



IMPROVING STUDENTS' VOCABULARY MASTERY THROUGH THE MOMO ENGLISH APPLICATION: A CLASSROOM ACTION RESEARCH AT SMAN 1 LARANTUKA

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Diterima: 04/09/2026 Direvisi: 04/10/2026; Diterbitkan: 15/10/2026

ABSTRAK

Penguasaan kosakata merupakan dasar penting dalam pembelajaran bahasa Inggris karena mendukung kemampuan siswa dalam memahami dan menggunakan bahasa secara lisan maupun tulisan. Namun, pembelajaran kosakata yang masih berorientasi pada hafalan dan latihan konvensional dapat membatasi keterlibatan siswa serta kesempatan untuk berlatih secara berulang dan bermakna. Penelitian ini bertujuan meningkatkan penguasaan kosakata siswa kelas X SMAN 1 Larantuka melalui penggunaan aplikasi Momo English serta mendeskripsikan perubahan partisipasi siswa selama proses pembelajaran. Penelitian menggunakan Penelitian Tindakan Kelas yang dilaksanakan dalam dua siklus, masing-masing meliputi perencanaan, tindakan, observasi, dan refleksi. Subjek penelitian terdiri atas 36 siswa kelas X pada tahun ajaran 2025/2026. Data dikumpulkan melalui tes kosakata, observasi, dan dokumentasi serta dianalisis secara deskriptif dan kuantitatif berdasarkan pencapaian KKM 75. Hasil penelitian menunjukkan bahwa persentase siswa yang mencapai KKM meningkat dari 50% pada pra-siklus menjadi 72% pada Siklus I dan 83% pada Siklus II. Observasi juga menunjukkan peningkatan partisipasi, motivasi, kepercayaan diri, dan kemandirian siswa. Dengan demikian, Momo English dapat digunakan sebagai media pembelajaran berbasis perangkat seluler untuk mendukung penguasaan kosakata dalam konteks penelitian ini.

Kata kunci: penguasaan kosakata; aplikasi Momo English; penelitian tindakan kelas

ABSTRACT

Vocabulary mastery is an essential foundation of English learning because it supports students' ability to understand and use the language in both oral and written communication. However, vocabulary instruction that relies heavily on memorization and conventional exercises may limit students' engagement and opportunities for repeated and meaningful practice. This study aimed to improve the vocabulary mastery of Grade X students at SMAN 1 Larantuka through the use of the Momo English Application and to describe changes in students' participation during the learning process. The study employed Classroom Action Research conducted in two cycles, each consisting of planning, action, observation, and reflection. The participants were 36 Grade X students in the 2025/2026 academic year. Data were collected through vocabulary tests, observation, and documentation and analyzed descriptively and quantitatively based on the minimum completion criterion of 75. The results showed that the percentage of students achieving the criterion increased from 50% in the pre-cycle to 72% in Cycle I and 83% in Cycle II. Observations also indicated increased participation, motivation, confidence, and independence. Thus, Momo English can serve as a mobile-based learning medium to support vocabulary mastery in the context of this study.

Keywords: vocabulary mastery; Momo English application; classroom action research



INTRODUCTION

English plays an important role in education, science, technology, business, and international communication. In secondary education, students' ability to communicate in English depends substantially on their vocabulary knowledge because vocabulary provides the lexical resources needed to understand and express meaning in listening, speaking, reading, and writing. However, vocabulary learning may remain challenging when classroom instruction relies heavily on memorization, translation, and conventional exercises with limited opportunities for meaningful and repeated practice. Fahmi and Purnawan (2025) highlight the importance of instructional strategies for enhancing vocabulary mastery, while Uge and Hornay (2026) demonstrate that varied learning activities can support vocabulary development among senior high school students.

The increasing availability of mobile technology provides opportunities to address these challenges through *Mobile-Assisted Language Learning* (MALL). Mobile learning can provide flexible access to language materials and allow learners to practice vocabulary through digital activities. Kukulska-Hulme (2018) emphasizes the potential of mobile technologies to support language learning, while Nation (2013) and Schmitt (2019) underline the importance of repeated encounters, practice, and varied forms of interaction with vocabulary. Empirical studies have also reported positive results from technology-supported vocabulary instruction. Alhebshi and Gamlo (2022) found that mobile *game-based* learning supported vocabulary acquisition among EFL learners, while Xodabande et al. (2022) reported that digital flashcards delivered through mobile-assisted learning could support academic vocabulary learning.

