



THE USE OF THE WORD RELAY APP TO IMPROVE STUDENTS' VOCABULARY MASTERY OF VII GRADE STUDENTS AT SMPK ST. ISODORUS LEWOTALA

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Diterima: 17/9/2026; Direvisi: 1/10/2026; Diterbitkan: 8/10/2026

ABSTRAK

Penguasaan kosakata merupakan pilar linguistik mendasar dalam pembelajaran bahasa Inggris sebagai bahasa asing (*English as a Foreign Language / EFL*), namun peserta didik kelas VII di SMPK St. Isidorus Lewotala secara konsisten menghadapi kendala yang cukup berat dalam retensi kata serta keterlibatan aktif di kelas. Penelitian tindakan kelas ini mengkaji bagaimana integrasi aplikasi *Word Relay* dapat meningkatkan penguasaan kosakata dan partisipasi belajar peserta didik di kelas melalui dua siklus pembelajaran. Partisipan penelitian terdiri atas 20 peserta didik kelas VII yang dipilih secara purposif pada tahun ajaran yang sedang berjalan. Data dikumpulkan melalui tes hasil belajar kosakata yang memuat 30 butir soal, lembar observasi terstruktur, dan catatan lapangan selama tiga minggu intervensi pembelajaran. Data kuantitatif dianalisis dengan menghitung rata-rata individu, nilai median, serta persentase ketuntasan klasikal berdasarkan Kriteria Ketuntasan Minimal (KKM) sekolah yaitu sebesar 75. Temuan penelitian menunjukkan adanya peningkatan hasil belajar yang progresif, di mana nilai rata-rata kosakata meningkat dari 58,25 (ketuntasan 25%) pada prasiklus menjadi 74,50 (ketuntasan 75%) pada Siklus I, dan mencapai 82,25 (ketuntasan 85%) pada Siklus II. Secara bersamaan, observasi kelas yang terstruktur mencatat perubahan perilaku yang nyata, dengan meningkatnya keterlibatan aktif dan rasa percaya diri peserta didik dari 35,00% menjadi 83,75%. Kesimpulannya, mekanisme berbasis permainan beruntun pada aplikasi *Word Relay* memberikan paparan kontekstual secara berulang yang mendukung pemerolehan kosakata peserta didik tingkat sekolah menengah pertama secara bermakna.

Kata Kunci: *Aplikasi Word Relay, Media Pembelajaran Digital, Penelitian Tindakan Kelas, Penguasaan Kosakata*

ABSTRACT

Vocabulary mastery constitutes a foundational linguistic pillar in English as a Foreign Language (*EFL*) education, yet seventh-grade students at SMPK St. Isidorus Lewotala consistently faced acute challenges in word retention and active classroom engagement. This classroom action research examined how the integration of the *Word Relay* App could improve students' vocabulary mastery and classroom participation across two instructional cycles. The participants comprised 20 seventh-grade students selected purposively during the ongoing academic year. Data were gathered through 30-item vocabulary achievement tests, structured observation checklists, and field notes over three weeks of classroom intervention. The quantitative data were analyzed by calculating individual means, median scores, and the classical mastery percentage against the school's Minimum Mastery Criterion (*Kriteria Ketuntasan Minimal / KKM*) of 75. The findings indicated progressive achievement, as the mean vocabulary score increased from 58.25 (25% mastery) in the pre-cycle to 74.50 (75% mastery) in Cycle I, and reached 82.25 (85% mastery) in Cycle II. Concurrently, systematic



classroom observations documented marked behavioral shifts, with students' active engagement and learning confidence rising from 35.00% to 83.75%. In conclusion, the sequential game-based mechanics of the Word Relay App provided repetitive contextual exposure that meaningfully supported junior high school students' vocabulary acquisition.

Keywords: *Classroom Action Research, Digital Learning Media, Vocabulary Mastery, Word Relay App*

INTRODUCTION

In the landscape of English as a Foreign Language (*EFL*) education in Indonesia, communicative competence remains the primary benchmark of curriculum success. To communicate fluently, learners must develop receptive and productive language components, among which vocabulary serves as the core semantic foundation. Without an adequate lexical repertoire, students cannot decode reading passages, comprehend spoken utterances, or construct coherent sentences in speaking and writing (Nation, 2022; Yu & Renandya, 2021). Lexical competence enables learners to map cognitive concepts onto target language forms, allowing for meaningful communication within classroom interactions (Astika, 2025). Therefore, early secondary education must prioritize systematic vocabulary instruction to equip novice learners with functional communicative tools.

