used for daily conversations, and they need this vocabulary to understand learning material at school.

In the learning process, the teacher acted as a facilitator, guiding students in using Duolingo, selecting appropriate levels, and integrating it with task-based learning methods. The teacher ensured all students experience the same learning stages and monitors their progress through features like "Duolingo Friends." The learning process using Duolingo is divided into pre-activity (preparation and introduction), whilst activity (main learning with Duolingo quizzes, group presentations, and error reviews), and post-activity (feedback and appreciation).

Students find Duolingo engaging due to its gamification, interactive features, and feedback system, which motivates them to learn vocabulary consistently. Features like pronunciation practice and rewards enhance their learning experience. However, challenges like limited access to gadgets, internet dependency, and the repetitive nature of some exercises. Teachers address these by implementing group work and ensuring fair participation. Despite these challenges, Duolingo activities align with curriculum objectives, focusing on vocabulary acquisition and supporting overall language learning through systematic, structured lessons.

The Duolingo application is a popular learning application that can help with language learning and mastery, including mastering English vocabulary. The Duolingo application uses a gamification approach, which can make the learning process more interactive and fun. Gamification is a game-based technique that can create more innovative, aesthetic, engaging, motivating, and educational learning activities (De Wilde et al., 2020). The English teacher at Public High School in Bali chose to use the Duolingo application as a medium for learning English vocabulary because it provided new nuances in learning and motivated students' enthusiasm for learning through a technological approach. A study from Ajisoko (2020) also states that Duolingo is a vocabulary learning application that provides good learning motivation for students because it is supported by an attractive learning process and easily accessible features.

In implementing the Duolingo application as a learning media, several important things must be considered, including the planning stage, implementation process, and assessment. This is in line with Budiyan and Sujarwo (2017) opinion regarding the principles of vocabulary teaching. There are three principles that a teacher must pay attention to when carrying out vocabulary learning, including class time, which provides many opportunities for students to carry out vocabulary learning at each meeting, teacher strategies related to planning and implementing the learning process, and also assessment which functions as a reflection of student learning outcomes. The first thing that must be considered when implementing learning media is the planning stage. In this research, the data shows that teachers carry out the planning stage by reviewing topics or themes in the Duolingo application that are appropriate to the learning material at school. After finding suitability, the teacher begins to design learning procedures in learning modules that will be used to guide activities in class. The teacher will equalize the level and target students' achievement using the Duolingo application to ensure all students have the same learning experience. This is supported by the opinion of Harahap and Daulay (2023) who stated that Duolingo provides level and material selection based on what the user needs, which can help teachers select topics appropriate to the learning material at school. At this planning stage, teachers also think about what type of assessment the teacher will carry out when using the Duolingo application as a learning media. When the learning planning stage has been resolved, the learning process stage can be carried out.

In the learning process, teachers must have technical skills. As stated by Padmadewi et al., (2021), there are six basic teaching skills: opening learning skills, planning, presentation/teaching, student presentation, use of learning media, and closing. The use of the Duolingo application as a learning media lies in activities that are the core of learning. At this stage, the teacher will first make a presentation regarding the material being studied and introduce students to an initial understanding of the material. Next is a brain warm-up activity, which aims to prepare students to carry out more complex activities in the future. This brain warm-up activity is carried out by providing games that hone students' critical thinking skills and mastery of English vocabulary. The teacher admitted that many of the activities in this brain warm-up were received from practice questions and other forms of learning in Duolingo, which the teacher would modify into new learning activities. For example, the teacher will take several questions in Duolingo related to learning material and use them in crossword games and word connection games.

Bunmak (2021) revealed that learning with Duolingo requires elaboration or developing understanding by varying activities, either by connecting with personal experiences, group discussions, or creating new activities based on using Duolingo. English teachers at public high schools actively integrate the Duolingo application into the learning process by using their technical teaching skills. The teacher incorporates Duolingo into the core learning activities by presenting the material and providing initial understanding to students. Teachers then use brain-warming activities adapted from Duolingo practice questions, such as crossword puzzles and word-connecting games, to improve students' critical thinking and vocabulary mastery. The teacher's strategy involved modifying Duolingo content into engaging classroom activities, ensuring that students used the app and participated in various learning experiences. Teachers foster a dynamic and interactive learning environment that supports students in mastering English vocabulary by connecting Duolingo practice with personal experiences, group discussions, and new collaborative activities.

