Al-Fikru: Jurnal Pendidikan dan Sains
7(1), 2026, 34-39
Available at: https://ejournal.unzah.ac.id/index.php/alfikru

Digital grammar boost: integrating interactive m-learning via Smart Apps Creator to teach the simple past tense

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Abstract: *This research explores the implementation of interactive M-learning media using Smart Apps Creator to improve students' understanding of the Simple Past Tense. Conducted through a one-group pre dan post- test design as pre-experimental study, it involved eighth-grade students at SMP Walisongo. This applied cluster random sampling to have the sample. The results revealed a significant improvement in students' performance after the intervention, supported by statistical evidence from paired samples t-tests, the significance value for the two-tailed test was 0.000, which is below 0.05. These findings suggest that integrating M-learning into grammar instruction can enhance students' ability of mastering simple past tense. The study highlights the potential of M-learning tool in making grammar instruction more dynamic and accessible, particularly for junior high school students. It also recommends broader institutional support and further research to evaluate the impact of similar digital interventions on other language skills*
Keywords*: Interactive M-Learning, Grammar Mastery in EFL Students*

How to Cite: Segu, S., Roma, Kholifuddin. (2026). Digital grammar boost: integrating interactive m-learning via Smart Apps Creator to teach the simple past tense. *Al-Fikru: Jurnal Pendidikan dan Sains, 7*(1), 34-39. https://doi.org/10.55210/al-fikru.v7i1.2429

Introduction

English is an international language that plays a vital role in education, business, and technology. One of the main components of learning English is grammar, which forms the basis for constructing correct and logical sentences. However, learning grammar is often considered dull and difficult by English as a Second Language (ESL) learners, primarily due to students' subjective perceptions of the grammar teaching methods (Fouad, 2024). One grammar topic that often causes difficulty is the use of the Simple Past Tense, as it requires an understanding of past tense context and verb tense changes.

Constructing sentences can be likened to stringing together thoughts. Therefore, mastering grammar is fundamental to achieving success in academic and professional communication (Hinzen et al., 2024). Grammar instruction reduces students' language errors and strengthens their ability to use language as a means of communication. Every language has its own grammatical rules, which must be mastered by anyone who wishes to use it effectively. In other words, grammar is inseparable from the language, including English.

Grammar can be like traffic signs on a communication highway, messages would be difficult to understand or even chaotic without it. While one can still convey basic meaning without a complete grammar, expressing more complex ideas requires an adequate understanding of language structure (Rossiter, 2021). It not only shapes sentence structure but also has important semantic value in conveying complete meaning (Wang et al., 2023). Without grammatical guidelines, complex ideas would be difficult to convey in oral and written communication.

In the modern learning era, digital technology has opened up new opportunities to deliver grammar lessons more engagingly through Mobile Learning (M-Learning). Learning grammar through applications on mobile devices provides a more interactive, flexible, and enjoyable learning experience.

https://doi.org/10.21067/jpm.vxix.xxxx

These applications generally provide personalised exercises and instant feedback, increasing student motivation and encouraging independent learning anytime and anywhere (Murtiningsih et al., 2024). Compared to conventional methods that rely on textbooks or worksheets, mobile apps utilise multimedia elements such as visuals and audio to explain abstract grammar concepts for easier comprehension.

This advantage allows students to learn independently and review difficult material without time pressure. This encourages the growth of independence, self-confidence, and motivation in the active process of learning grammar. Kittredge et al. (2025) state that using generative AI in language learning also contributes to increased student self- confidence, indirectly impacting their learning performance. M-Learning has become a relevant method for today's digital generation, who are familiar with using smartphones daily.

Several previous studies have shown that M-Learning has the potential to improve grammar mastery and self-confidence in EFL (English as a Foreign Language) students. Duolingo, for example, effectively increases student self-efficacy (Kittredge et al., 2025). Research done by Kashanizadeh and Shahrokhi (2021) also shows that mobile- based grammar apps are more effective than conventional methods. However, Murtiningsih et al. (2024) found different results, with no significant difference between the mobile app group and the control group. In other words, although many studies show positive results, the effectiveness of mobile learning is not entirely consistent. Some weaknesses in previous studies include the limited duration of interventions and the use of global, non-contextualised applications. Furthermore, no experimental studies have specifically tested using Smart Apps Creator-based media for teaching the Simple Past Tense.