Research in Indonesian educational contexts also indicates that mobile and digital applications can support vocabulary learning. Aisyah and Salmiah (2024) reported improvement in students' vocabulary mastery through Kahoot, while Andini and Salmiah (2024) found improvement following the use of Duolingo. Matondang and Ismahani (2024) reported the use of Quizlet to support vocabulary mastery among tenth-grade students. Similarly, Wardani and Lubis (2024) examined Mondly as a vocabulary-learning application for senior high school students, and Mujiarni et al. (2024) investigated Duolingo for vocabulary mastery in the context of digital language learning. Nurhayati and Suryaman (2023) also examined the implementation of Duolingo to increase students' vocabulary mastery. These findings indicate that digital applications can provide alternative opportunities for students to encounter, practice, and reinforce vocabulary.

The potential of mobile and *game-based* learning is further supported by studies involving different forms of digital and gamified media. Andriani et al. (2024) found that gamified digital flashcards provided a more engaging context for vocabulary learning among junior high school students. Sofiana et al. (2025) developed a game-based vocabulary learning tool that supported vocabulary learning and student engagement. Noviarini et al. (2026) reported that Animal Quest gamification enhanced English vocabulary mastery among young learners. At the senior high school level, Amelia et al. (2025) examined Duolingo for vocabulary learning among Grade XI students, while Uge and Hornay (2026) reported improvement in environmental vocabulary mastery through a multi-game intervention. Rahmatika (2025) further explored the use of Mobile Legends Bang Bang as a resource for English vocabulary learning among high school learners. These studies demonstrate the growing use of digital, mobile, and gamified resources for vocabulary instruction across different educational levels.



Despite these findings, important gaps remain. First, much of the existing research has employed experimental, quasi-experimental, or descriptive designs rather than *Classroom Action Research* (CAR). Such designs provide evidence of differences or improvements in learning outcomes but do not necessarily show how an instructional intervention can be progressively improved through classroom cycles. Second, several studies have focused on elementary or junior high school learners, whereas evidence from senior high school classrooms remains comparatively limited (Andini & Salmiah, 2024; Aisyah & Salmiah, 2024; Andriani et al., 2024; Sofiana et al., 2025; Noviarini et al., 2026). Third, participation during the implementation process is not consistently examined together with vocabulary mastery. Romadhon et al. (2021), for example, demonstrated the potential of flashcard media through classroom action research and reported improvement in vocabulary learning, while also noting differences in student involvement during the learning process. Therefore, further *cyclical* classroom evidence is needed to examine vocabulary mastery together with students' participation, particularly among senior high school students.

The Momo English Application provides a relevant context for addressing this gap because it integrates visual materials, pronunciation practice, matching activities, quizzes, and game-based exercises into mobile vocabulary learning. These features provide opportunities for students to encounter and practice vocabulary in different forms and through repeated activities. Such characteristics are consistent with principles of vocabulary learning that emphasize repeated exposure and active practice (Nation, 2013; Schmitt, 2019) and with the flexibility associated with *Mobile-Assisted Language Learning* (Kukulska-Hulme, 2018). However, the references reviewed in this study do not specifically document the implementation of Momo English through *Classroom Action Research* with Grade X students at SMAN 1 Larantuka. Initial classroom observations indicated that students experienced difficulties in vocabulary mastery and that participation during vocabulary learning needed improvement. This condition created a practical need for an instructional intervention that could provide repeated practice while encouraging more active student involvement.

This study therefore addresses the identified gap by implementing the Momo English Application through *Classroom Action Research* with Grade X students at SMAN 1 Larantuka. The study focuses not only on changes in vocabulary mastery based on the school's minimum completion criterion but also on changes in students' participation during the instructional cycles. The purpose of this study is to improve the vocabulary mastery of Grade X students through the Momo English Application and to describe changes in their participation throughout the learning process. The study is expected to provide classroom-level evidence regarding the use of a mobile application as an alternative medium for vocabulary instruction in a senior high school context.

RESEARCH METHODS

This study employed Classroom Action Research (CAR) to improve students' vocabulary mastery through the Momo English Application. The research was conducted at SMAN 1 Larantuka, East Flores Regency, East Nusa Tenggara Province, during the even semester of the 2025/2026 academic year, from April to May 2026. The participants were 36 Grade X students who experienced difficulties in vocabulary learning based on the initial classroom condition. The research followed the action research model proposed by Kemmis et al. (2014), consisting of planning, action, observation, and reflection.



The research consisted of a pre-cycle and two action cycles. The pre-cycle was conducted to identify students' initial vocabulary mastery through a vocabulary test and classroom observation. In Cycle I, the Momo English Application was implemented through vocabulary activities involving pictures, pronunciation, matching exercises, quizzes, and game-based practice. Students' learning activities and participation were observed during the implementation, and a vocabulary test was administered at the end of the cycle. Based on the reflection results, Cycle II was conducted with improvements in the form of clearer application demonstrations, guided practice, paired activities, and repeated vocabulary practice.

