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Students' Perceptions of Using English Learning Applications to Enhance Vocabulary Mastery

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A B S T R A C T

Mobile-Assisted Language Learning (MALL) has provided university students with flexible opportunities to improve vocabulary mastery through English learning applications. This study investigated English Education students' perceptions of using such applications for vocabulary learning at Tadulako University. A qualitative descriptive design was employed involving 69 students who completed a Likert-scale questionnaire and five participants who took part in semi-structured interviews. Data were analyzed using descriptive statistics and thematic analysis. The findings revealed that students generally perceived English learning applications positively because they helped them learn new words, improve pronunciation, increase confidence, and support autonomous learning. Features such as gamification, repetition, quizzes, and audio pronunciation enhanced motivation and engagement. However, students also reported several limitations, including insufficient contextual explanations, repetitive activities, unstable internet connections, and premium-feature restrictions. Overall, English learning applications were perceived as effective supplementary tools for vocabulary development rather than complete replacements for classroom instruction and authentic communication practice. The study highlights the potential of MALL applications to support independent vocabulary learning while emphasizing the continued importance of teacher guidance and interactive language use.

Keywords: *English Learning Applications, Vocabulary Mastery, Students' Perceptions, MALL, Self-Regulated Learning*

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INTRODUCTION

Vocabulary mastery is widely recognized as a fundamental component of English language proficiency. Without sufficient vocabulary knowledge, learners may struggle to understand written texts, participate in conversations, express ideas accurately, and interpret spoken language. Vocabulary does not merely refer to isolated words, but also involves the relationship between form, meaning, and contextual use. Nation (2001) emphasizes that vocabulary knowledge includes not only knowing word meanings but also understanding pronunciation, spelling, collocations, grammatical patterns, and contextual use. For English as a Foreign Language (EFL) learners, vocabulary mastery serves as the foundation for the development of listening, speaking, reading, and writing skills.

In language learning, vocabulary is commonly divided into two major categories: active (productive) vocabulary and passive (receptive) vocabulary. Active vocabulary refers to words that learners can use appropriately in speaking or writing activities. In contrast, passive vocabulary refers to words that learners can recognize and understand while listening or reading but rarely use in actual communication. Nation (2001) explains that receptive vocabulary consists of words that learners recognize and understand in context but do not usually use themselves, whereas productive vocabulary refers to words that learners can use correctly in speaking and writing. Similarly, Schmitt, (2010) emphasizes that vocabulary knowledge includes both breadth and depth of vocabulary understanding. Breadth refers to the number of words learners know, while depth refers to how well learners understand pronunciation, collocation, grammatical behavior, and contextual meaning. These

perspectives indicate that vocabulary mastery involves more than memorizing word meanings; learners are also expected to understand how vocabulary functions in communication contexts.

In Indonesian higher education contexts, English Education students are expected to acquire a substantial amount of vocabulary in order to comprehend academic materials and communicate effectively. However, many students continue to encounter challenges such as difficulty memorizing words, forgetting previously learned vocabulary, uncertainty about pronunciation, and limited opportunities to use new words in authentic contexts. Traditional learning methods such as memorizing word lists and consulting dictionaries are useful, but they may be perceived as repetitive and less engaging. Limited vocabulary knowledge may hinder learners' comprehension of academic texts, reduce participation in conversations, and affect their ability to express ideas effectively in both oral and written communication. Consequently, improving vocabulary mastery remains one of the primary objectives in English language learning.

The rapid development of information and communication technology has transformed language learning practices. Smartphones have become an integral part of students' daily lives, and mobile applications provide accessible and flexible opportunities for self-directed learning. Mobile-Assisted Language Learning (MALL) refers to language learning supported by mobile devices that enable learners to study anytime and anywhere (Kukulska-Hulme, 2009). MALL has attracted considerable attention because it combines portability, immediacy, and interactive multimedia features. MALL is an extension of Computer-Assisted Language Learning (CALL) that focuses on the utilization of mobile devices, including smartphones, tablets, and laptops, in the language acquisition process. Khan et al., (2024) assert that MALL has emerged as a very innovative method in contemporary language teaching, facilitating self-directed and collaborative learning through applications. These programs offer vocabulary drill while incorporating gamification, spaced repetition, and immediate feedback, hence augmenting students' motivation and vocabulary retention (Fithriani, 2021).

