



IMPROVING STUDENTS' GRAMMAR USING ULTIMATE GRAMMAR APP IN ELEVENTH GRADE STUDENTS AT SMA SWASTA KATOLIK FRATERAN PODOR

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ABSTRAK

Penguasaan tata bahasa Inggris, khususnya *past* dan *future tenses*, masih menjadi tantangan bagi siswa karena perbedaan struktur dan penggunaannya membutuhkan pemahaman serta latihan yang berulang. Penelitian ini bertujuan meningkatkan penguasaan tata bahasa siswa melalui penggunaan *Ultimate Grammar App* di SMA Swasta Katolik Frateran Podor. Penelitian ini menggunakan *Classroom Action Research* berdasarkan model Kemmis dan McTaggart yang terdiri atas tahap perencanaan, tindakan, observasi, dan refleksi. Subjek penelitian adalah 29 siswa kelas XI pada tahun ajaran 2025/2026. Data dikumpulkan melalui tes penguasaan tata bahasa, observasi kelas, dan catatan lapangan, kemudian dianalisis secara deskriptif kuantitatif dan kualitatif. Persentase siswa yang mencapai Kriteria Ketuntasan Minimal meningkat dari 51,72% pada pra-siklus menjadi 75,86% pada Siklus I dan 93,10% pada Siklus II. Observasi juga menunjukkan peningkatan keaktifan, motivasi, dan kepercayaan diri siswa selama pembelajaran. Penggunaan *Ultimate Grammar App* mendukung peningkatan penguasaan tata bahasa dan keterlibatan siswa dalam pembelajaran. Media ini dapat menjadi alternatif pembelajaran *grammar* berbasis teknologi di tingkat sekolah menengah.

Kata kunci: kemampuan, tata bahasa, ultimate grammar app

ABSTRACT

English grammar mastery, particularly of the *past* and *future tenses*, remains challenging for students because differences in grammatical structures and usage require adequate understanding and repeated practice. This study aimed to improve students' grammar mastery through the use of the *Ultimate Grammar App* at SMA Swasta Katolik Frateran Podor. This study employed *Classroom Action Research* based on the Kemmis and McTaggart model, consisting of planning, action, observation, and reflection stages. The participants were 29 eleventh-grade students during the 2025/2026 academic year. Data were collected through grammar achievement tests, classroom observations, and field notes and were analyzed using descriptive quantitative and qualitative approaches. The percentage of students achieving the Minimum Mastery Criterion increased from 51.72% in the pre-cycle to 75.86% in Cycle I and 93.10% in Cycle II. Classroom observations also indicated increased student participation, motivation, and confidence throughout the learning process. Conclusion: The use of the *Ultimate Grammar App* supported improvements in students' grammar mastery and classroom engagement. The application can therefore serve as a technology-based alternative for supporting grammar instruction in secondary education.

Keywords: proficiency, grammar, ultimate grammar app



INTRODUCTION

English has an important role in education because it is widely used as a medium for accessing academic information, communicating ideas, and developing students' language competencies. In English learning, students are expected to develop *listening*, *speaking*, *reading*, and *writing* skills supported by adequate vocabulary and grammatical knowledge. Grammar is particularly important because it provides the structure through which learners construct meaningful and accurate sentences (Larsen-Freeman & DeCarrico, 2019). Therefore, grammar learning should not be limited to memorizing rules but should provide opportunities for students to understand and apply grammatical forms in meaningful contexts. The importance of English learning in the Indonesian educational context also strengthens the need to develop students' language competencies from an early stage of formal education (Rahmah & Qamariah, 2023).

Grammar, however, remains one of the challenging aspects of English learning. Students often experience difficulties in understanding grammatical forms, distinguishing rules, and applying them accurately in sentences. Verb tenses are particularly demanding because students need to understand differences in time reference as well as changes in sentence structure. Research on grammar instruction also indicates that the way grammar activities are designed and presented can influence students' opportunities to understand and practice grammatical forms (Ferhati & Hadj Ali, 2024). Grammar instruction that emphasizes explanation without sufficient opportunities for practice may therefore make students dependent on the teacher and less confident in using English. The use of appropriate instructional approaches, including *flipped learning*, has also been explored as an alternative for providing students with greater opportunities to engage with grammar learning materials (Lubis & Rahmawati, 2022).