This study presents a novelty through the interactive learning media based on Smart Apps Creator, specifically designed to teach the topic of the Simple Past Tense. This media has been developed locally, is contextualised, and supports student independent learning through engaging and easy-to-use multimedia features. Therefore, this study aims to empirically test whether mobile learning through Smart Apps Creator can significantly improve students' mastery of the Simple Past Tense.

Method

This study adopted a quantitative approach, emphasizing the systematic collection and interpretation of numerical data. It was anchored within the paradigm of scientific realism, aligning with the perspective put forward (Lodico et al., 2010). In line with Creswell's explanation (2012), quantitative research is generally initiated by identifying a research problem, often derived from observable patterns or the need to explore underlying causes of a specific issue. The structure of this research involved a single group of students who were assessed through a pre-test, received an instructional intervention using Smart Apps Creator as the learning medium, and then took a pos- test to determine any shifts in their grammatical proficiency, focusing on mastery of the simple past tense. To implement this, this utilized a pre-experimental framework, the one-group pretest–posttest design. As outlined by Cohen et al. (2007)this model can be described as follows:

Table 1. Research Design

O_1	X	O_2

Where:

O_1 : Pretest
X : Treatment
O_2 : Posttest

The population in this study refers to a broad group of individuals or items that serve as the central subject of the research. A population consists of individuals who share a specific characteristic that sets them apart from other groups (Cresswell, 2012). In this particular study, the population comprises all eighth-grade students at SMP Walisongo, as detailed in the following table:

Table 2. The Population of Eighth Grade of SMP Walisongo

No	Class	The student numbers
1	8A	34 students
2	8B	33 students
3	8C	36 students
Total		103 students

The sample in this study was selected to accurately represent the larger population. A sample is essentially a smaller subset of the population that allows the researcher to generalize the findings of the study (Lodico et al., 2010). To determine the sample, the researcher employed a cluster random sampling method.

The data collection method employed in this study was measurement. It refers to the process of assigning meaningful numerical values to individuals or objects based on the extent to which they exhibit a certain characteristic (Blerkom, 2009). In the context of this research, measurement was used to evaluate students' ability of mastering simple past tense. Furthermore, a test was used to collect the data. It is a tool or instrument that systematically measures students' learning achievements, abilities, knowledge, skills, attitudes, or potential. It is usually structured in the form of specific questions or tasks that students must complete, and the result is to evaluate the extent to which learning objectives have been achieved. In addition, the process of analyzing the data was used SPPS, such mean score, standard deviation, the homogeneity test, normality test, t-test.

Results and Discussion

The analysis revealed that students initially scored an average of 39.27 on the pre- test, with a standard deviation of 7.775 and a standard error of 1.353. After the intervention, their average score rose markedly to 77.45, accompanied by a standard deviation of 7.471 and a standard error of 1.301. This substantial increase suggests that the students experienced significant academic progress during the study period.

The homogeneity test was conducted to determine whether the population had equal variances. A population with equal variances is considered homogeneous, whereas differing variances indicate a heterogeneous population. To obtain the results, it was employed a one-way ANOVA test using SPSS software. The results of this analysis are presented in the following table:

Table 3. Homogeneity Test

Levene Statistic	df1	df2	Sig.
2.433	2	100	.093

Based on the table above, the significance value obtained was 0.093, which is greater than the threshold of 0.05. This indicates that the variance among the groups was not significantly different, and therefore, the population can be considered homogeneous.

The purpose of conducting a normality test is to determine whether the data are normally distributed. In this study, the researcher utilized SPSS to analyze the descriptive statistics related to data normality. The aim was to assess whether the pre- test and post-test scores followed a normal

distribution pattern. The Kolmogorov- Smirnov test was applied. The results showed that both the pre-test and post-test had significance values above 0.05 — specifically, 0.200 for the pre-test and 0.197 for the post-test. Based on these results, it can be concluded that both sets of data are normally distributed. The detailed results, including the normality table and histogram, are presented below:

Table 4. Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
PreTest	.148	33	.064	.966	33	.368
PostTest	.142	33	.090	.92	33	.028

a. Lilliefors Significance Correction

After carrying out the normality test to ensure the data met the assumptions required for parametric analysis. In the final paired samples test table, the hypotheses were formulated as follows: the Null Hypothesis (H_0) stated that the use of M-learning via Smart Apps Creator was not effective in improving ability of simple past tenses among eighth-grade students at SMP Walisongo, while the Alternative Hypothesis (Ha) stated that M-learning via Smart Apps Creator was effective in enhancing students' ability of simple past tense. The detailed results of the paired samples test are presented in the table below:

Table 5. Paired Samples Test

		Paired Differences							
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	T	df	Sig. (2-tailed)
Pair 1	PreTest - PostTest	-38.182	8.191	1.426	-41.086	-35.277	-26.778	32	.000

Based on the table presented above, the mean difference between the pre-test and post-test scores was -38.182, with a standard deviation of 8.191. The confidence interval at the 95% level ranged from -41.086 to -35.277, indicating a statistically significant difference in students' ability of simple past tense before and after the intervention. Additionally, the significance value for the two-tailed test was 0.000, which is below 0.05. This result confirms a significant difference in students' ability of simple past tenses before and after the use of M-learning via Smart Apps Creator.

Therefore, the researcher concluded that the Null Hypothesis (H_0) was rejected, and the Alternative Hypothesis (Ha) was accepted. The findings demonstrate that there was a significant improvement in students' ability of simple past tenses following the treatment. In conclusion, the use of M-learning via Smart Apps Creator proved to be an effective instructional method for enhancing ability of simple past tenses among the eighth-grade students of SMP Walisongo.

Discussion

The results of the study revealed a clear improvement in students' understanding of the simple past tense after the implementation of M-learning using Smart Apps Creator. This can be observed from the increase in the mean score between the pre-test (39.27) and post-test (77.45), suggesting that the digital learning intervention contributed significantly to students' progress. The relatively low standard error values further support the consistency of the data.

Before conducting the paired samples t-test, both the normality and homogeneity assumptions were tested. The Kolmogorov–Smirnov test results showed significance values of 0.200 for the pre-test and 0.197 for the post-test, both of which exceeded the

0.05. This indicates that the distribution of the data for both tests was normal, fulfilling one of the key assumptions required for parametric testing. Furthermore, the homogeneity test showed a significance value of 0.093, which also exceeds 0.05. This result confirms that the variances of the groups were homogeneous, thus validating the appropriateness of using the t-test.

The paired samples t-test revealed a mean difference of -38.182 with a t-value of - 26.778 and a significance level of 0.000. Since this p-value is well below the 0.05 benchmark, the null hypothesis, which suggested that M-learning had no significant effect, was rejected. The data strongly supports the alternative hypothesis that the use of Smart Apps Creator in M-learning significantly improved students' mastery of the simple past tense.

These findings align with previous research highlighting the effectiveness of interactive digital platforms in language learning. M-learning could enhance the students' self-efficacy and more effective than conventional methods (Kashanizadeh & Shahrokhi, 2021; Kittredge et al., 2025). The visual, auditory, and engaging nature of M-learning applications likely contributed to better retention and understanding of grammatical structures among the students. In addition, the interactive features within Smart Apps Creator may have increased student motivation and active participation in the learning process.

The evidence indicates that integrating mobile learning tools into grammar instruction, particularly through Smart Apps Creator, is not only feasible but also beneficial in improving student outcomes in English grammar, specifically in the mastery of simple past tense forms. Bilotserkovets and Fomenko (2022) claim that the integration of mobile technology in grammar learning is relevant and very effective in answering the need for more adaptive and modern foreign language education. It is efficacious in improving grammar understanding, learning motivation, and knowledge of English learning(Maharani et al., 2024). Furthermore. M-learning delivers more effective outcomes than conventional teaching methods through traditional lectures, classic pedagogical tools, or other multimedia learning media (Garzón et al., 2023).