The development of MALL has significantly influenced vocabulary learning because mobile applications provide repeated exposure, multimedia input, instant feedback, and interactive learning opportunities. Burston, (2015) states that vocabularys acquisition is one of the most active areas of MALL implementation because mobile applications allow learners to repeatedly practice vocabulary through various learning activities, which contributes to long-term retention. Recent studies also indicate that English learning applications support learner autonomy and self-directed learning. Learners can independently manage their study schedules, monitor learning progress, and review vocabulary according to their individual learning pace. A wide range of English learning applications is currently available, including Duolingo, Quizlet, Memrise, ELSA Speak, Busuu, BBC Learning English, TikTok, YouTube, and Instagram. These applications offer features such as gamification, spaced repetition, audio pronunciation, speech recognition, example sentences, progress tracking, and short educational videos.

Gamification has become one of the most attractive features in educational applications. Points, badges, streaks, leaderboards, and rewards are designed to increase engagement and sustain learners' motivation. Previous studies have shown that gamified applications can make vocabulary learning more enjoyable and reduce boredom. Gao & Pan, (2023) explains that gamification features can make vocabulary learning more interactive and enjoyable because learners perceive the activities as less stressful and more entertaining. Similarly, Zhang et al., (2025) found that interactive and game-like learning environments positively influence learners' participation and learning consistency. In addition, audio and visual features support pronunciation practice and help learners connect word forms with meanings and contexts. Pronunciation-support features allow learners to listen to native-speaker models and practice pronunciation independently. Repeated exposure to pronunciation models and immediate corrective feedback may help learners improve pronunciation awareness and speaking confidence.

The concept of learner autonomy is also highly relevant to the use of English learning applications. The concept of Self-Regulated Learning (SRL), originally developed by Zimmerman, remains one of the most influential frameworks for understanding autonomous learning behaviors. As cited in sViberg et al., (2020), Zimmerman's model explains that successful learners regulate their cognitive and metacognitive processes through three interrelated phases: (1) forethought or strategic planning—setting learning goals and choosing appropriate strategies; (2) performance control—applying strategies, maintaining focus, and monitoring progress; and (3) self-reflection—evaluating outcomes and adapting future learning strategies. English learning applications may strengthen these behaviors by allowing students to choose learning materials, review content at their own pace, and monitor performance through built-in analytics and reminders. Chen et al., (2019) assert that vocabulary learning applications offering automatic feedback, progress tracking, and adaptive features can enhance students' self-regulation abilities.

Furthermore, the theoretical foundation of this study is supported by the theory of perception in learning and the theory of vocabulary acquisition. Theory of perception in learning elucidates how individuals process and perceive educational events influenced by their viewpoints, motives, and prior encounters. Rogers & Freiberg, (1994) posits that meaningful learning transpires just when students possess a favorable opinion of the learning process. If students see learning media—such as English language applications—as engaging, pertinent, and beneficial, they will exhibit increased motivation to utilize them frequently. In MALL research, student perception frequently serves as a crucial predictor of learning efficacy. Conversely, adverse perceptions—such as technical obstacles or insufficient interactive features—can diminish student engagement levels (Losi, 2022).

In addition, Nation (2001) identifies three essential steps in vocabulary acquisition under the Vocabulary Learning Framework: Awareness (identifying new vocabulary), Retrieval (the act of recalling and identifying significance across several settings), and Creative Use (utilizing words in genuine communication). Educational tools like Duolingo and Memrise facilitate students in these processes by offering spaced repetition, contextual tasks, and reinforcement through visual and auditory memory (Klimova & Polakova, 2020). A study by Fithriani (2021) indicates that gamification elements in applications improve students' capacity to actively recall and utilize new language, as educational tasks resemble an enjoyable game.

Several previous studies have reported positive perceptions toward English learning applications. Fithriani (2021) found that Indonesian EFL students viewed mobile applications as practical and motivating for vocabulary development. Apoko et al., (2023) highlighted the contribution of gamification to motivation and engagement. Kayra, (2024) revealed that students preferred mobile applications over conventional learning techniques due to gamification features and audio-visual components that increased engagement. Mutmainah et al., (2023) demonstrated that the use of the Hello English application had a significant positive impact on students' vocabulary proficiency. Hasanah & Ulfa, (2024) reported that Lingodeer effectively improved students' vocabulary acquisition through interactive features. Vargas-Saritama & Espinoza Celi, (2024) concluded that technology-based learning resources positively influenced students' vocabulary retention and motivation. Sakkir & Syamsuddin, (2023) identified challenges related to internet access and the mismatch between application content and learners' needs.

