Innovations in Language Education and Literature
Vol. 2, No. 2, 2025, pp. 74-83
ISSN: 3062-8962 (Print), 3062-8946 (Online)
DOI: https://doi.org/10.31605/ilere.v2i2.6071

Mobile Application Integration for Grammar Learning: A Quasi-Experimental Study in Indonesian Context

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ARTICLE INFO

Received: 2025-08-17
Revised: 2025-10-23
Accepted: 2025-11-30

Keywords: Educational Technology; Grammar Instruction; Indonesian EFL Learners; Mobile-Assisted Language Learning; Simple Present Tense

ABSTRACT

Mastering grammatical structures remains challenging for English as a Foreign Language learners in contexts with limited authentic language exposure. This quasi-experimental study examined whether mobile application integration could enhance Simple Present Tense acquisition among 34 seventh-grade students at a public junior high school in Majene, Indonesia. Participants were assigned to either an experimental group (n=17) receiving instruction through the English Grammar: Learn and Test application or a control group (n=17) following conventional textbook-based methods. Pre-test and post-test assessments measured grammar mastery across parts of speech, inflection, and syntax dimensions. Results revealed substantial improvement in the experimental group, with mean scores increasing from 20.94 to 72.12 ($p < .001$, Cohen's $d = 1.95$), while the control group showed modest gains (29.18 to 50.94). Notably, 82.4% of experimental participants achieved mastery level compared to 11.8% in the control group. Student perceptions measured through a 15-item questionnaire indicated strong acceptance ($M = 4.31$), with particularly high ratings for perceived usefulness. Despite sample size limitations, findings suggest that strategically integrated mobile applications can significantly enhance grammar learning when traditional methods prove insufficient, offering practical solutions for resource-constrained educational settings.

Citation (APA): Ahmad, D., Ridwan, R., Isma, A., Amrang, A., & Rusdiah, R. (2025). Mobile Application Integration for Grammar Learning: A Quasi-Experimental Study in Indonesian Context. *Innovations in Language Education and Literature*, *2*(2), 74-83.

INTRODUCTION

Grammar competence remains foundational to effective communication in English as a Foreign Language (EFL) contexts, yet it continues to challenge learners worldwide, particularly in environments where authentic exposure to the target language is limited (Ellis, 2006; Larsen-Freeman, 2015). In Indonesian secondary schools, students frequently struggle with fundamental grammatical structures, especially the Simple Present Tense, which serves as the building block for more complex language functions (Lawalata, 2024). Traditional instructional approaches, which often emphasize rote memorization and decontextualized drill exercises, have proven insufficient in fostering genuine understanding of how grammatical forms operate in meaningful communication (Ghafar & Sawalmeh, 2024). This pedagogical gap has become increasingly apparent as educators recognize that grammar instruction must move beyond mechanical repetition toward more engaging, contextualized learning experiences that resonate with digitally native learners (Kukulska-Hulme & Shield, 2008).

The integration of mobile technology into language education has emerged as a promising solution to these persistent challenges. Recent scholarship in mobile-assisted language learning (MALL) demonstrates that digital applications can provide interactive, self-paced learning environments that accommodate diverse learning styles and increase student motivation (Burston, 2015; Çakmak, 2019). Several empirical studies have examined specific applications for grammar instruction with encouraging results. Aziz et al. (2021) investigated Quizizz as a gamified assessment tool and found improved engagement in grammar lessons, though their focus remained on assessment rather than comprehensive instruction. Similarly, Fatmawati et al. (2023) explored Duolingo's effectiveness for Simple Present Tense acquisition, revealing positive outcomes but noting limitations in its one-size-fits-all approach that may not align with specific curriculum requirements.

Magbanua (2024) tested the Learn English Grammar application among Grade 9 students in the Philippines, reporting enhanced grammar skills but acknowledging the need for studies examining different educational contexts and age groups. These investigations collectively suggest that mobile applications hold considerable potential for grammar pedagogy, yet they also reveal important gaps in our understanding of how such tools function across diverse learning environments.

Despite growing research interest in digital grammar instruction, significant gaps remain that limit both theoretical understanding and practical implementation. First, existing studies have predominantly focused on gamified assessment platforms or general-purpose language learning applications, with insufficient attention to specialized grammar-focused tools that provide systematic instruction aligned with specific curricular objectives (Stockwell, 2013). Second, most research has been conducted in relatively technology-rich educational settings, leaving underexplored how mobile applications perform in resource-constrained contexts typical of many Indonesian schools (Butarbutar et al., 2020). Third, while several studies report learning outcomes, few systematically examine learner perceptions alongside achievement data, creating an incomplete picture of educational effectiveness (Hoi, 2020). Finally, the body of research examining mobile grammar applications among early adolescent EFL learners in Southeast Asian contexts remains remarkably thin, particularly studies that employ rigorous quasi-experimental designs with adequate control groups (Golonka et al., 2014). These gaps collectively point to the need for carefully designed studies that assess both the efficacy of specialized grammar applications and the factors influencing their acceptance among learners in diverse educational contexts.