The same problem was identified at SMA Swasta Katolik Frateran Podor, particularly among eleventh-grade students. Preliminary classroom observations indicated that many students experienced difficulties in using past and future tenses accurately. Students tended to depend on teacher explanations when completing grammar exercises, hesitated to answer questions, and were reluctant to express themselves because they were afraid of making grammatical errors. The problem was also reflected in students' perception that tense materials were complicated and difficult to understand. These conditions affected not only students' grammar mastery but also their participation and confidence during classroom activities. Consequently, grammar instruction requires learning media that can provide students with repeated practice, accessible explanations, and opportunities to identify and correct errors.

The development of mobile technology provides an opportunity to address these challenges through *Mobile-Assisted Language Learning* (MALL). Mobile applications can support language learning by allowing students to access learning materials beyond the classroom and engage in repeated practice according to their learning needs (Klimova, 2021). The use of mobile applications for grammar learning has received increasing attention because such applications can combine explanations, exercises, immediate feedback, and independent learning activities. A review of MALL research on grammar reported positive outcomes in students' grammar learning and engagement through the use of mobile-based applications (Muslimah et al., 2025). In Indonesian educational contexts, the use of mobile applications has also been associated with improvements in grammar mastery. For example, Duolingo has been used to improve grammar mastery among senior high school students (Fadhilawati et al., 2023; Ramadani & Andanty, 2025), while Fatmawati et al. (2023) reported its effect on students'



mastery of the simple present tense. Maharani et al. (2024) likewise reported the use of MALL to improve English grammar among senior high school students. These findings indicate that mobile-based learning has potential to provide more flexible and interactive opportunities for grammar practice.

Other digital applications have also demonstrated potential in grammar learning, although their instructional focus and target learners vary. Quizizz, for example, has been implemented to strengthen the grammatical ability of eleventh-grade students (Nurhalyza, 2024), while Busuu-assisted learning has been used to support students' mastery of the simple present, simple past, and simple future tenses (Sepia et al., 2026). Magbanua (2024) also reported the use of an English grammar application to enhance grammar skills among Grade 9 students. In higher vocational education, Sukerti et al. (2023) found that a mobile grammar application could function as a self-learning tool that supported students' learning autonomy. Similarly, Febrina and Hamdi (2024) reported that MALL contributed to grammar proficiency and learning motivation among university students. Ahmad et al. (2025) further demonstrated the potential of mobile application integration for grammar learning in the Indonesian context. Taken together, these studies suggest that mobile applications can provide additional opportunities for students to practice grammar and develop greater independence in learning.

Despite the growing evidence concerning mobile-based grammar learning, an important research gap remains. Most previous studies have focused on widely used or general-purpose applications such as Duolingo, Busuu, and Quizizz, whereas research specifically examining the Ultimate Grammar App remains limited. Sabahi and Rabbani Yekta (2019) investigated the use of the English Grammar Ultimate software application and reported improvement in the accuracy of verb-tense use among Iranian intermediate EFL learners. However, evidence concerning its implementation among Indonesian senior high school students remains limited, particularly in a private Catholic school context. In addition, several previous studies have focused on individual grammatical areas, such as the simple present tense (Fatmawati et al., 2023) or reported speech (Fadhilawati et al., 2023), while research addressing students' difficulties with both past and future tenses remains less extensive. Existing research has also highlighted the importance of considering technological adaptation, learning conditions, and the design of grammar applications when implementing MALL (Febrina & Hamdi, 2024; Mulyati et al., 2026).

The present study addresses this gap by implementing the Ultimate Grammar App to support the learning of past and future tenses among eleventh-grade students at SMA Swasta Katolik Frateran Podor. The study is positioned within a classroom context in which students demonstrated difficulties in mastering tense forms and showed limited confidence and participation during conventional grammar instruction. Its contribution lies in examining a grammar-focused mobile application through Classroom Action Research rather than merely measuring its effect through a single post-intervention comparison. The study therefore provides classroom-based evidence of how the application can be implemented, improved across learning cycles, and used to support students' grammar mastery and classroom participation. Based on this rationale, the study aims to improve students' English grammar mastery, particularly their understanding and use of past and future tenses, through the implementation of the Ultimate Grammar App. The findings are expected to provide practical information for English teachers seeking technology-supported alternatives for making grammar learning more interactive, practice-oriented, and supportive of students' independent learning.