Despite these benefits, English learning applications are not without limitations. Many applications focus primarily on basic vocabulary and receptive knowledge rather than productive and contextual use. Some learners encounter repetitive activities, advertisements, and premium restrictions that limit access to advanced features. Moreover, technical problems such as unstable internet connections may disrupt learning experiences. Most previous studies have focused on specific applications or experimental comparisons of learning outcomes. Fewer studies have examined which applications students actually use in their daily learning and how they perceive the usefulness, motivational impact, autonomy support, and challenges associated with these applications. This gap is particularly evident in regional Indonesian

universities, including Tadulako University. A preliminary observation among English Department students at Tadulako University shows that most students are familiar with digital learning and frequently use smartphones for academic purposes. However, only a limited number of students actively use English learning applications for vocabulary improvement, and several challenges such as unstable internet connections, limited device storage, and insufficient digital literacy were identified

Therefore, this study aimed to investigate students' perceptions of using English learning applications to enhance vocabulary mastery among English Education students at Tadulako University. Specifically, this study focuses on two main aspects: (1) identifying the English learning applications that are most frequently used by students to improve their vocabulary mastery, and (2) exploring students' perceptions of the use of English learning applications in enhancing their vocabulary ssmastery. By addressing these aspects, this research seeks to provide a clearer understanding of mobile-assisted vocabulary learning practices in a local university context.

METHOD

This study employed a qualitative descriptive design. The design was selected because it enabled the researcher to explore and describe participants' perceptions and experiences in detail without manipulating variables. Qualitative descriptive research is appropriate when the objective is to present a comprehensive account of a phenomenon as experienced by participants. Creswell and Clark stated that qualitative research is an approach for exploring and understanding the meaning individuals or groups ascribe to a social or human problem (Haryadi et al., 2021). Similarly, Ary et al., (2010) argued that qualitative descriptive studies are appropriate for examining attitudes, perceptions, and behaviors in natural settings. In this study, the qualitative descriptive method enabled the researcher to gain a deeper understanding of how students perceived the use of mobile-assisted learning applications for vocabulary development.

Respondents

The participants of this study were students of the English Language Education Study Program, Faculty of Teacher Training and Education (FKIP), Tadulako University. The participants were selected using purposive sampling because the study required respondents who had direct experience using English learning applications for vocabulary development. Initially, 112 students who met the inclusion criteria were invited to participate and were provided with an online questionnaire. Of these, 69 students submitted complete and usable responses, resulting in a response rate of approximately 61.6%. Only completed questionnaires that met all participant criteria were included in the analysis.

The criteria for participation were as follows: (1) participants were enrolled in the English Language Education Study Program at Tadulako University; (2) participants had used at least one English learning application for vocabulary learning for a minimum of three months; (3) participants were available during the data collection period to complete the research instruments; and (4) participants voluntarily agreed to participate in the study. For the interview stage, five participants were purposively selected from the 69 questionnaire respondents. The selection was based on the richness and diversity of their questionnaire responses, their level of experience using English learning applications, and their willingness to provide more detailed information. This purposive selection enabled the researchers to obtain in-depth insights into students' perceptions and experiences regarding the use of English learning applications for vocabulary learning.

Instruments

This study employed two main research instruments: a structured questionnaire and a semi-structured interview guide. These instruments were designed to collect qualitative data related to students' use of English learning applications and their perceptions. The questionnaire was used as the primary instrument to gather data regarding the English

learning applications they used and their perceptions of using these applications for vocabulary learning. The questionnaire was designed in a structured format in which most items provided predefined answer options based on findings from previous studies while still allowing participants to add their own responses through an "Others: please specify" option. The questionnaire included sections related to background information, types of applications used, frequency of use, perceived usefulness, motivation, learning autonomy, and challenges.