Data were collected through vocabulary tests, observation, and documentation. Vocabulary tests were administered in the pre-cycle and at the end of each cycle to measure students' vocabulary mastery, while observation was used to record students' participation, motivation, confidence, and independence during the learning activities. Documentation included learning materials, observation sheets, photographs of classroom activities, attendance records, and students' test results.

The data were analyzed using descriptive quantitative and qualitative analysis. Quantitative data were analyzed based on students' vocabulary scores and the percentage of students achieving the Minimum Mastery Criterion (KKM) of 75. The percentage of students achieving the KKM was calculated by dividing the number of students who obtained a score of 75 or above by the total number of students and multiplying the result by 100. Observation data were analyzed descriptively by comparing students' participation and involvement across the pre-cycle, Cycle I, and Cycle II.

The research was considered successful when at least 80% of the students achieved the KKM of 75 and classroom observations indicated increased participation in the learning process. The research was concluded after Cycle II because 30 of 36 students, or 83%, achieved the KKM. The results of the observations also indicated increased participation, motivation, confidence, and independence during vocabulary-learning activities.

RESULTS AND DISCUSSION

Results

Pre-Cycle

The pre-cycle was conducted to identify students' initial vocabulary mastery before the implementation of the Momo English Application. At this stage, vocabulary learning was conducted through conventional classroom activities, including teacher explanations, textbook materials, and written exercises. A vocabulary test was administered to 36 Grade X students, while classroom observations were conducted to identify students' participation and involvement during the learning process.

The test results showed that only 20 students achieved the Minimum Mastery Criterion (KKM) of 75, representing 50% of the total participants. Meanwhile, 16 students, or 50%, had not achieved the predetermined criterion. Classroom observations also indicated that several students were relatively passive, had limited motivation to participate, and experienced difficulties in remembering and using English vocabulary.

Table 1. Students' vocabulary mastery in the pre-cycle

Stage	Students Achieving KKM	Percentage
Pre-Cycle	20 of 36	50%



Table 1 shows that students' initial vocabulary mastery was still below the research success criterion of 80%. The finding indicated that an instructional intervention was needed to provide students with more opportunities for vocabulary practice and active participation. Therefore, the Momo English Application was introduced as the learning medium in Cycle I.

Cycle I

Cycle I was implemented by integrating the Momo English Application into vocabulary learning activities. Students practiced vocabulary through pictures, pronunciation activities, matching exercises, interactive quizzes, and game-based activities provided through the application. During the implementation, the researcher also observed students' participation and provided guidance when students experienced difficulties in using the application. The vocabulary test at the end of Cycle I showed an increase in students' achievement. A total of 26 students achieved the KKM of 75, representing 72% of the class, while 10 students, or 28%, had not yet reached the criterion.

Table 2. Students' vocabulary mastery in Cycle I

Stage	Students Achieving KKM	Percentage
Cycle I	26 of 36	72%

Table 2 indicates an increase of 22 percentage points compared with the pre-cycle. Although the result showed improvement after the implementation of the Momo English Application, the 72% completion rate had not reached the predetermined success criterion of 80%. Classroom observations also showed that some students still needed assistance in operating the application and completing vocabulary activities independently. Therefore, the reflection stage indicated that improvements were necessary in Cycle II.

Cycle II

Cycle II was conducted based on the reflection results from Cycle I. The researcher provided clearer demonstrations of the application features, increased guided practice, implemented paired learning, and provided additional opportunities for repeated vocabulary practice. These improvements were intended to help students participate more actively and use the application with greater confidence and independence. The vocabulary test administered at the end of Cycle II showed further improvement in students' achievement. A total of 30 students achieved the KKM of 75, representing 83% of the total participants, while 6 students, or 17%, remained below the criterion.

Table 3. Students' vocabulary mastery in Cycle II

Stage	Students Achieving KKM	Percentage
Cycle II	30 of 36	83%

Table 3 shows that the percentage of students achieving the KKM increased by 11 percentage points from Cycle I and by 33 percentage points from the pre-cycle. The achievement of 83% exceeded the predetermined success criterion of 80%. Classroom observations also indicated that students became more active in participating in vocabulary activities and showed greater motivation, confidence, and independence when using the application.

Comparison of Vocabulary Mastery

To provide an overall view of the development of students' vocabulary mastery, the results from the pre-cycle, Cycle I, and Cycle II were compared. This comparison shows the progress that occurred after the Momo English Application was introduced and subsequently improved through the second action cycle. The comparison also provides the basis for determining whether the research success criterion had been achieved.