RESEARCH METHOD

This study employed a quantitative approach using a *quasi-experimental* method with a *nonequivalent control group design*. The design involved two groups: an experimental group that received instruction using the *problem-based learning* (PBL) model and a control group that received conventional instruction. Both groups were assessed to determine differences in learning motivation and mathematics learning outcomes following the learning intervention.

The study was conducted at SD Swasta Pangeran Antasari during the second semester of the 2025/2026 academic year. The population consisted of all fifth-grade students, totaling 60 students. A saturated sampling technique was used because the entire population was included as the research sample. The sample consisted of 29 students in the experimental class and 31 students in the control class.

Data were collected using achievement tests, learning motivation questionnaires, observation, and documentation. The mathematics achievement test was used to measure students' learning outcomes before and after the intervention, while the questionnaire was used to measure students' learning motivation. Observation was conducted to monitor the implementation of the learning process, particularly student participation and classroom activities. Documentation was used to obtain supporting information related to the research participants and learning activities. Before being administered, the research instruments were subjected to expert validation to determine their content suitability with the indicators of mathematics learning outcomes and learning motivation. The instruments were then used to collect pretest and posttest data from both groups.

The data were analyzed using SPSS. Descriptive statistics were first used to summarize students' scores in the experimental and control groups. Subsequently, normality and homogeneity tests were conducted as prerequisites for parametric hypothesis testing. The normality test was used to determine whether the data were normally distributed, while the homogeneity test was used to examine the equality of variances between the experimental and control groups.

After the prerequisite tests were fulfilled, an *independent samples t-test* was conducted separately for learning motivation and mathematics learning outcomes. The test was used to determine whether there were significant differences between the experimental and control groups after the implementation of the learning model. The decision criterion was set at a significance level of 0.05. A significance value (*Sig. 2-tailed*) below 0.05 indicated a statistically significant difference between the two groups.

RESULTS AND DISCUSSION

Results

The study was conducted to examine differences in students' learning motivation and mathematics learning outcomes between students who received problem-based learning (PBL) and those who received conventional instruction. The analysis involved 60 fifth-grade students, consisting of 29 students in the experimental group and 31 students in the control group. The results are presented sequentially through descriptive statistics, prerequisite tests, and hypothesis testing.

Descriptive Statistics of Mathematics Learning Outcomes

The initial mathematics achievement scores indicate differences between the two groups before the learning treatment. The experimental group had a higher mean pretest score than the



control group. After the learning process, both groups showed improvement, although the increase in the experimental group was greater. The descriptive results are presented in Table 1.

Table 1. Descriptive Statistics of Mathematics Learning Outcomes

Group	N	Pretest Mean	Pretest Min–Max	Posttest Mean	Posttest Min–Max
Experimental	29	59.00	40–76	75.55	60–97
Control	31	46.83	25–78	67.07	53–88

Table 1 shows that the experimental group increased from a mean of 59.00 on the pretest to 75.55 on the posttest, while the control group increased from 46.83 to 67.07. Thus, the experimental group obtained a higher posttest mean than the control group, with a difference of 8.48 points. These descriptive findings indicate that mathematics learning outcomes improved in both groups, with a greater posttest mean in the group receiving PBL.

Descriptive Statistics of Learning Motivation

Learning motivation was also measured before and after the learning process. The pretest results show that the two groups had relatively close mean motivation scores. After the treatment, the experimental group showed a greater increase than the control group. The results are presented in Table 2.

Table 2. Descriptive Statistics of Learning Motivation

Group	N	Pretest Mean	Pretest Min–Max	Posttest Mean	Posttest Min–Max
Experimental	29	63.62	48–75	65.83	58–76
Control	31	61.41	47–75	62.21	49–75

As shown in Table 2, the experimental group increased from a mean motivation score of 63.62 to 65.83, whereas the control group increased from 61.41 to 62.21. The experimental group therefore had a higher posttest motivation mean than the control group. The descriptive results suggest that students who participated in PBL demonstrated greater improvement in learning motivation than those who received conventional instruction.