Addressing these gaps carries significant implications for EFL pedagogy in developing countries. Educational technology must be evaluated not only for its capacity to improve learning outcomes but also for its feasibility and acceptance within specific sociocultural contexts. Moreover, given the rapid proliferation of educational applications, empirical evidence is urgently needed to guide teachers' selection of effective tools rather than relying on marketing claims or anecdotal reports (Godwin-Jones, 2017). This study therefore aims to examine two interrelated research questions: First, does the integration of the English Grammar: Learn and Test application significantly improve students' mastery of the Simple Present Tense compared to conventional textbook-based instruction? Second, what are students' perceptions regarding the use of this mobile application for grammar learning, particularly concerning its ease of use, perceived usefulness, and their intention to continue using such tools? By addressing these questions through a quasi-experimental design that includes both achievement measures and perception data, this study seeks to provide comprehensive evidence on the viability of mobile application integration for grammar instruction in Indonesian secondary education, thereby informing both pedagogical practice and future research directions in technology-enhanced language learning.

METHODS

Research Design

This study employed a quasi-experimental design with nonequivalent control group configuration, an approach deemed appropriate when random assignment proves impractical in authentic educational settings (Shadish et al., 2002). The design incorporated pre-test and post-test measurements administered to both experimental and control groups, allowing us to assess change over time while controlling for initial differences in grammar proficiency. The experimental group received instruction integrating the English Grammar: Learn and Test mobile application, whereas the control group participated in conventional textbook-based grammar lessons following the standard curriculum.

Research Context and Participants

The study was conducted at SMP Negeri 4 Majene, a public junior high school in Majene Regency, West Sulawesi Province, Indonesia. This school was selected through purposive site selection based on three criteria: (1) students' existing familiarity with digital devices, which reduced potential confounding variables related to technology anxiety; (2) institutional support for technology integration in language instruction; and (3) accessibility for sustained researcher presence throughout the intervention period. The school serves a predominantly middle-income community where English proficiency varies considerably among students, reflecting typical conditions in Indonesian secondary education.

The study population comprised 76 seventh-grade students distributed across three intact classes (VII-A, VII-B, and VII-C), each containing between 25 and 27 students. Using purposive sampling, a non-probability sampling technique appropriate when researchers require specific characteristics in participants (Etikan et al., 2016), we selected two intact classes for comparison. Class VII-A (n=17) served as the experimental group,

while Class VII-C (n=17) functioned as the control group. Class VII-B was excluded from the study to maintain manageable sample sizes and ensure adequate researcher attention during observations. The final sample consisted of 34 participants aged 12-13 years (M=12.4, SD=0.5), with 18 female and 16 male students distributed relatively evenly across both groups.

Instructional Intervention

Experimental Group Treatment

Students in the experimental group engaged with the English Grammar: Learn and Test application, a specialized mobile tool designed specifically for English grammar instruction. The application features progressive modules covering grammatical concepts through interactive exercises, immediate automated feedback, visual explanations with example sentences, and adaptive difficulty levels responding to user performance. Each session followed a structured protocol: (1) a 10-minute teacher-led introduction establishing the day's grammatical focus; (2) 50 minutes of guided practice using the application, during which students worked individually on tablets provided by the school while the teacher circulated to monitor progress and address questions; (3) 15 minutes of collaborative activities where students discussed challenging items in pairs; and (4) a 5-minute closing review synthesizing key learning points. The application's progress tracking feature allowed both students and the teacher to monitor completion rates and identify persistent difficulties.

Control Group Treatment

The control group received conventional instruction following the established school curriculum, which relied primarily on the mandated textbook "When English Rings a Bell" for Grade VII. Instructional sessions incorporated traditional techniques including teacher explanations of grammatical rules, choral drilling, written exercises from the textbook, and error correction through teacher feedback. The teacher maintained comparable session structure: (1) 15-minute presentation of grammatical rules with board examples; (2) 45 minutes of guided practice through textbook exercises completed individually; (3) 15 minutes of whole-class review of answers; and (4) 5-minute summary. This approach represented typical Indonesian EFL grammar instruction, emphasizing explicit rule explanation and controlled practice.