The semi-structured interview was employed as a follow-up instrument to cross-check and elaborate on the data obtained from the questionnaire. The interview guide consisted of open-ended questions aligned with the questionnaire items, exploring students' feelings when learning vocabulary through applications, their confidence in using English vocabulary, whether the applications met their learning needs, how the applications influenced pronunciation, and their overall perceptions. This alignment enabled the researcher to clarify participants' responses, explore the reasons underlying their answers, and obtain richer explanations of their vocabulary learning experiences.

Procedures

The data collection procedure was conducted systematically in several stages. In the preparation stage, the researcher prepared all research instruments and determined participant criteria. In the participant selection stage, students who had used English learning applications for vocabulary learning for at least three months were identified using a purposive sampling technique. The questionnaire was then distributed to the selected participants either online or in printed form. Participants were given clear instructions on how to complete the questionnaire and were encouraged to respond honestly. After analyzing the questionnaire responses, several participants were selected for follow-up semi-structured interviews. The interviews aimed to clarify, confirm, and deepen the data obtained from the questionnaire. Each interview was conducted in a flexible manner, and with participants' consent, the interviews were audio-recorded to ensure accuracy. The data obtained from questionnaires and interviews were cross-checked to ensure consistency and credibility, supporting data triangulation.

Data Analysis

The qualitative data obtained from the questionnaire and semi-structured interviews were analyzed using thematic analysis following (Braun & Clarke, 2021). Thematic analysis is a widely used qualitative data analysis technique that enables researchers to systematically identify, analyze, and interpret patterns of meaning across a dataset (Kiger & Varpio, 2020). The analysis process followed several stages. First, the analysis of questionnaire data: all questionnaire responses were collected and reviewed carefully. The researcher repeatedly read all responses to become familiar with the data. Initial codes were generated based on recurring ideas such as commonly used applications, perceived usefulness, motivation, learning support, and encountered challenges. These codes were grouped into preliminary themes. Second, the selection of interview participants based on the questionnaire results. Third, the analysis of interview data: all interview recordings were transcribed verbatim. The researcher read the transcripts several times to gain a deeper understanding, and the data were coded by identifying meaningful statements. Fourth, the integration of questionnaire and interview data: the interview data were used to confirm, explain, and expand the themes identified in the questionnaire stage. Fifth, theme refinement and interpretation: the final themes were reviewed and refined to ensure clarity, coherence, and relevance to the research questions. Finally, the analyzed data were presented in descriptive and interpretative narratives.

FINDINGS AND DISCUSSION

This chapter presents the findings of the study based on data collected through questionnaires and interviews, followed by a discussion that integrates the results with existing literature and theoretical frameworks. The questionnaire was distributed to 112

students of Tadulako University; however, only 69 students returned and completed the questionnaire, resulting in a response rate of approximately 61.6%. Five students were purposively selected for semi-structured interviews to elaborate on the questionnaire data. The findings are organized based on the research questions: (1) the English learning applications frequently used by students, and (2) students' perceptions of their usefulness, benefits, and challenges in enhancing vocabulary mastery.

Research Question 1: Students' Use of English Learning Applications

Types of Dedicated English Learning Applications Used

The findings revealed that students utilized a variety of dedicated English learning applications to support their vocabulary acquisition. The most frequently mentioned applications were Duolingo, Quizlet, and ELSA Speak, alongside other notable platforms such as Memrise and Busuu. Unlike general digital platforms, these applications are specifically engineered for language learning, offering structured curricula and interactive exercises tailored to the learner's proficiency level.

Duolingo emerged as the most commonly used application among the participants. Its widespread popularity was primarily attributed to its highly gamified structure, simple and intuitive user interface, and regular push notifications that encouraged daily practice. Students reported that the bite-sized lessons in Duolingo made vocabulary learning feel less overwhelming. Quizlet was highly valued for its flashcard-based review tools and customizable vocabulary sets, allowing students to review specific word lists relevant to their academic courses. Meanwhile, ELSA Speak was particularly appreciated for its specialized focus on pronunciation practice, utilizing advanced speech recognition technology to provide immediate corrective feedback on phonological accuracy.

The variation in application choice indicates that students strategically select different tools to address specific linguistic needs. Duolingo and Memrise serve as effective tools for initial vocabulary exposure and habit formation, Quizlet excels in rote memorization and retrieval practice, and ELSA Speak bridges the gap between knowing a word's meaning and being able to articulate it correctly. This pattern demonstrates that learners are not passive consumers of technology; rather, they actively curate their digital learning environments by combining the unique affordances of different dedicated MALL applications to optimize their vocabulary mastery.