Despite its pivotal role, vocabulary acquisition remains a persistent pedagogical obstacle for secondary school students in rural Indonesian regions. Preliminary observations and diagnostic assessments conducted at SMPK St. Isidorus Lewotola, East Flores Regency, revealed that seventh-grade students exhibited severe lexical deficits. Diagnostic pre-cycle test results indicated that only 5 out of 20 students (25.00%) attained the school-mandated Minimum Mastery Criterion (*Kriteria Ketuntasan Minimal / KKM*) of 75, with an overall class average of 58.25. Students struggled to distinguish grammatical word classes, frequently misidentified common nouns, verbs, and adjectives, and demonstrated low retention during comprehension tasks. Classroom interactions were predominantly passive because instructional routines relied heavily on teacher-led lectures, mechanical translation, and repetitive workbook memorization.

To overcome these instructional limitations, language educators are increasingly integrating interactive educational technology to stimulate student engagement. Computer-assisted and mobile-assisted language learning applications provide immediate corrective feedback, multimodal input, and low-anxiety digital environments that foster incidental vocabulary learning (Roozafzai, 2024; Surayya & Asrobi, 2020). Integrating game mechanics into vocabulary instruction promotes collaborative problem-solving, sustained attention, and repeated retrieval practice (Alshammari, 2020; Falah et al., 2025). When digital tasks are organized collaboratively, learners actively scaffold each other's linguistic gaps, transforming isolated drill exercises into dynamic communicative exchanges (Chaudhary & Singh, 2025; Susanto et al., 2026). Consequently, educational apps that incorporate team relay formats offer promising pedagogical affordances for novice *EFL* classrooms.

The Word Relay App represents an interactive digital platform engineered around collaborative lexical chain games. In this application, learners work in small teams to identify lexical categories, solve anagrams, and pass digital word prompts under controlled time constraints. Recent empirical literature indicates that digital game-based learning media significantly elevate secondary school students' vocabulary retention and learning autonomy (Putri & Akhiriyah, 2024; Wicaksana et al., 2025). Furthermore, Nurcahyaningtias et al. (2025)



demonstrated that relay-based communicative language games successfully enhance students' receptive and expressive speed. However, most existing studies have examined gamified tools in well-resourced urban classrooms or through non-action research designs.

A clear empirical gap persists regarding how mobile relay applications function when implemented via systematic cyclical interventions in remote island schools facing limited linguistic exposure. To address this need, this Classroom Action Research (CAR) investigated whether the structured implementation of the Word Relay App could improve vocabulary mastery and classroom participation among seventh-grade students at SMPK St. Isidorus Lewotala. The study specifically focused on three core word classes—nouns, verbs, and adjectives—mandated by the junior high school curriculum. The measurable objective was to elevate the class classical mastery level to at least 80% while fostering active, confident, and collaborative learner engagement.

RESEARCH METHOD

This study employed Classroom Action Research (CAR) following the cyclical framework developed by Kemmis and McTaggart. The design encompassed sequential phases: planning, acting, observing, and reflecting across two complete cycles, preceded by an initial diagnostic pre-cycle (Alqahtani, 2024; Anggraeni et al., 2023). The research was carried out at SMPK St. Isidorus Lewotala, located in East Flores Regency, East Nusa Tenggara Province, Indonesia. The participants comprised 20 seventh-grade students (9 boys and 11 girls) enrolled in Class VII during the ongoing academic year. Purposive sampling was used because this specific cohort exhibited documented difficulties in basic English vocabulary mastery during preliminary diagnostic evaluations. The classroom intervention spanned a total of six formal instructional meetings across the two cycles, conducted in 80-minute blocks twice weekly. Formal ethical clearance and institutional approval were granted by the school principal, and parental *informed consent* was secured for all participating minors.

Operationally, the Word Relay App was implemented through structured cooperative team relays during the main learning phase. The 20 students were organized into five heterogeneous teams of four members, balancing higher and lower-proficiency peers. In each round, the teacher projected target themes (such as school items, daily routines, and descriptive traits), prompting the first team member to solve a digital vocabulary prompt on the tablet before tagging the next teammate. The application required students to correctly match target nouns, conjugate action verbs, or select appropriate descriptive adjectives within a 60-second limit per station. The teacher acted as a pedagogical facilitator, providing roving feedback, clarifying lexical misconceptions, and managing turn-taking to prevent higher-achieving students from dominating the digital interface.