Based on research findings and support from previous studies, M-learning has proven to be a practical approach to improving English grammar mastery, particularly in the simple past tense. The interactive features offered by platforms like Smart Apps Creator can encourage active student engagement and significantly strengthen material retention. This aligns with the views of experts who state that mobile learning is not only relevant in the modern learning era but also superior to conventional methods in terms of learning outcomes, student motivation, and self-efficacy in the foreign language learning process

Conclusion

In conclusion, this study has demonstrated that M-learning via Smart Apps Creator has a significant and positive effect on students' mastery of the simple past tense. The statistical analyses confirm that students showed marked improvement after receiving instruction through this digital platform. The data supports the rejection of the null hypothesis and acceptance of the alternative hypothesis. Thus, it can be concluded that the use of mobile-based applications can enhance students' grammar proficiency and serve as an effective instructional strategy in the EFL classroom.

In the context of learning, teachers are advised to utilize interactive tools such as Smart Apps Creator to enrich grammar instruction. This technology can help students, particularly those in junior high school, understand abstract concepts in grammar more concretely and engagingly. Furthermore, schools are expected to provide adequate training and technical support so that educators can optimally integrate mobile learning platforms into their teaching practices. For further study development, future.

researchers can evaluate the effectiveness of mobile-based learning on other language skills, such as speaking, writing, or reading comprehension. Furthermore, similar research with a larger number of participants and more diverse backgrounds would be highly beneficial in increasing the relevance and generalizability of the findings.

References

Bilotserkovets, M., & Fomenko, T. (2022). Learning English Grammar by Means of M- Learning: A Case Study. *Educational Challenges*, *27*(2), 29–38. https://doi.org/10.34142/2709-7986.2022.27.2.02

Blerkom, M. L. (2009). *Measurement and Statistics for Teachers*. Routledge.

Cohen, L., Manion, L., & Morrison, K. (2007). *Research methods in education* (Sixth).
Routledge.

Cresswell, J. (2012). *Educational research: planning, conducting and evaluating quantitative and qualitative research* (Four). Pearson.

Fouad, E. (2024). The impact of grammar in teaching and learning ESL. *ResearchGATE*, 01–30. https://doi.org/10.13140/RG.2.2.24667.37920

Garzón, J., Lampropoulos, G., & Burgos, D. (2023). Effects of Mobile Learning in English Language Learning: A Meta-Analysis and Research Synthesis. In *Electronics (Switzerland)* (Vol. 12, Issue 7). MDPI. https://doi.org/10.3390/electronics12071595

Hinzen, W., Martin, T., & Wiltschko, M. (2024). A new argument for linguistic determinants of human thought. *Linguistics and Philosophy*, *47*(6), 1027–1043. https://doi.org/10.1007/s10988-024-09414-8

Kashanizadeh, I., & Shahrokhi, M. (2021). The Use of Mobile to Boost Iranian EFL Learners' Grammar Knowledge: The Case of Grammar Learning Application in Focus. In *Journal of Applied Linguistics and Language Research* (Vol. 8). www.jallr.com

Kittredge, A. K., Hopman, E. W. M., Reuveni, B., Dionne, D., Freeman, C., & Jiang, X. (2025). Mobile language app learners' self-efficacy increases after using generative AI. *Frontiers in Education*, *10*. https://doi.org/10.3389/feduc.2025.1499497

Lodico, M., Spaulding, D., & Voegtle, K. (2010). *Methods in educational research*.
Jossey-Bass.

Maharani, R., Degeng, P., & Razali, K. (2024). The Use of Mobile Assisted Language Learning To Improve English Grammar for Senior High School Students. *Journal of Languages and Language Teaching*, *12*, 1455.
https://doi.org/10.33394/jollt.v12i3.11041

Murtiningsih, S. R., Wati, N. P. T. A., & Haryadi, D. (2024). The Effectiveness of Mobile Applications in Developing Students'? English Grammar Skills. *E3S Web of Conferences*, *594*. https://doi.org/10.1051/e3sconf/202459405008

Rossiter, A. (2021). The importance of GRAMMAR. *ERIC - Education Resources Information Center*, 01–05. https://eric.ed.gov/?id=ED613321

Wang, J., Lin, H., & Cai, Q. (2023). How Grammar Conveys Meaning: Language- Specific Spatial Encoding Patterns and Cross-Language Commonality in Higher- Order Neural Space. *Journal of Neuroscience*, *43*(46), 7831–7841. https://doi.org/10.1523/JNEUROSCI.0599-23.2023