Table 4. Comparison of students achieving the KKM across the research stages

Stage	Students Achieving KKM	Percentage
Pre-Cycle	20 of 36	50%
Cycle I	26 of 36	72%
Cycle II	30 of 36	83%

Table 4 demonstrates a consistent increase in students' vocabulary mastery throughout the research. The percentage of students achieving the KKM increased from 50% in the pre-cycle to 72% in Cycle I and reached 83% in Cycle II. Overall, there was an increase of 33 percentage points from the pre-cycle to Cycle II. Because 83% of students achieved the KKM, the quantitative success criterion of at least 80% was achieved in Cycle II.

In addition to the improvement in test results, classroom observations showed changes in students' participation during the learning process. In the pre-cycle, several students were passive and required considerable direction during vocabulary activities, whereas participation increased after the application was introduced. By Cycle II, students appeared more willing to participate, more confident in completing activities, and more independent in using the application. These observations complemented the quantitative findings and indicated changes in students' involvement throughout the action research process.

Discussion

Improvement of Students' Vocabulary Mastery

The results demonstrate a consistent improvement in students' vocabulary mastery following the implementation of the Momo English Application. The percentage of students achieving the Minimum Mastery Criterion (KKM) increased from 50% in the pre-cycle to 72% in Cycle I and 83% in Cycle II. This improvement indicates that the intervention provided students with additional opportunities to encounter, practice, and reinforce vocabulary through activities that were more varied than the conventional learning activities used in the pre-cycle. The achievement of 83% in Cycle II also exceeded the predetermined success criterion of 80%, indicating that the classroom action was successful within the context of this study.

The improvement can be related to the learning characteristics provided by the Momo English Application. The application exposed students to vocabulary through visual materials, pronunciation activities, matching exercises, quizzes, and repeated practice. These activities allowed students to encounter vocabulary in different forms rather than relying only on memorization. Repeated encounters and opportunities to use words are important components of vocabulary learning because vocabulary knowledge develops through continued exposure and practice (Nation, 2013). Schmitt (2019) similarly emphasizes that vocabulary learning involves multiple encounters with words and different types of learning activities. Thus, the increase observed across the research cycles is consistent with established principles of vocabulary learning.

The findings also correspond with the potential of mobile technology for language learning. Kukulska-Hulme (2018) explains that mobile-assisted language learning can provide learners with flexible opportunities to access and practice language beyond conventional classroom arrangements. In the present study, the mobile application was integrated directly into classroom instruction, allowing students to practice vocabulary through interactive activities while receiving teacher guidance. Therefore, the contribution of the application in this study was not merely its digital format, but its use as a medium for repeated and varied vocabulary practice within a structured classroom intervention.



The findings are also supported by previous empirical studies involving mobile and game-based vocabulary learning. Alhebshi and Gamlo (2022) reported that mobile game-based learning supported vocabulary acquisition among EFL learners. Similarly, Kesgin and Kartal (2022) found that game-based vocabulary teaching could support vocabulary learning in secondary school English lessons. Xodabande et al. (2022) also reported that digital flashcards delivered through mobile-assisted learning supported academic vocabulary learning. The present study extends these findings by providing classroom action research evidence from Grade X students in an Indonesian senior high school and by examining improvement across successive instructional cycles rather than measuring the intervention at only one point.

Changes in Students' Participation During the Learning Process

The quantitative improvement in vocabulary mastery was accompanied by observable changes in students' participation during the learning process. In the pre-cycle, several students were passive and required considerable teacher direction during vocabulary activities. After the Momo English Application was introduced, students became more involved in completing vocabulary exercises, participating in interactive activities, and practicing the target words. The changes became more apparent in Cycle II after the learning procedures were adjusted through clearer demonstrations, guided practice, paired activities, and additional repetition.

These observations suggest that the application provided a learning environment in which students had more opportunities to interact directly with vocabulary materials. Interactive exercises and game-based activities may encourage students to participate because learners are required to respond, complete tasks, and receive immediate opportunities to practice. This interpretation is consistent with Alhebshi and Gamlo (2022), who reported the potential of mobile game-based learning to support vocabulary acquisition. It is also consistent with Andriani et al. (2024), who reported that gamified digital flashcards created a more engaging context for vocabulary learning.

The improvement in participation should nevertheless be understood as an accompanying classroom observation rather than as evidence of a statistically established causal relationship between the application and students' motivation or confidence. The present study did not employ a separate quantitative instrument to measure motivation, confidence, or independence. Therefore, these changes are appropriately interpreted as descriptive observations that complemented the vocabulary test results. This distinction is important because the strongest quantitative evidence in the study concerns students' achievement of the KKM.