The research utilized two primary instruments: a 30-item vocabulary achievement test and a structured classroom observation checklist. The vocabulary test comprised 20 multiple-choice items and 10 matching questions, evenly assessing nouns (10 items), verbs (10 items), and adjectives (10 items) based on curriculum guidelines. Content validity was established via *expert judgment* by two senior university lecturers in English education, while internal consistency reliability was verified using the Kuder-Richardson Formula 20 (KR-20), yielding a high reliability index of $r = 0.84$. The observation checklist monitored four behavioral dimensions: active verbal participation, task motivation, self-confidence during digital relays, and peer collaboration, each evaluated using a 4-point rating scale.



Quantitative data derived from vocabulary tests were analyzed using descriptive statistics to calculate individual scores, class mean, median values, and the classical percentage of students achieving the KKM benchmark of 75. The threshold of 75 was determined based on the school's formal curriculum standard for junior high school foreign language proficiency. The action was designated successful if at least 80% of the class met or surpassed the KKM benchmark. Qualitative observational data and field notes were condensed, displayed, and interpreted to contextualize the behavioral and affective mechanisms driving students' lexical progression across the instructional cycles.

RESULTS AND DISCUSSION

Results

Diagnostic assessments in the pre-cycle confirmed widespread vocabulary deficits under conventional teacher-centered teaching. In this preliminary stage, instruction was dominated by rote translation and workbook drills, leaving students disengaged and hesitant. Out of 20 participating learners, only 5 students achieved the KKM benchmark of 75, resulting in a low initial mastery rate of 25.00%. The class mean score was 58.25, with scores dispersed across a wide range, from an individual low of 40.00 to a high of 80.00. Observational field notes revealed that students frequently experienced anxiety when prompted to identify English word categories, indicating an urgent need for contextualized instructional support.

Cycle I was subsequently executed across three 80-minute meetings utilizing the Word Relay App to teach nouns and verbs. During the first meeting, several students exhibited confusion regarding tablet navigation and time-pressure constraints, requiring intensive teacher intervention. Nevertheless, team-based gamification encouraged learners to collaboratively negotiate word spellings and grammatical classes. Following the completion of Cycle I, a post-test was administered to measure academic gains. A comprehensive summary of quantitative vocabulary test scores across all research stages is presented in Table 1 below.

Table 1. Comprehensive Statistical Summary of Students' Vocabulary Achievement

Research Stage	Number of Students (N)	Mean Score (X ⁻)	Median Score (M)	Highest Score	Lowest Score	Students Achieving KKM (≥75)	Classical Mastery (%)
Pre-Cycle	20	58.25	60.00	80.00	40.00	5	25.00%
Cycle I	20	74.50	75.00	90.00	55.00	15	75.00%
Cycle II	20	82.25	80.00	93.33	70.00	17	85.00%

Based on Table 1, student achievement showed marked improvements following the digital game-based intervention. In Cycle I, the class mean score rose substantially by 16.25 points to reach 74.50, with 15 students (75.00%) successfully attaining the KKM threshold. Despite this positive upward trajectory, the mastery percentage fell short of the predetermined 80.00% success criterion. Reflective evaluations revealed that five lower-performing students struggled with abstract descriptive adjectives and experienced digital interface anxiety. Consequently, instructional planning was adjusted for Cycle II by incorporating mini-glossaries, extending station relay times from 45 to 60 seconds, and pairing struggling learners with supportive peers.

Cycle II was enacted over three instructional sessions focusing on consolidated adjective usage and contextual sentence construction. The pedagogical refinements fostered an



autonomous and cooperative classroom atmosphere where students engaged confidently with the digital word stations. As detailed in Table 1, the final post-test yielded a class mean score of 82.25 and a median score of 80.00, with individual scores ranging from 70.00 to 93.33. Crucially, 17 out of 20 students (85.00%) achieved or surpassed the KKM benchmark of 75, successfully fulfilling the research target. The systematic gains recorded in Table 1 confirm that repeated cyclical refinements resolved early operational stumbling blocks.