Research Instruments

Grammar Achievement Test

We developed a comprehensive grammar test aligned with Herring's (2016) framework encompassing three grammatical dimensions: parts of speech (identifying word classes and their functions), inflection (recognizing appropriate verb forms and subject-verb agreement), and syntax (constructing grammatically correct sentence structures). The test comprised 30 items across three formats: (1) 15 multiple-choice questions assessing recognition and comprehension (1 point each); (2) 10 sentence correction items requiring error identification and revision (2 points each); and (3) 5 guided writing prompts demanding original sentence construction using specified grammatical patterns (3 points each), yielding a maximum score of 100 points. To establish content validity, we submitted the initial 40-item test to three expert reviewers, two experienced English teachers with master's degrees in English Education and one university lecturer specializing in language assessment. Based on their feedback regarding item clarity, difficulty distribution, and alignment with learning objectives, we revised and reduced the test to 30 items. Subsequently, we piloted the instrument with 25 eighth-grade students who had previously studied the Simple Present Tense. Item analysis revealed satisfactory internal consistency (Cronbach's $\alpha = 0.84$) and appropriate item discrimination indices (mean point-biserial correlation = 0.42). Both parallel forms (pre-test and post-test) contained equivalent items matched for difficulty and content coverage to minimize practice effects while maintaining comparability.

Perception Questionnaire

To assess students' perceptions of the mobile application, we adapted Wang's (2024) Technology Acceptance Model questionnaire for educational contexts, developing a 15-item Likert-scale instrument spanning five theoretical constructs: (1) Perceived Ease of Use (3 items), the degree to which students found the application simple to navigate; (2) Perceived Usefulness (3 items), beliefs about the application's effectiveness for learning; (3) User Satisfaction (3 items), overall contentment with the learning experience; (4) Engagement and Motivation (3 items), the extent to which the application sustained interest; and (5) Intention to Use Again (3 items), willingness to continue using similar tools. Response options ranged from 1 (Strongly Disagree) to 5 (Strongly Agree), with negatively worded items reverse-scored during analysis. The questionnaire underwent face validity review by two colleagues teaching English at the same institution and

cognitive interviews with three students not participating in the main study, ensuring items were linguistically accessible and conceptually clear for the target age group. The final instrument demonstrated strong reliability (Cronbach's $\alpha = 0.89$ for overall scale; subscale alphas ranged from 0.76 to 0.91).

Data Collection Procedures

Data collection proceeded through four sequential phases. First, during Week 1 (early June 2025), we administered the pre-test to both groups simultaneously under standardized conditions in their regular classrooms, allocating 60 minutes for completion. Students received identical written instructions emphasizing that results would not affect their course grades, aiming to reduce test anxiety. Second, the six-week intervention phase (Weeks 2-7) commenced immediately following the pre-test, with the experimental group beginning mobile application use while the control group continued conventional instruction. We conducted weekly fidelity checks through classroom observations to verify adherence to planned protocols. Third, immediately following the intervention's conclusion (Week 8), we administered the post-test under conditions identical to the pre-test, again allowing 60 minutes. Finally, one day after the post-test, experimental group participants completed the perception questionnaire during a regular class session, requiring approximately 15-20 minutes. We provided written and verbal assurances that honest responses were valued and would not affect their evaluations, encouraging candid feedback.

Data Analysis

We analyzed quantitative data using IBM SPSS Statistics version 26. Descriptive statistics (means, standard deviations, frequencies, percentages) summarized students' performance and perceptions. Before conducting inferential tests, we verified assumptions for parametric procedures. The Shapiro-Wilk test assessed normality of score distributions for each group and testing occasion; results indicated no significant departures from normality (all $p > .05$). Levene's test evaluated homogeneity of variance between groups, revealing no significant heterogeneity ($p = .181$). To address the first research question, we computed an independent samples t-test comparing post-test scores between groups, with statistical significance set at $\alpha = .05$. Additionally, we calculated normalized gain scores using Hake's (1999) formula: g = (post-test % - pre-test %) / (100 - pre-test %), which accounts for initial performance levels when assessing improvement. We interpreted gain scores as high ($g \geq 0.70$), medium ($0.30 \leq g < 0.70$), or low ($g < 0.30$) following Hake's classification scheme. For the second research question, we analyzed questionnaire responses through descriptive statistics, calculating mean scores for individual items and each construct subscale. We interpreted mean scores using the scale: 1.00-1.80 (very low), 1.81-2.60 (low), 2.61-3.40 (moderate), 3.41-4.20 (high), and 4.21-5.00 (very high), adapting categorical classification for Likert-scale data (Isma et al., 2022). We examined frequency distributions to identify response patterns and computed overall mean scores across all items to gauge general perceptions.