Duration and Frequency of Application Use

Regarding the duration of use, most students reported using English learning applications for less than one year, although several participants had integrated them into their routines for a longer period. The relatively recent adoption suggests that students continue to explore and experiment with digital tools as they progress through their academic journey and encounter more complex vocabulary demands.

To provide a clearer picture of the students' engagement with the applications, the questionnaire data regarding the types of applications, duration of use, and frequency of use are summarized in the following tables.

Table 1. Most Frequently Used English Learning Applications (N=69)

Application	Frequency	Percentage
Duolingo	42	60.8%
Quizlet	35	50.7%
ELSA Speak	28	40.5%
Memrise	15	21.7%
Busuu	9	13.0%
Others (e.g., Hello English, Babbel)	5	7.2%

Note: Students could select more than one application.

Table 2. Duration and Frequency of Application Use (N=69)

Category	Frequency	Percentage
Duration of Use	42	60.8%
< 6 months	25	36.2%
6 - 12 months	30	43.5%
> 12 months	14	20.3%
Frequency of Use	9	13.0%
Daily	12	17.4%
3-4 times a week	32	46.4%
1-2 times a week	18	26.1%
Rarely	7	10.1%

As shown in Table 1, Duolingo was the dominant choice, utilized by more than half of the respondents, followed by Quizlet and ELSA Speak. Table 2 indicates that the majority of students (43.5%) had been using these applications for 6 to 12 months, and most of them accessed the applications 3 to 4 times a week (46.4%) rather than on a daily basis. This statistical overview reinforces the qualitative observation that applications serve as regular, albeit supplementary, learning companions.

In terms of frequency, the majority of respondents used the applications one to several times per week rather than every day. This frequency pattern suggests that the applications were utilized primarily as supplementary learning tools rather than as the sole source of vocabulary instruction. However, the portability of smartphones allowed vocabulary learning to be integrated into daily routines, thereby increasing exposure to English beyond classroom hours. Many students reported studying during short breaks, while commuting, or before bedtime. This aligns with the concept of microlearning, an instructional approach that facilitates language acquisition by allowing pupils to acquire new vocabulary through brief, concentrated sessions (Klimova & Polakova, 2020). By fitting learning into fragmented schedules, MALL ensures that vocabulary exposure is consistent and distributed over time, which is crucial for long-term retention.

Research Question 2: Students' Perceptions of Usefulness, Benefits, and Motivational Impact

Perceived Usefulness for Vocabulary Acquisition

The questionnaire results demonstrated that students generally perceived English learning applications positively. Twenty-six respondents rated the applications as "very useful," and twenty-five rated them as "useful." Only a minority considered the applications less useful or not useful. The distribution of students' perceived usefulness is visually detailed in Table 3.

Table 3. Students' Perceived Usefulness of English Learning Applications (N=69)

PERCEPTION CATEGORY	FREQUENCY	PERCENTAGE
Very Useful	26	37.7%
Useful	25	36.2%
Moderately Useful	12	17.4%
Less Useful	4	5.8%
Not Useful	2	2.9%

As illustrated in Table 3, an overwhelming majority of the students (73.9%) perceived the applications as either "Useful" or "Very Useful," while only a minimal percentage (8.7%) expressed negative perceptions. This quantitative evidence strongly supports the qualitative findings that English learning applications are viewed as valuable assets for vocabulary development.

Students identified several specific vocabulary aspects supported by the applications, including learning new words, understanding meanings in context, improving pronunciation, and reviewing previously learned vocabulary. The applications helped students encounter vocabulary repeatedly through structured exercises, quizzes, and example sentences. This finding strongly supports Nation's (2001) Vocabulary Learning Framework, which outlines the essential steps of vocabulary acquisition: Awareness, Retrieval, and Creative Use. The

applications primarily excel in the "Awareness" stage by introducing new lexical items through multimodal input (text, image, and audio), and the "Retrieval" stage by prompting students to recall meanings through spaced repetition systems and interactive quizzes. The structured nature of dedicated learning apps ensures that learners continuously cycle through these foundational stages, solidifying their receptive vocabulary knowledge.