Normality Test

Before conducting the hypothesis test, a normality test was performed to determine whether the data met the assumption of normal distribution. The Shapiro–Wilk test was used because the number of students in each group was below 50. The results for mathematics learning outcomes and learning motivation are presented in Table 3.

Table 3. Shapiro–Wilk Normality Test

Variable	Group	Pretest Sig.	Posttest Sig.	Interpretation
Mathematics learning outcomes	Control	0.370	0.061	Normal
Mathematics learning outcomes	Experimental	0.543	0.115	Normal
Learning motivation	Control	0.843	0.712	Normal
Learning motivation	Experimental	0.441	0.184	Normal

The results in Table 3 show that all significance values were greater than 0.05. Therefore, the pretest and posttest data for both mathematics learning outcomes and learning motivation met the normality assumption. These findings indicate that the data were suitable for further analysis using a parametric test.

Homogeneity Test

After the normality assumption was confirmed, a homogeneity test was conducted to determine whether the variances of the experimental and control groups were comparable. Levene's test was applied separately to mathematics learning outcomes and learning motivation. The results are shown in Table 4.

Table 4. Homogeneity Test

Variable	Levene Statistic	Sig.	Interpretation
Mathematics learning outcomes	0.742	0.393	Homogeneous
Learning motivation	0.364	0.549	Homogeneous

Table 4 indicates that the significance value for mathematics learning outcomes was 0.393, while the significance value for learning motivation was 0.549. Both values were greater than 0.05. Thus, the variances of the experimental and control groups were homogeneous, satisfying the variance assumption for the independent-samples *t*-test.

Hypothesis Testing of Mathematics Learning Outcomes

After the normality and homogeneity assumptions were fulfilled, an independent-samples *t*-test was conducted to determine whether there was a significant difference in mathematics learning outcomes between the experimental and control groups. The results are presented in Table 5.

Table 5. Independent-Samples *t*-Test of Mathematics Learning Outcomes

Test	t	df	Sig. (2-tailed)	Mean Difference	95% CI
Equal variances assumed	-3.419	58	0.001	-8.455	-13.406 to -3.504

The results in Table 5 show that the significance value was 0.001, which is lower than 0.05. Therefore, there was a statistically significant difference in mathematics learning outcomes between the experimental and control groups. The negative mean difference reflects the direction of the SPSS group comparison and does not indicate a negative learning effect; descriptively, the experimental group had a higher posttest mean (75.55) than the control group (67.07).

Hypothesis Testing of Learning Motivation

An independent-samples *t*-test was also conducted to examine the difference in learning motivation between the two groups. This analysis was performed using the same significance level of 0.05. The results are presented in Table 6.

Table 6. Independent-Samples *t*-Test of Learning Motivation

Test	t	df	Sig. (2-tailed)	Mean Difference	95% CI
Equal variances assumed	-2.546	58	0.014	-3.763	-6.721 to -0.805

Table 6 shows a significance value of 0.014, which is lower than 0.05. Thus, there was a statistically significant difference in learning motivation between the experimental and control groups. The experimental group obtained a higher posttest motivation mean (65.83) than the control group (62.21), indicating a difference in motivation after the learning process.

Overall, the results show that both groups experienced improvements in mathematics learning outcomes and learning motivation. However, the experimental group, which received PBL, obtained higher posttest mean scores than the control group for both variables. The independent-samples *t*-test further indicated statistically significant differences in mathematics learning outcomes ($p = 0.001$) and learning motivation ($p = 0.014$) between the two groups.



Discussion

The findings show that the implementation of Problem-Based Learning (PBL) was followed by higher posttest scores in both learning motivation and mathematics learning outcomes compared with the control group. The experimental group obtained a mean motivation score of 65.83, compared with 62.21 in the control group, while the mean mathematics learning outcome was 75.55, compared with 67.07 in the control group. The independent-samples *t*-test confirmed significant differences in learning motivation ($p = 0.014$) and mathematics learning outcomes ($p = 0.001$). These findings indicate that the differences between the two groups were statistically significant and are consistent with previous research reporting differences in motivation and mathematics achievement following the implementation of PBL in elementary education (Rohman et al., 2025).