FINDINGS

This section presents findings from the quasi-experimental study examining mobile application integration for grammar learning. We organize results according to the two research questions, beginning with quantitative learning outcomes followed by student perception data.

Preliminary Analysis: Baseline Equivalence

Before examining intervention effects, we assessed whether the experimental and control groups demonstrated comparable initial grammar proficiency. Table 1 displays descriptive statistics for pre-test performance across both groups.

Table 1. Descriptive Statistics for Pre-Test Scores by Group

Group	n	M	SD	Min	Max	Median
Experimental	17	20.94	10.52	3	38	20.00
Control	17	29.18	17.24	6	62	24.00

Note. Maximum possible score = 100 points.

An independent samples t-test revealed no statistically significant difference between groups at baseline, $t(32) = -1.68$, $p = .103$, suggesting that initial grammar competence was comparable despite the 8.24-point difference in means. This non-significant difference may reflect sampling variability rather than systematic

group differences, providing reasonable confidence that post-intervention comparisons would not be confounded by pre-existing disparities.

Research Question 1: Effects on Grammar Achievement

Post-Test Performance Comparison

Following the six-week intervention, both groups demonstrated improvement from baseline, though the magnitude of change differed substantially. Table 2 presents descriptive statistics for post-test performance.

Table 2. Descriptive Statistics for Post-Test Scores by Group

Group	n	M	SD	Min	Max	Median
Experimental	17	72.12	6.80	60	84	72.00
Control	17	50.94	13.81	18	80	51.00

Note. Maximum possible score = 100 points.

The experimental group's mean post-test score (M = 72.12, SD = 6.80) exceeded the control group's mean (M = 50.94, SD = 13.81) by 21.18 points. Notably, the experimental group also showed substantially reduced score variability (SD = 6.80 versus SD = 13.81), suggesting more consistent learning outcomes across participants. An independent samples t-test confirmed that this difference was statistically significant, $t(32) = -5.67$, $p < .001$, Cohen's $d = 1.95$, indicating a large effect size. This substantial effect suggests that mobile application integration produced meaningfully superior learning outcomes compared to conventional instruction.

Achievement Level Distribution

To contextualize these numerical differences, we categorized students' performance using the school's established achievement criteria: Very Good (81-100), Good (61-80), Fair (41-60), Low (21-40), and Very Low (0-20). Table 3 displays the distribution of students across these categories for both testing occasions.

Table 3. Frequency Distribution of Achievement Levels

Level	Experimental Group		Control Group	
	Pre-Test n (%)	Post-Test n (%)	Pre-Test n (%)	Post-Test n (%)
Very Good (81-100)	0 (0.0)	2 (11.8)	0 (0.0)	0 (0.0)
Good (61-80)	0 (0.0)	14 (82.4)	1 (5.9)	2 (11.8)
Fair (41-60)	0 (0.0)	1 (5.9)	4 (23.5)	12 (70.6)
Low (21-40)	8 (47.1)	0 (0.0)	4 (23.5)	2 (11.8)
Very Low (0-20)	9 (52.9)	0 (0.0)	8 (47.1)	1 (5.9)

These distributions reveal dramatic shifts in the experimental group's performance profile. Before intervention, all experimental group participants scored below 41 points, with the majority (52.9%) falling in the Very Low category. Following intervention, 94.2% achieved scores in the Good or Very Good ranges, with no students remaining in the Low or Very Low categories. Conversely, the control group showed more modest improvement, with 70.6% remaining in the Fair category post-intervention and only 11.8% reaching the Good level.

Normalized Learning Gains

To account for differences in initial performance when assessing improvement, we calculated normalized gain scores using Hake's (1998) formula. This metric adjusts for ceiling effects by considering how much students improved relative to the maximum possible improvement given their starting points. Table 4 presents the distribution of gain categories.

Table 4. Distribution of Normalized Gain Scores

Gain Category	Experimental Group (n/%)	Control Group (n/%)
High ($g \geq 0.70$)	6 (35.3)	1 (5.9)
Medium ($0.30 \leq g < 0.70$)	11 (64.7)	8 (47.1)
Low ($g < 0.30$)	0 (0.0)	8 (47.1)
Mean gain	0.65	0.31

The experimental group achieved a mean normalized gain of 0.65 (SD = 0.15), classified as medium-to-high improvement, with all participants demonstrating at least medium gains. In contrast, the control group's mean gain of 0.31 (SD = 0.24) represented low-to-medium improvement, with nearly half (47.1%) showing low gains. This pattern suggests that mobile application integration not only produced higher absolute scores but also facilitated more substantial relative improvement compared to baseline performance.