Alongside quantitative cognitive gains, structured classroom observation checklists recorded progressive improvements in learner behavior and classroom dynamics. The evaluative criteria tracked active verbal participation, learning motivation, self-confidence during oral execution, and peer collaboration. The empirical distribution of students' affective engagement across the three research phases is detailed in Table 2 below.

Table 2. Observational Checklist Results on Students' Behavioral and Affective Engagement

Evaluative Dimension	Pre-Cycle (%)	Cycle I (%)	Cycle II (%)	Qualitative Category (Cycle II)
1. Active Verbal Participation	30.00%	65.00%	80.00%	High / Active
2. Task Learning Motivation	40.00%	75.00%	90.00%	Very High / Motivated
3. Self-Confidence in Task Execution	30.00%	60.00%	80.00%	High / Confident
4. Peer Collaborative Interaction	40.00%	70.00%	85.00%	Very High / Collaborative
Class Composite Average	35.00%	67.50%	83.75%	Very High

Referring to Table 2, students' overall affective engagement rose dramatically from a baseline composite average of 35.00% in the pre-cycle to 67.50% in Cycle I, ultimately reaching 83.75% in Cycle II. Verbal participation expanded substantially as learners abandoned their initial reluctance and actively volunteered vocabulary definitions during competitive rounds. Furthermore, collaborative peer interactions increased to 85.00%, confirming that the team relay format stimulated reciprocal peer tutoring. The empirical data captured in Table 2 provide objective behavioral evidence supporting the positive shifts observed throughout the intervention.

To visualize the sequential progression of classical mastery across the action research cycles, a comparative histogram is constructed. The comparative trajectory of students reaching the minimum achievement benchmark is illustrated in Figure 2 below.

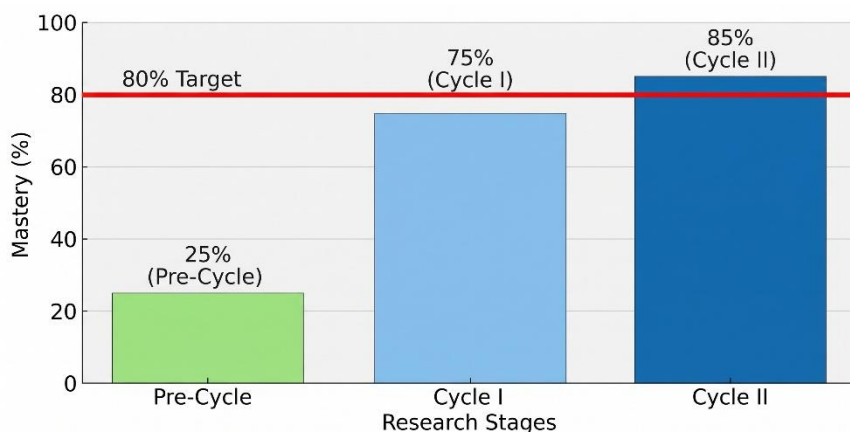


Figure 2. Histogram of Students' Classical Vocabulary Mastery across Cycles

Looking at the histogram in Figure 2, the proportion of learners achieving the KKM rose sharply across the instructional phases. The steepest improvement occurred between the pre-cycle and Cycle I, reflecting an immediate 50.00% surge upon introducing the gamified digital tool. Figure 2 illustrates that the supplementary refinements implemented during Cycle II pushed the success rate past the mandatory 80.00% benchmark to settle at 85.00%. The graphical trend in Figure 2 demonstrates that progressive pedagogical intervention effectively mitigated widespread lexical deficiencies.

Discussion

The empirical findings from this classroom action research indicate that the systematic implementation of the Word Relay App supported students' vocabulary acquisition. Addressing the *what* dimension of the inquiry, students demonstrated measurable academic progress, evidenced by the mean score increasing from 58.25 to 82.25 and classical mastery advancing from 25.00% to 85.00%. Concurrently, active classroom engagement surged to 83.75%, transforming a previously passive classroom culture into an energetic learning space. Because action research lacks an untreated control group, these findings cannot be claimed as an absolute causal effect of the technology alone; rather, they reflect the combined impact of cyclical teacher reflection, collaborative peer interaction, and gamified digital exposure. These results corroborate existing pedagogical evidence suggesting that integrating digital gamification into the curriculum fosters a positive, interactive environment that significantly enhances student motivation and vocabulary retention (BADHE et al., 2025; Kartika et al., 2024; Mustagis et al., 2024).