Pronunciation Improvement and Speaking Confidence

Pronunciation improvement was another highly valued benefit reported by the participants. Knowing a word's meaning is insufficient for effective communication; learners must also be able to articulate it correctly (Nation, 2001). Students consistently mentioned that listening to native-speaker audio models within the applications and repeating the words helped them develop more accurate pronunciation.

Applications such as ELSA Speak, which provided speech recognition and immediate corrective feedback, were particularly instrumental in raising students' awareness of their phonological errors. Even in applications like Duolingo, where speech recognition is less rigorous, the continuous exposure to audio input helped students internalize the rhythm and intonation of English words.

In addition to pronunciation, students reported a significant increase in confidence when using English vocabulary. Repeated exposure, immediate feedback, and self-paced practice reduced anxiety and encouraged experimentation. Several interview participants stated that they felt less afraid of making mistakes because they could practice privately without the fear of being judged by peers or lecturers. This finding suggests that dedicated learning applications create a low-pressure environment that supports self-efficacy. The private, asynchronous nature of MALL lowers the affective filter, allowing learners to engage in trial and error, which is an essential step toward developing productive vocabulary skills.

The Role of Application Features in Enhancing Learning

Students identified several specific features embedded within the applications that contributed to their positive perceptions:

> *Gamification and Interactive Elements: Gamification has become one of the most attractive features in educational applications. Points, badges, streaks, leaderboards, and rewards are designed to increase engagement. Many students described vocabulary learning as more enjoyable and less monotonous when conducted through applications. One participant explained that the applications made learning "feel like a game," while another stated that the activities were "fun and not boring." These findings are consistent with Apoko et al. (2023), who found that gamification enhances students' motivation and willingness to continue learning. Gao (2023) explains that gamification features can make vocabulary learning more interactive because learners perceive the activities as less stressful and more entertaining.*
>
> *Audio-Visual Support: Multimedia features such as audio pronunciation, images, and animated videos helped learners connect meanings with memorable images and correct spoken forms. Visual support facilitated the memory of word meanings, while audio features provided models from native speakers, bridging the gap between written form and pronunciation.*
>
> *Spaced Repetition and Review Systems: Features such as automated flashcards and review schedules (especially prominent in Quizlet and Memrise) strengthened retention by ensuring that learners encountered words just as they were on the verge of forgetting them. This algorithmic approach to repetition aligns with pedagogical principles that repeated exposure and multiple encounters with words are essential for long-term vocabulary retention (Nation, 2001).*

Impact on Motivation and Engagement

The motivational impact of English learning applications emerged as one of the strongest findings. The positive perceptions identified in this study support (Rogers & Freiberg, 1994) humanistic theory, which posits that meaningful learning transpires just when students possess a favorable opinion of the learning process. Because students perceive these dedicated applications as engaging, pertinent, and beneficial, they exhibit increased intrinsic motivation to utilize them frequently.

Students' willingness to continue using the applications was closely connected to their beliefs that the tools helped them achieve practical improvements in vocabulary, pronunciation, and confidence. The immediate feedback loop provided by applications allows learners to experience a sense of progress and accomplishment, which sustains their engagement over time. However, it is also important to note that some studies indicate the motivational impact of extrinsic gamification (like badges) may decrease over time if the tasks become too repetitive, emphasizing the need for intrinsically meaningful content.

Fostering Learner Autonomy and Self-Regulated Learning (SRL)

A crucial finding of this study concerned the development of learner autonomy through the use of English learning applications. Students stated that the applications enabled them to study whenever they had free time, set personal goals, and monitor their own progress. Reminders, streaks, and progress dashboards encouraged responsibility and persistence. This finding aligns heavily with Zimmerman (2002) theory of Self-Regulated Learning (SRL), which highlights three interrelated phases: forethought, performance control, and self-reflection.

> *Forethought Phase: Applications helped students set learning goals. For instance, Duolingo allows users to set daily XP goals, prompting students to strategically plan their study sessions.*
> *Performance Control Phase: While using the apps, students-maintained focus through interactive tasks and monitored their real-time progress via dashboards, adjusting their effort accordingly.*
> *Self-Reflection Phase: End-of-session summaries and progress tracking allowed learners to evaluate their outcomes and adapt their future learning strategies.*

Chen et al., (2019) assert that vocabulary learning applications offering automatic feedback and progress tracking can enhance these self-regulation abilities. The use of English learning applications appeared to foster productive learning habits, integrating vocabulary learning into daily routines and shifting students from passive recipients of classroom instruction to active, self-directed participants in their educational journey.