Mastery Level Achievement

Using the school's minimum mastery criterion (Kriteria Ketuntasan Minimal, KKM) of 70 points, we examined how many students achieved passing scores. Table 5 displays mastery rates for both groups.

Table 5. Mastery Achievement Rates (KKM = 70)

Group	Pre-Test		Post-Test	
	Passed n (%)	Failed n (%)	Passed n (%)	Failed n (%)
Experimental	0 (0.0)	17 (100.0)	14 (82.4)	3 (17.6)
Control	0 (0.0)	17 (100.0)	2 (11.8)	15 (88.2)

Before intervention, no students in either group achieved mastery level. Following intervention, 82.4% of experimental group participants surpassed the mastery threshold, compared to only 11.8% of control group participants. This seven-fold difference in mastery rates ($\chi^2 = 17.89$, $p < .001$, $\varphi = 0.73$) provides compelling evidence that mobile application integration substantially increased the likelihood of students achieving curricular learning standards.

Research Question 2: Student Perceptions of Mobile Application Use

To understand students' subjective experiences with the mobile application, we administered a 15-item questionnaire to experimental group participants immediately following the post-test. The questionnaire assessed five dimensions of technology acceptance and user experience. Table 6 summarizes mean scores for each dimension.

Table 6. Mean Scores for Perception Questionnaire Dimensions

Dimension	Items	M	SD	Category
Perceived Ease of Use	1, 3, 15	4.30	0.58	Very High
Perceived Usefulness	8, 12, 14	4.46	0.52	Very High
User Satisfaction	5, 9, 13	4.33	0.49	Very High
Engagement and Motivation	2, 6, 10	4.23	0.64	Very High
Intention to Use Again	4, 7, 11	4.25	0.55	Very High
Overall Perception	1-15	4.31	0.47	Very High

Note. Scale: 1 = Strongly Disagree, 5 = Strongly Agree.

The overall mean perception score of 4.31 (SD = 0.47) indicates that students held highly favorable views of the mobile application across all measured dimensions. This score falls within the "Very High" category according to our predetermined classification scheme, suggesting strong acceptance of the technology-enhanced learning approach. The relatively small standard deviation (SD = 0.47) indicates considerable consistency in positive perceptions across participants, with minimal polarization in student responses.

Across all five dimensions, students demonstrated consistently positive perceptions of the mobile application, with dimensional means ranging from 4.23 to 4.46, all within the Very High category. The strongest perceptions emerged in Perceived Usefulness (M = 4.46), suggesting students recognized concrete learning benefits, and the comparatively lower (though still high) ratings for Engagement and Motivation (M = 4.23) may reflect the inherent challenge of grammar content rather than application limitations. The small standard deviations across dimensions (ranging from 0.47 to 0.64) indicate relatively homogeneous positive perceptions among participants, with few outliers expressing dissatisfaction.

The combination of high perceived usefulness and strong intention to use again suggests that the mobile application succeeded not only in making grammar learning more accessible and engaging but also in fostering sustainable motivation for continued technology-enhanced language learning. These perception data complement the achievement findings, indicating that improved learning outcomes coincided with enhanced

learner satisfaction and acceptance, a critical consideration for sustained implementation of technology-integrated pedagogy.

DISCUSSION

This study investigated the effectiveness of mobile application integration for enhancing Simple Present Tense mastery among Indonesian seventh-grade EFL learners and explored students' perceptions of this technology-mediated instructional approach. The findings contribute empirical evidence to the growing discourse on mobile-assisted language learning (MALL), particularly in resource-constrained educational contexts where innovative pedagogical solutions are increasingly necessary yet often challenging to implement. This discussion interprets our results in relation to existing literature, considers theoretical and practical implications, and acknowledges limitations that should inform future research.

The first research question examined whether the English Grammar: Learn and Test application significantly improved students' grammar mastery compared to conventional textbook-based instruction. Our findings revealed substantial improvements in the experimental group, with mean scores increasing from 20.94 to 72.12 and 82.4% of students achieving the school's mastery threshold of 70 points. The independent samples t-test confirmed statistically significant differences between groups ($t = -5.67$, $p < .001$), with a large effect size (Cohen's $d = 1.95$) indicating not only statistical significance but also practical meaningfulness. These results align with previous studies demonstrating the effectiveness of mobile applications for grammar learning, though the magnitude of improvement we observed exceeds what many comparable investigations have reported. Fatmawati et al. (2023), for instance, examined Duolingo's impact on Simple Present Tense mastery and found positive effects with a moderate effect size ($d = 0.68$), considerably smaller than our findings. Similarly, Magbanua (2024) documented improvements in grammar skills among Grade 9 Filipino students using the Learn English Grammar application, though the study reported more modest gains without normalized gain calculations. Aziz et al. (2021) explored Quizizz as a gamified assessment tool and observed enhanced engagement in grammar lessons, yet their focus on assessment rather than comprehensive instruction limits direct comparability with our intervention model.