Analyzing the *why* underlying these observed improvements reveals that the Word Relay App leveraged key psycholinguistic mechanisms of retrieval practice and multimodal reinforcement. In conventional lessons, seventh-graders were overwhelmed by abstract, decontextualized memorization lists. The Word Relay App replaced rote drilling with rapid, time-constrained retrieval rounds, compelling students to immediately activate, test, and consolidate newly acquired nouns, verbs, and adjectives. According to Nation (2022), repeated retrieval under varied conditions enhances lexical retention far more effectively than passive re-reading. The tactile and visual feedback provided by the mobile application strengthened memory pathways, allowing novice learners to associate orthographic word shapes with semantic categories in low-anxiety settings (Astika, 2025; Surayya & Asrobi, 2020). Furthermore, the collaborative nature of these gamified sessions fostered social learning strategies, which encouraged students to negotiate meanings and support peer development.



during high-speed word association tasks (Acquah & Katz, 2019; BADHE et al., 2025; Cano et al., 2024; Damasco et al., 2026; Mulyana et al., 2026; RATSAMEE et al., 2025).

Furthermore, the team relay design established an instructional scaffold grounded in social interdependence principles. Dividing the class into small, heterogeneous squads created an environment of positive mutual reliance, where higher-achieving students naturally assisted peers experiencing difficulties with word recognition. During Cycle I reflections, the researcher noted that lower-performing learners experienced hesitation when confronted with unfamiliar adjectives. By introducing printed mini-glossaries and adjusting station time limits in Cycle II, the teacher provided the necessary instructional scaffolding to lower affective filters. This collaborative dynamic aligns with findings by Susanto et al. (2026) and Chaudhary and Singh (2025), who observed that gamified group tasks foster peer-mediated learning and mitigate foreign language anxiety. Additionally, the strategic incorporation of instant, multimedia feedback mechanisms served to clarify form-meaning connections, enabling students to correct misconceptions in real-time (Fadzli & Hashim, 2026; Huang & Liu, 2025; Sun, 2026; Tafazoli et al., 2020; Yan & Singh, 2026).

These empirical outcomes align with prior scholarship investigating technology-enhanced language learning in secondary education. The marked increase in learner enthusiasm mirrors the conclusions of Wicaksana et al. (2025) and Putri and Akhriyah (2024), who reported that interactive digital games stimulate intrinsic motivation and sustain task persistence among young *EFL* learners. Similarly, Nurcahyaningtias et al. (2025) emphasized that relay-oriented linguistic games build rapid word association and heighten verbal responsiveness through playful competition. However, this study diverges meaningfully from prior works by demonstrating that even in rural school settings with modest technological infrastructure, gamified apps can be successfully integrated when paired with deliberate classroom action research cycles. The structured transition from teacher-dependent prompting in Cycle I to independent peer collaboration in Cycle II proved essential in securing durable learning gains.

CONCLUSION

This classroom action research demonstrates that the structured implementation of the Word Relay App successfully addressed widespread vocabulary difficulties among seventh-grade students at SMPK St. Isidorus Lewotala. Across two instructional cycles, students' classical mastery expanded from an initial baseline of 25.00% (mean score of 58.25) to 75.00% (mean score of 74.50) in Cycle I, and ultimately reached 85.00% (mean score of 82.25) in Cycle II, surpassing the 80.00% success threshold. The integration of collaborative game mechanics, time-constrained digital retrieval, and responsive teacher scaffolding also fostered substantial behavioral gains, elevating students' active participation, learning motivation, and task confidence to 83.75%. The combination of gamified mobile technology and reflective cyclical intervention provided an engaging pedagogical framework that made lexical acquisition accessible and enjoyable for novice secondary school learners.

Based on these conclusions, several practical implications are recommended for junior high school English instruction. English teachers are encouraged to incorporate gamified vocabulary applications alongside supportive scaffolds—such as visual glossaries and balanced heterogeneous grouping—to assist struggling learners during fast-paced digital tasks. School administrators should support digital integration by providing stable charging infrastructure, portable tablet devices, and teacher professional development focused on gamified pedagogy. A primary limitation of this investigation is its single-classroom action research scope and lack



of an external comparative control cohort, which restricts statistical generalizability. Future researchers are advised to conduct quasi-experimental or mixed-methods studies across multiple rural schools, explore delayed post-tests to assess long-term lexical retention, and examine the impact of mobile relay games on productive speaking and writing competencies.

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