Limitations and Challenges of English Learning Applications

Pedagogical Limitations: Lack of Contextual Depth and Repetitive Activities

Despite the strong benefits, the study identified several significant pedagogical limitations. One of the most frequently mentioned concerns was the lack of deeper contextual explanations. Students noted that many dedicated applications focus on recognizing word meanings (receptive vocabulary) through decontextualized translation exercises but provide insufficient opportunities to learn collocations, nuanced meanings, or authentic usage. This limitation is critical because vocabulary mastery requires understanding how words function in different contexts (Schmitt, 2010).

Most applications are highly effective for the "Awareness" and "Retrieval" stages of (Nation, 2001) framework but fall short in facilitating the "Creative Use" stage, where learners must utilize words in genuine communication. Consequently, learners may recognize vocabulary items and pass multiple-choice quizzes, yet still experience difficulties using those same words appropriately in real-life conversations or academic writing.

Participants also observed that some activities became repetitive over time. While repetition is pedagogically valuable for retrieval, excessive similarity among exercises may

reduce engagement. Several students stated that they occasionally felt bored or frustrated, especially when reviewing the same basic items repeatedly without progressing to more complex, context-rich tasks. This finding supports the concern that the motivational impact of gamification may decrease over time when the novelty wears off and the learning pathway becomes overly predictable.

Technical and Financial Constraints

Technical and financial constraints also heavily influenced students' experiences. Unstable internet connections disrupted access to server-based exercises and audio features, a common challenge in regional Indonesian contexts. Advertisements in the free versions of the applications frequently interrupted concentration and broke the flow of learning.

Furthermore, many advanced features, such as offline access, detailed grammar explanations, and advanced vocabulary sets, were restricted to premium subscribers. These financial barriers limit access to higher-quality learning materials, creating a disparity between students who can afford premium features and those who cannot. These findings are similar to those reported by Sakkir & Syamsuddin, (2023), who identified infrastructural and economic barriers in mobile learning within Indonesian university settings. Limited device storage and occasional technical glitches further exacerbated these challenges, hindering the seamless integration of MALL into students' daily lives.

Applications as Supplementary Tools: The Irreplaceable Role of Classroom Instruction

The interview findings strongly reinforced the questionnaire results regarding the supplementary nature of these applications. Participant 1 described the applications as "strong supporting tools" that helped build habits and daily consistency but emphasized that true mastery required reading, writing, and speaking practice with human interaction. Participant 4 similarly stated that applications were "highly useful but should be combined with other learning methods."

These comments highlight the overarching perception that applications complement rather than replace broader language learning experiences. While MALL provides flexibility, interactivity, and accessibility, comprehensive vocabulary mastery still depends on authentic communication, extensive reading, writing practice, and interaction with teachers and peers. English learning applications are therefore perceived as effective supplementary tools that enhance vocabulary learning and self-directed practice, but they do not replace the need for classroom instruction and authentic communication practice.

CONCLUSIONS

This study investigated English Education students' perceptions of using English learning applications to enhance vocabulary mastery at Tadulako University. The findings indicate that students generally hold positive perceptions toward these applications and frequently use a variety of tools, including Duolingo, Quizlet, ELSA Speak, TikTok, YouTube, and Instagram, as supplementary resources for vocabulary learning. The applications were perceived as beneficial in helping students acquire new vocabulary, review previously learned words, improve pronunciation, build confidence, and foster autonomous learning habits. Features such as gamification, repetition, audio pronunciation, visual support, and progress tracking contributed significantly to students' motivation and engagement in the learning process. Despite these benefits, several limitations were identified, including limited contextual explanations, repetitive learning activities, unstable internet connections, advertisements, and restricted access to premium features. These challenges suggest that while English learning applications effectively support receptive vocabulary development and independent practice, they are less effective in promoting productive language use and contextual communication. Therefore, English learning applications should be viewed as complementary learning tools rather than substitutes for classroom instruction. Overall, the study highlights the valuable role of Mobile-Assisted Language Learning (MALL) in

supporting vocabulary development and suggests that its effectiveness can be maximized when combined with teacher guidance and authentic language-learning experiences.

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