Several factors may explain the larger effect size in our study compared to previous research. First, the English Grammar: Learn and Test application's specialized focus on systematic grammar instruction, rather than general language learning, may have provided more concentrated practice aligned with our specific learning objectives. Unlike multipurpose platforms that distribute attention across multiple language skills, this application's exclusive focus on grammatical structures potentially enabled deeper engagement with form-meaning connections (Ellis, 2006). Second, our implementation protocol incorporated structured teacher guidance alongside independent application use, creating a blended learning environment that combined technology's adaptive feedback capabilities with human pedagogical scaffolding. This hybrid approach resonates with sociocultural theory's emphasis on mediated learning (Vygotsky, 1978) and may have amplified effects beyond what either method could achieve independently. Third, participants' relatively low baseline performance ($M = 20.94$) indicated substantial room for improvement, though our normalized gain analysis, which adjusts for initial performance levels, confirmed that the experimental group demonstrated greater proportional improvement ($g = 0.65$) compared to the control group ($g = 0.31$), validating the intervention's effectiveness even when accounting for ceiling effects (Hake, 1999).

The control group's modest improvement from 29.18 to 50.94, while significantly smaller than the experimental group's gains, deserves acknowledgment. This pattern suggests that conventional textbook-based instruction was not entirely ineffective but rather insufficient for helping most students achieve curricular standards, with only 11.8% reaching mastery level compared to 82.4% in the experimental group. These findings parallel Lawalata's (2024) observation that Indonesian secondary students frequently struggle with fundamental grammatical structures when instruction relies exclusively on traditional methods emphasizing rote memorization and decontextualized exercises. Our results thus support the argument that mobile technology can enhance learning beyond what traditional methods achieve, functioning as a pedagogical amplifier rather than a complete replacement for established practices (Godwin-Jones, 2017). This interpretation carries important implications for educational policy, suggesting that technology integration should complement rather than entirely displace conventional instruction, particularly in contexts where teachers possess strong content knowledge but lack resources for individualized student attention.

The second research question explored students' perceptions of using the mobile application for grammar learning. The questionnaire results revealed highly positive perceptions across all five measured dimensions,

with an overall mean score of 4.31 (categorized as "very high"). Perceived Usefulness received the highest rating (M = 4.46), indicating that students recognized tangible learning benefits rather than simply enjoying technological novelty. This finding aligns with Davis's (1989) Technology Acceptance Model, which posits that perceived usefulness serves as a stronger predictor of sustained technology adoption than ease of use alone. In educational contexts, this distinction matters considerably because students may find applications entertaining yet educationally hollow, leading to initial enthusiasm that quickly dissipates.

Our perception findings resonate with Wang's (2024) research on cloud-based e-learning acceptance in higher education, which similarly found that perceived usefulness and user satisfaction strongly predicted continued technology use intentions. However, our study extends this work to younger learners in a different cultural and educational context, demonstrating that technology acceptance patterns identified in higher education may also apply to early adolescent EFL learners in developing countries. The strong ratings for Perceived Ease of Use (M = 4.30) are particularly significant given that participants were seventh-graders with varying prior technology experience, suggesting that interface design successfully accommodated young learners' cognitive and technical capabilities. This accessibility is crucial for equitable implementation, as overly complex interfaces risk excluding less technologically experienced students and potentially exacerbating achievement gaps (Warschauer, 2004).

Engagement and Motivation, while still rated highly (M = 4.23), received the comparatively lowest scores among the five dimensions, with 23.5% of students responding neutrally to whether the application made grammar learning more interesting. This pattern merits careful interpretation. Grammar instruction, regardless of delivery method, involves inherently challenging cognitive work requiring sustained attention to abstract linguistic patterns, work that many adolescents find less intrinsically motivating than communicative language activities (Larsen-Freeman, 2015). That three-quarters of students still agreed the application increased interest suggests meaningful motivational enhancement, even if technology could not entirely eliminate the subject matter's inherent difficulty. This realistic finding contrasts with some educational technology literature's tendency toward technological solutionism, reminding us that effective tools can increase engagement but cannot fundamentally transform difficult content into effortless entertainment.