The Effect of PBL on Learning Motivation

The difference in motivation scores indicates that PBL was associated with higher learning motivation among students in the experimental group. The experimental group increased from a mean of 63.62 in the pretest to 65.83 in the posttest, whereas the control group increased from 61.41 to 62.21. Although the increase in the experimental group was not large in absolute terms, the posttest comparison produced a significant result ($p = 0.014$). This finding suggests that the learning model contributed to differences in students' motivational responses during mathematics learning.

The motivational difference can be explained by the learning characteristics of PBL, which place students in situations that require them to identify problems, discuss possible solutions, exchange ideas, and participate in solving contextual tasks. Such activities provide students with a more active role than instruction that relies predominantly on teacher explanation. In this process, students are not merely recipients of mathematical information but are required to participate in finding and explaining solutions. Rohman et al. (2025) similarly reported that PBL was associated with differences in students' mathematics learning motivation and learning outcomes, supporting the present finding.

The finding is also consistent with the broader argument that learning models should encourage active student participation and provide meaningful learning experiences. Ega et al. (2023) emphasized the relationship between learning motivation and mathematics learning outcomes, indicating that motivation is an important component of mathematics learning. Therefore, the use of a learning model that gives students opportunities to engage directly in learning activities is relevant to efforts to strengthen both motivational and academic aspects.

However, the present results should not be interpreted as evidence that PBL is the only model capable of increasing motivation. The significant difference was obtained within the specific context of this study, involving fifth-grade students at SD Swasta Pangeran Antasari, the learning material used, the duration of treatment, and the instructional conditions during implementation. Thus, the finding primarily demonstrates that the PBL treatment in this context produced a statistically different motivation outcome from the control condition.

The Effect of PBL on Mathematics Learning Outcomes

The mathematics learning results provide stronger descriptive evidence of differences between the two groups. The experimental group increased from a mean pretest score of 59.00 to 75.55, while the control group increased from 46.83 to 67.07. The posttest mean was therefore 8.48 points higher in the experimental group. The independent-samples *t*-test produced a significance value of 0.001, indicating a statistically significant difference in mathematics learning outcomes between the two groups.



The higher mathematics achievement in the experimental group can be related to the problem-solving structure of PBL. Students are exposed to problems that require them to understand the situation, identify relevant information, discuss possible strategies, and formulate solutions. These activities provide opportunities for students to process mathematical concepts rather than only receive explanations from the teacher. Satrina et al. (2023) also reported improvement in mathematics learning outcomes through the implementation of PBL, supporting the use of problem-based activities as an alternative approach in elementary mathematics learning.

The finding is also in line with Nuryanti and Tryanasari (2023), who discussed efforts to improve mathematics learning outcomes in elementary schools through appropriate learning approaches. In mathematics learning, students need opportunities to connect concepts with problem situations so that the material is not understood only as a collection of procedures. PBL provides such opportunities by organizing learning around problems that students must investigate and solve.

The present result also corresponds with the findings of Metzvioleta (2025), which emphasize the importance of selecting an appropriate learning model in efforts to improve elementary students' learning outcomes. However, the current study specifically demonstrates a difference between a PBL group and a conventional-learning group, rather than merely describing an increase after treatment. Therefore, the significant *t*-test result strengthens the interpretation that the two instructional conditions produced different posttest outcomes in this research setting.

Relationship Between Learning Motivation and Mathematics Learning Outcomes

The findings for motivation and mathematics learning outcomes show a consistent pattern: the experimental group obtained higher posttest means for both variables. This pattern is important because motivation and academic achievement are not independent components of classroom learning. Students who are actively involved in learning activities have more opportunities to practice, discuss, clarify concepts, and complete mathematical problems.

Ega et al. (2023) specifically examined students' learning motivation in relation to mathematics learning outcomes, providing a basis for viewing motivation as an important component in mathematics learning. In the present study, PBL created learning activities that required students to participate in solving problems and interacting with peers. This learning process may help create conditions that support students' willingness to participate while simultaneously providing opportunities to develop mathematical understanding.