The learning process using technology such as the Duolingo learning application for vocabulary learning certainly has advantages and disadvantages. In the findings, researchers found that the advantage of using Duolingo learning media for vocabulary learning is that it can increase students' interest and enthusiasm for learning with modern learning methods that are game-based-learning oriented, which avoids learning monotony. Students will be invited to do practice exercises every day with a sequence that must be maintained, and there are challenges in learning in the form of discouragement when students answer questions incorrectly in the application. Duolingo also helps create regular student study habits and forms positive student competition (Shortt et al., 2023). Learning activities with Duolingo also provide a fantastic learning experience with easy and comfortable features (Tuong & Dan, 2024). Students can get various learning experiences with just one learning media, such as translation, vocabulary pronunciation, writing vocabulary practice, and so on. However, the disadvantages of learning with Duolingo are also visible during classroom learning. Duolingo is an application that requires internet access and adequate smartphone conditions, such as a new version and memory availability. Students with limited smartphones will find it challenging to access Duolingo regularly. Even though the teachers implement group learning, which can help with this problem, students who have problems with limited smartphones still have to take turns or borrow other students' smartphones to log in to their Duolingo accounts.

Findings show that students favor using the Duolingo application as a vocabulary learning media. Duolingo promises a new nuanced English vocabulary learning experience involving animation and various modern teaching methods with gamification techniques. Students admitted that they had a satisfying learning experience when learning to use the Duolingo application. Learning using modern technology-based methods can accelerate and improve students' critical thinking and problem-solving (Haleem et al., 2022). The Duolingo application is the answer to the problem of lack of attention and motivation for students to learn modernly. Kristiawan et al., (2024) stated that students can have engaging learning experiences using technology, and Duolingo provides authentic material according to student needs. Student comfort and satisfaction in using Duolingo is also achieved through easy access to the application and improved student learning outcomes. Students admit that Duolingo has simple but interactive features that can be used easily. This opinion is in line with a study conducted

by [Ajisoko \(2020\)](#), which revealed that Duolingo is an application that provides learning motivation with an attractive appearance and easy-to-understand features. Student satisfaction is felt through increasing their abilities. Some students said that since learning with the Duolingo application at school, they could use the vocabulary they had learned in simple daily conversations. The similarity statement by [Harahap and Daulay \(2023\)](#) state that Duolingo focuses on introducing vocabulary that can be used in everyday life. Some students also stated that their report card scores, especially in English subjects, had increased because, during the final exam, they could remember the meaning of each vocabulary word they had studied.

The perceptions were aligned with students' improved memory abilities with regular vocabulary learning using the Duolingo application. However, a handful of students think that the material and vocabulary in Duolingo are too formal. They feel strange if they use it in everyday life. Another deficiency students feel is the difficulty in collecting hearts that function to continue learning. Students feel annoyed when they have few opportunities to answer practice questions, and every time they make a mistake, their heart rate decreases, causing them not to be able to complete the target and have to wait a while to be able to continue learning vocabulary again. However, this has a good purpose, as stated by [Shortt et al., \(2023\)](#) namely that Duolingo creates challenges in learning in the form of providing 'Hearts,' which will be reduced if students make mistakes in answering questions and can be exchanged through gems obtained through the features provided every time, they complete the target. This challenge aims to foster students' focus and caution in compliance and make them responsible for their decisions.

All students' opinions regarding using the Duolingo application as a learning media above are primarily positive, and students feel the benefits and progress in learning English vocabulary with Duolingo. [De Wilde et al., \(2020\)](#) state that gamification learning must prioritize the ARCS model (attention, relevance, confidence, and satisfaction). Duolingo, which uses gamification techniques, has been proven to have an attention aspect that attracts interest and fosters student learning motivation. Relevance means learning according to the specified topic and material, confidence means providing comfortable access to use and features, and satisfaction means users experience satisfying learning benefits.