The strong Intention to Use Again (M = 4.25), with 88.3% expressing willingness to use similar applications for other grammar topics and 100% willing to recommend the application to friends, provides behavioral evidence of genuine satisfaction beyond mere novelty effects. These findings align with Gazzawe et al.'s (2022) observation that successful mobile learning applications combine pedagogical soundness with user-friendly design, creating experiences that students value sufficiently to continue voluntarily. The convergence of high achievement outcomes with positive perceptions suggests that the intervention succeeded in creating what Deci and Ryan (2000) describe as conditions supporting autonomy, competence, and relatedness, the three fundamental psychological needs underlying intrinsic motivation.

This study carries several practical implications for EFL pedagogy in resource-constrained contexts. For classroom teachers, the results suggest that mobile applications can serve as valuable supplements to conventional instruction, particularly for grammatical structures requiring extensive practice, though effective implementation requires thoughtful pedagogical integration rather than simply assigning independent application use. For school administrators and policymakers, our findings demonstrate that impactful technology integration need not require sophisticated infrastructure or expensive devices, as our intervention utilized basic tablets and a free application with no internet connectivity required, conditions feasible even in under-resourced schools. For application developers, the strong appreciation for immediate feedback, self-paced progression, and clear visual explanations suggests these should be prioritized design elements, while slightly lower engagement scores indicate that maintaining motivation for grammar practice remains challenging even with interactive technology.

However, several limitations warrant acknowledgment. First, the relatively small sample size (n = 34) limits statistical power and generalizability, necessitating replication with larger samples across diverse contexts. Second, the six-week intervention duration, while sufficient to demonstrate short-term gains, cannot address questions about long-term retention or transfer to spontaneous language use. Third, our study examined a single grammatical structure using one specific application, requiring caution when generalizing to other grammatical features or applications. Fourth, potential novelty effects and social desirability bias may have inflated perception ratings, suggesting the need for longitudinal perception data and more indirect behavioral measures. Finally, the study was conducted in one school with specific sociocultural characteristics, highlighting the importance of context-sensitive educational research that acknowledges how local conditions shape technology integration outcomes.

CONCLUSIONS

This quasi-experimental study provides empirical evidence that mobile application integration can significantly enhance Simple Present Tense mastery among Indonesian seventh-grade EFL learners. The experimental group demonstrated substantial improvement, with mean scores increasing from 20.94 to 72.12 and 82.4% achieving mastery level, compared to only 11.8% in the control group receiving conventional instruction. The large effect size (Cohen's d = 1.95) indicates not merely statistical significance but meaningful practical impact. Moreover, students expressed highly positive perceptions across all measured dimensions (M = 4.31), particularly valuing the application's usefulness and ease of use, suggesting genuine educational value beyond technological novelty. These findings contribute to the growing body of literature on mobile-assisted language learning by demonstrating that thoughtfully implemented technology can address persistent challenges in grammar pedagogy, particularly in resource-constrained contexts where traditional methods prove insufficient. However, the study's limitations, including modest sample size, short intervention duration, and potential novelty effects, necessitate cautious interpretation and warrant replication across diverse settings. Effective technology integration requires careful pedagogical planning, teacher guidance, and attention to individual learner needs rather than viewing applications as standalone solutions. As mobile device access expands globally, continued research illuminating effective, equitable, and sustainable integration approaches becomes increasingly vital for ensuring that educational technology genuinely serves all learners' needs rather than exacerbating existing inequalities.

REFERENCES

Aziz, M. R., Fadhilawati, D., & Sutanti, N. (2021). The effectiveness of Quizizz application to increase students' grammar achievement. *ELTT Conference*, *7*, 179–189.

Burston, J. (2015). Twenty years of MALL project implementation: A meta-analysis of learning outcomes. *ReCALL*, *27*(1), 4–20. https://doi.org/10.1017/S0958344014000159

Butarbutar, R., Uspayanti, R., Bawawa, M., & Leba, S. M. R. (2020). Mobile Assisted Language Learning. *Proceedings of the 3rd International Conference on Social Sciences (ICSS 2020)*. https://doi.org/10.2991/assehr.k.201014.083

Çakmak, F. (2019). Mobile learning and mobile assisted language learning in focus. *Language and Technology*, *1*(1), 30–48. https://dergipark.org.tr/en/pub/lantec/article/517381

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly: Management Information Systems*, *13*(3), 319–339. https://doi.org/10.2307/249008