Nevertheless, the results do not establish that the increase in mathematics achievement was caused solely by the increase in motivation. The research design tested differences between instructional groups rather than a mediation model examining whether motivation statistically mediated the effect of PBL on achievement. Therefore, the relationship between the two findings should be interpreted as complementary rather than as evidence of a direct causal pathway from motivation to achievement.

Implications of the Findings

The findings have practical implications for mathematics instruction in elementary schools. PBL can be implemented by beginning learning with relevant problems, organizing students to investigate the problems, facilitating group discussion, guiding students in developing solutions, and providing opportunities to present and evaluate their solutions. This structure allows the teacher to function not only as a source of information but also as a facilitator who guides students during the problem-solving process.



The findings also reinforce the importance of selecting learning models according to the learning objectives and characteristics of students. PBL is particularly relevant when mathematics instruction is expected to involve active participation, discussion, reasoning, and problem solving. However, its implementation requires appropriate problems, sufficient instructional time, clear group organization, and continuous teacher guidance so that student activity remains focused on the learning objectives.

Limitations

This study has several limitations that should be considered when interpreting the findings. First, the research was conducted at one elementary school with 60 fifth-grade students, so the findings should not be generalized directly to students in different schools or educational contexts. Second, the study focused on particular mathematics learning activities and a limited treatment period, meaning that the findings do not yet describe the long-term effects of PBL. Third, the analysis focused on learning motivation and mathematics learning outcomes and did not examine other possible outcomes such as critical thinking, mathematical communication, creativity, or problem-solving ability.

Further research can therefore involve larger samples, different school contexts, longer implementation periods, and broader mathematics topics. Future studies can also examine additional learning outcomes to determine how PBL relates to students' higher-order thinking and mathematical problem-solving processes.

CONCLUSION

The results show that the implementation of Problem-Based Learning (PBL) was associated with significantly different learning motivation and mathematics learning outcomes between the experimental and control groups. The experimental group obtained a higher posttest mean for learning motivation (65.83) than the control group (62.21), with a significance value of 0.014. Similarly, the experimental group achieved a higher posttest mean in mathematics learning outcomes (75.55) than the control group (67.07), with a significance value of 0.001. These findings indicate that PBL provided a different learning experience that was reflected in students' motivation and mathematics achievement compared with conventional instruction.

The findings imply that PBL can be considered an alternative learning model for elementary mathematics instruction, particularly when learning is designed around contextual problems, student participation, discussion, and problem solving. However, the findings are limited to the fifth-grade students and learning context examined in this study. Further research is recommended to involve larger and more diverse samples, longer implementation periods, and broader learning outcomes, including critical thinking, mathematical problem solving, creativity, and mathematical communication.

REFERENCES

- 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. <https://ojs.unsulbar.ac.id/index.php/ilere/article/view/6071>
- Anggiya, W. (2023). *The influence of using flipped classroom in teaching grammar (simple past tense) in the tenth grade at the second semester in SMA N 1 Gadingrejo Pringsewu*