This research found progress in technology-based learning approaches, such as using the Duolingo application as a vocabulary learning media. It has started to integrate the use of learning applications in the learning process in the classroom; students will get the opportunity to learn in a more flexible, fun way that fits their needs. Duolingo could be an effective learning tool in introducing new vocabulary and providing an in-depth understanding of vocabulary types, usage, pronunciation, and writing. Teachers could also take advantage of the various features available while monitoring student progress to give special attention to students with poor understanding.

The findings of implementing the Duolingo application as a medium for learning English vocabulary showed that the role of technology in the learning process was beneficial for attracting students' interest and motivation to learn. However, the study also found that students' facilities were inadequate for learning activities. Students had to take turns and lend each other adequate smartphones to other students so that the progress of learning achievement between one student and another was maintained. This has been a concern for the school, which

can provide more access and facilities to improve students' learning experiences, which will later support increasing students' abilities and achievements.

Through the learning provided in the Duolingo application, students could develop critical thinking skills and maintain focus and responsibility because they had to complete the targets set by the teacher. One of the activities that could improve students' critical thinking was the process of students doing practice questions in Duolingo, which consists of arranging vocabulary into appropriate sentences. Learning with Duolingo in groups also developed communication, collaboration, and problem-solving skills and fostered healthy competition between students, which could increase learning motivation and high curiosity. Using the Duolingo application as a learning medium could also make students more active during the learning process and not entirely in a learning situation oriented towards explanations and understanding from the teacher or traditional resources.

Teachers need more varied teaching strategies that could support learning with Duolingo so that students can experience more benefits from different ways of learning. Of course, students will feel more interested if activities in class are varied and different from previous activities. Providing varied activities oriented to the Duolingo application is a challenge for teachers. The results of this research showed that the teacher had succeeded in creating variations of learning activities adopted from vocabulary learning materials in Duolingo in the form of warm-up activities in the form of crossword puzzle games and word connection games, which function to improve students' initial vocabulary skills adapted to learning materials according to the learning module.

This study highlights the implementation of the Duolingo application in classroom learning for learning English vocabulary. Of course, this was not only related to the understanding and principles of teaching using learning media but also looking at the teacher's ability to manage technology-based activities and how the teacher practices using the Duolingo application to help students get more information and experience learning English vocabulary in a modern way. Apart from that, this study also explored students' opinions as users of the Duolingo application regarding their experiences and perspectives in learning English vocabulary.

However, the disadvantages of learning with Duolingo are also visible during classroom learning. Duolingo is an application that requires internet access and adequate smartphone conditions, such as a new version and memory availability. Students with limited smartphones will find it a little difficult to access Duolingo regularly. Even though the teachers implement group learning, which can help with this problem, students who have problems with limited smartphones still have to take turns or borrow other students' smartphones to log in to their Duolingo account. This causes the assessment in Duolingo carried out by teachers on a weekly basis to be ineffective because only students with adequate conditions are able to progress well. Lack of attention to students can also cause them to be inconsistent or negligent in the learning process. [Ahmed \(2015\)](#) revealed that the challenges in learning with technology are the limitations of gadgets that can support learning applications.

CONCLUSION

Implementing the Duolingo application improved English vocabulary learning, fostering student activity and involvement and improving learning outcomes. The positive

feedback expressed by students also underlines the potential for learning with technology to change traditional educational practices towards modern ones. This was considered capable of meeting students' learning needs in this modern era so that learning avoids monotony and increases students' interest and motivation to learn. Implementing the Duolingo application as a learning media for English vocabulary was carried out during activities and significantly impacted student involvement in the learning process. Classroom learning used the Students Center technique, which provided opportunities for students to demonstrate their ability to learn and collaborate. The gamification approach in the Duolingo application was carried out by combining elements such as games into the learning process.

The opinion of very positive. Students appreciated the app's engaging and interactive nature, which helped them master English vocabulary. Using gamification techniques in Duolingo makes learning fun and could motivate students to study regularly and maintain progress. Although most students' responses were positive towards using the Duolingo application, a few students expressed concerns regarding learning difficulties with this application. This was because students found difficulty when they lost their 'heart' when they made mistakes in answering questions. These limitations limit their opportunities to practice continuously because they have to exchange them for 'diamonds' or wait for a while.

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