Deci, E. L., & Ryan, R. M. (2000). The "What" and "Why" of Goal Pursuits: Human Needs and the Self-Determination of Behavior. *Psychological Inquiry*, *11*(4), 227–268. https://doi.org/10.1207/S15327965PLI1104_01

Ellis, R. (2006). Current issues in the teaching of grammar: An SLA perspective. *TESOL Quarterly*, *40*(1), 83–107. https://doi.org/10.2307/40264512

Etikan, I., Musa, S. A., & Alkassim, R. S. (2016). Comparison of convenience sampling and purposive sampling. *American Journal of Theoretical and Applied Statistics*, *5*(1), 1–4. https://doi.org/10.11648/j.ajtas.20160501.11

Fatmawati, I., Sudirman, A., & Munawaroh, T. (2023). Effect of Using Duolingo Application towards Students' Grammar Mastery in Simple Present Tense. *JEPAL (Journal of English Pedagogy and Applied Linguistics)*, *3*(2), 77–85. https://doi.org/10.32627/jepal.v3i2.576

Gazzawe, F., Mayouf, M., Lock, R., & Alturki, R. (2022). The Role of Machine Learning in E-Learning Using the Web and AI-Enabled Mobile Applications. *Mobile Information Systems*, *2022*, 1–10. https://doi.org/10.1155/2022/3696140

Ghafar, Z. N., & Sawalmeh, M. H. M. (2024). Exploring the Pedagogical Significance of Grammar: A Comprehensive Review of Its Role in Language Learning and Teaching. *British Journal of Applied Linguistics*, *4*(1), 13–16. https://doi.org/10.32996/bjal.2024.4.1.2

Godwin-Jones, R. (2017). Smartphones and language learning. *Language Learning and Technology*, *21*(2), 3–17. https://doi.org/10.64152/10125/44607

Golonka, E. M., Bowles, A. R., Frank, V. M., Richardson, D. L., & Freynik, S. (2014). Technologies for foreign language learning: a review of technology types and their effectiveness. *Computer Assisted Language Learning*, *27*(1), 70–105. https://doi.org/10.1080/09588221.2012.700315

Hake, R. R. (1999). *Analyzing change/gain scores*. USA: Woodland Hills.

Herring, P. (2016). *The Farlex grammar book: Complete English grammar rules*. Farlex International.

Hoi, V. N. (2020). Understanding higher education learners' acceptance and use of mobile devices for language learning: A Rasch-based path modeling approach. *Computers & Education*, *146*, 103761. https://doi.org/10.1016/j.compedu.2019.103761

Isma, A., Abdullah, A., & Baharuddin, A. F. (2022). Non-English language students' perceptions in learning English through online Quizizz application. *International Seminar on Language, Education, and Culture (ISoLEC)*, 1–12.

Kukulska-Hulme, A., & Shield, L. (2008). An overview of mobile assisted language learning: From content delivery to supported collaboration and interaction. *ReCALL*, *20*(3), 271–289. https://doi.org/10.1017/S0958344008000335

Larsen-Freeman, D. (2015). Research into practice: Grammar learning and teaching. *Language Teaching*, *48*(2), 263–280. https://doi.org/10.1017/S0261444814000408

Lawalata, R. J. (2024). Analyzing the common mistakes high schoolers make when using the Simple Present and Present Continuous Tenses. *Pedagog Jurnal Ilmiah*, *2*(2), 6–16. https://doi.org/10.71387/pji.v2i2.87

Magbanua, J. J. (2024). Enhancing English Grammar Skills of Grade 9 Students Through the Use of an English Grammar Application. *ELT Worldwide: Journal of English Language Teaching*, *11*(2), 394. https://doi.org/10.26858/eltww.v11i2.66180

Shadish, W. R., Cook, T. D., & Campbell, D. T. (2002). *Experimental and quasi-experimental designs for generalized causal inference*. Houghton, Mifflin and Company.

Stockwell, G. (2013). *Technology and Motivation in English-Language Teaching and Learning BT - International Perspectives on Motivation: Language Learning and Professional Challenges* (E. Ushioda (ed.); pp. 156–175). Palgrave Macmillan UK. https://doi.org/10.1057/9781137000873_9

Vygotsky, L. S. (1978). *Mind in society: Development of higher psychological processes*. Harvard University Press.

Wang, L. Y. K. (2024). Evaluating the impact of cloud e-learning in higher education: An empirical investigation. *Knowledge Management & E-Learning*, *16*(2), 286–308. https://doi.org/10.34105/j.kmel.2024.16.014

Warschauer, M. (2004). *Technology and social inclusion: Rethinking the digital divide*. MIT press.