- in the academic year of 2022/2023 [Doctoral dissertation, UIN Raden Intan Lampung].
<https://repository.radenintan.ac.id/29486/>
- Fadhilawati, D., Mansur, M., & Suyitno. (2023). The utilization of Duolingo to boost students' grammar mastery in senior high school. *JARES (Journal of Academic Research and Sciences)*, 8(2), 37–52. <https://doi.org/10.35457/jares.v8i2.3034>
- Fatmawati, I., Sudirman, A., & Munawaroh, T. (2023). The 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>
- Febrina, N., & Hamdi, H. (2024). The effect of mobile-assisted language learning (MALL) on grammar proficiency and learning motivation. *IMLAH: Islamic Manuscript of Linguistics and Humanity*, 6(2), 23–33. <https://ejournal.uinib.ac.id/jurnal/index.php/imlah/article/view/10414>
- Ferhati, Y., & Hadj Ali, Y. (2024). *Analysing grammar activities within EFL teachers' lesson plan: Case study of Aich Fatma and Adnane Mohand Said Middle Schools of Azazga, Tizi Ouzou* [Master's dissertation, Université Mouloud Mammeri de Tizi-Ouzou]. <https://dspace.ummto.dz/items/d4ceb776-4625-40e2-ab7a-9784043a4cea>
- Klimova, B. (2021). Evaluating impact of mobile applications on EFL university learners' vocabulary learning—A review study. *Procedia Computer Science*, 184, 859–864. <https://www.sciencedirect.com/science/article/pii/S187705092100750X>
- Larsen-Freeman, D., & DeCarrico, J. (2019). Grammar. In *An introduction to applied linguistics* (pp. 19–34). Routledge.
- Lubis, A. H., & Rahmawati, E. (2022, February). Incorporating flipped learning in teaching English grammar for EFL students across proficiency levels. In *67th TEFLIN International Virtual Conference & the 9th ICOELT 2021 (TEFLIN ICOELT 2021)* (pp. 68–73). Atlantis Press. <https://www.atlantis-press.com/proceedings/teflin-icoelt-21/125970079>
- 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), 394–405. <https://doi.org/10.26858/eltww.v11i2.66180>
- Maharani, R. Z., Degeng, P. D. D., & Razali, K. A. (2024). The use of mobile assisted language learning to improve English grammar for senior high school students. *JOLLT Journal of Languages and Language Teaching*, 12(3), 1455–1466. <https://doi.org/10.33394/joltt.v12i3.11041>
- Mulyati, S., Nizamuddin, N. S., Hapsari, A., & Nurkholis, G. I. (2026). Enhancing English grammar education through a mobile-assisted language learning application: A case study using the Formula 33 approach. *Jurnal Penelitian Pendidikan IPA*, 12(3), 172–183. <https://doi.org/10.29303/jppipa.v12i3.13915>
- Muslimah, N., Tarihoran, N., & Oktafiana, F. (2025). Mobile-assisted language learning (MALL) for grammar: Trends and outcomes (2018–2023). *Journal of English Language Teaching and Learning (JETLE)*, 6(2), 148–156. <https://doi.org/10.18860/jetle.v6i2.32350>
- Nurhalyza, A. L. (2024). The implementation of Quizizz to enhance the grammatical ability of the eleventh graders. *Journal of English for Academic and Specific Purposes (JEASP)*, 7(1). <https://doi.org/10.18860/jeasp.v7i1.26664>



- Rahmah, A. A., & Qamariah, Z. (2023). Evaluation of the importance of English as a foreign language in elementary schools in Indonesia. *Journal of Foreign Language Learning and Teaching*, 3(1), 52–63. <https://doi.org/10.23971/jfltl.v3i1.6894>
- Ramadani, G. A., & Andanty, F. D. (2025). Duolingo's impacts in senior high classrooms. *IDEAS: Journal on English Language Teaching and Learning, Linguistics and Literature*, 13(2), 3444–3458. <https://doi.org/10.24256/ideas.v13i2.7077>
- Sabahi, A., & Rabbani Yekta, R. (2019). Enhancing the accuracy of the use of verb tenses by Iranian intermediate EFL students through MALL: The case of English Grammar Ultimate software app. *Journal of Foreign Language Teaching and Translation Studies*, 4(1), 89–104. <https://doi.org/10.22034/EFL.2019.225388.1029>
- Sepia, Kalsum, Sunubi, A. H., & Munawir. (2026). Reinventing grammar pedagogy through mobile-assisted learning: Busuu-assisted tense mastery in an Indonesian madrasah tsanawiyah. *ELS Journal on Interdisciplinary Studies in Humanities*, 9(1), 123–130. <https://doi.org/10.34050/els-jish.v9i1.50029>
- Sukerti, G. N. A., Handayani, L. N. C., Laksana, I. P. Y., & Boyce, G. P. (2023). Mobile grammar application for computer students in higher vocational education: Self-learning tool to enhance student's autonomy. *Jurnal Pendidikan Vokasi*, 13(3), 285–299. <https://doi.org/10.21831/jpv.v13i3.54246>
- Sulaiman, N. (2026). Rural Malaysian teachers' perception and classroom implementation of the CEFR-aligned English language syllabus. *International Journal of Language Education and Applied Linguistics*, 16(1), 1–10. <https://doi.org/10.15282/ijleal.v16i1.12531>
- Teng, M. F. (2024). Can we play with tasks? A response to Ellis (2024). *International Journal of TESOL Studies*, 6(4), 43–54. <https://doi.org/10.58304/ijts.20240405>