Improvement Across the Action Research Cycles

The progression from 50% in the pre-cycle to 72% in Cycle I and 83% in Cycle II shows that the improvement did not occur only after the initial introduction of the application but continued after instructional adjustments were made. The increase of 22 percentage points from the pre-cycle to Cycle I indicates an initial response to the intervention, while the additional 11 percentage-point increase in Cycle II suggests that the modifications made after reflection were useful in addressing difficulties identified during Cycle I.

This pattern reflects the central characteristic of Classroom Action Research, in which classroom problems are addressed through an iterative process of planning, action, observation, and reflection (Kemmis et al., 2014). In this study, reflection after Cycle I led to clearer demonstrations, more guided practice, paired activities, and repeated vocabulary



practice in Cycle II. The achievement of 83% after these modifications indicates that the cyclical process was useful for refining the implementation of the intervention according to students' classroom needs.

The finding is also relevant to Romadhon et al. (2021), who demonstrated the use of flashcard media within classroom action research to improve students' vocabulary learning. However, the present study differs in its use of a mobile application that combines several types of activities rather than relying on physical flashcards. The results therefore provide additional classroom-level evidence that digital vocabulary activities can be integrated into an iterative action research process.

Relation to Previous Digital Vocabulary Learning Studies

The findings are broadly consistent with research on digital applications for vocabulary learning in Indonesian educational settings. Aisyah and Salmiah (2024) reported improvement in vocabulary mastery through Kahoot, while Andini and Salmiah (2024) reported improvement following the use of Duolingo. Matondang and Ismahani (2024) also examined Quizlet as a medium for supporting vocabulary mastery among tenth-grade students. Wardani and Lubis (2024) investigated Mondly for vocabulary learning among senior high school students, while Amelia et al. (2025) examined Duolingo among Grade XI students. These studies, together with the present findings, indicate that digital applications can be incorporated into vocabulary instruction through different forms of interactive and mobile-supported learning.

However, the present study should not be interpreted as demonstrating that Momo English is universally more effective than other applications. The study was designed as Classroom Action Research without a control group, so the findings primarily demonstrate improvement within the participating classroom during the research period. The increase in achievement may have been influenced not only by the application but also by repeated exposure to the vocabulary material, teacher guidance, paired activities, familiarity with the test format, and improvements made between cycles. Consequently, comparisons with previous studies should be understood as evidence of consistency in the broader use of digital learning media, rather than as direct evidence that one application is superior to another.

Implications and Limitations

The findings have a practical implication for English teachers. Mobile applications can be integrated into vocabulary instruction as complementary media when they provide opportunities for repeated practice, interaction, and immediate task completion. The results also indicate the importance of teacher scaffolding, particularly during the first implementation cycle. Clear demonstrations and guided activities remained necessary before students could use the application more independently.

Nevertheless, several limitations need to be acknowledged. The study involved only 36 students from one Grade X class at SMAN 1 Larantuka and was conducted within a limited period. In addition, the research did not include a control group, so the observed improvement cannot be attributed exclusively to Momo English. The observation of participation, motivation, confidence, and independence was descriptive rather than based on a separate standardized measurement instrument. Further research could therefore involve larger and more diverse groups, longer implementation periods, comparison groups, and validated instruments for measuring affective and participation-related outcomes. Such research would provide stronger evidence regarding the contribution of mobile applications to vocabulary learning across different educational contexts.



CONCLUSION

The implementation of the Momo English Application improved the vocabulary mastery of Grade X students at SMAN 1 Lantuka. The percentage of students achieving the Minimum Mastery Criterion (KKM) of 75 increased from 50% (20 of 36 students) in the pre-cycle to 72% (26 of 36 students) in Cycle I and 83% (30 of 36 students) in Cycle II. The achievement in Cycle II exceeded the predetermined success criterion of 80%. Classroom observations also indicated increased student participation, motivation, confidence, and independence during vocabulary-learning activities. These findings suggest that Momo English can be used as a complementary mobile-based medium to provide students with repeated and interactive opportunities to practice English vocabulary.

However, the findings are limited by the involvement of only one class consisting of 36 students, the relatively short research period, and the absence of a control group. Therefore, the improvement cannot be attributed exclusively to the Momo English Application. Future research should involve larger and more diverse groups, longer implementation periods, comparison groups, and more systematic instruments for measuring students' participation, motivation, confidence, and independence. Further studies may also examine the use of Momo English for other English language skills and in different educational contexts to provide broader evidence of its instructional contribution.

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