

E-BOOK OF EXTENDED ABSTRACT

THE 14TH INTERNATIONAL INVENTION, INNOVATION & DESIGN COMPETITION 2025



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Organized by:

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THE USE OF GRAMMAR CRAZE 2.0 MOBILE APPLICATION TO ENHANCE STUDENTS' WRITING PERFORMANCE IN ESL CLASSROOM

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ABSTRACT

Grammar has become one of the most challenging aspects of English language learning, when it comes to writing skills. Learning grammar through digital applications is engaging and effective in enhancing students' performance. Hence, *Grammar Craze 2.0* was designed as a revolutionary mobile application to improve English grammar proficiency and writing skills. It offers concise grammar notes, interactive exercises, and assessments tailored for both students and educators. To address common challenges that learners face in mastering grammar, the app's notes referenced from authoritative English grammar books have been carefully reviewed and crafted for topic suitability. Covering topics such as tenses, subject-verb agreement, passive voice, and the imperative, the app's practice and test questions are uniquely designed to align closely with the topics assessed. Unlike conventional online grammar applications, *Grammar Craze 2.0* includes subjective exercises that require users to type their own answers, fostering deeper understanding through personalized feedback and corrective suggestions. The effectiveness of the app was tested on a group of students. Inferential statistical analysis indicated a significant improvement in the written assignments of the experimental group who used the app, compared to a control group who learned grammar and writing through traditional methods. Launched on the Google Play Store on September 3, 2024, the app is available for free to ensure learning is accessible to everyone, regardless of financial background, supporting both global and national efforts to enhance English language proficiency. Backed by copyright protection, *Grammar Craze 2.0* stands as a valuable and innovative contribution to language education.

Keyword: Grammar Craze 2.0, mobile application, writing skills, grammar teaching and learning

1. INTRODUCTION

The importance of English as a second language (ESL) among Malaysians alongside Bahasa Melayu as the national language is indisputable. This is reflected in the government's efforts to improve English language proficiency among students at various levels, including TVET graduates, especially in the fields of digital technology, science, and engineering to meet international demands (Bernama, 2023). To improve language proficiency, a solid foundation in grammar is essential. Grammar has been identified as one of the most challenging aspects of English language learning, particularly in relation to writing skills (Taye & Mengesha, 2024). In the Malaysian context, more than 60% of students reportedly struggle with grammar accuracy in writing (Siti Zulaiha et al., 2020). Considering various approaches to address this proficiency gap among ESL learners, grammar instruction through mobile applications has proven to be more effective than traditional methods without digital support (Celik, 2024; Kashanizadeh & Shahrokhi, 2021; Vu et al., 2024). For example, in a study involving 25 female Iranian intermediate learners, those who used a Grammar Learning Application significantly outperformed a control group who received grammar instruction through conventional methods (Kashanizadeh & Shahrokhi, 2021). Similarly, Vu et al. (2024) reported that high school

students in Vietnam who used Quizziz for grammar learning achieved better results than their peers who relied on traditional techniques.

Adopting a similar approach, the current study aims to investigate whether the use of the Grammar Craze 2.0 mobile application leads to positive outcomes in students' writing performance within an ESL classroom. This comprehensive Android application, developed by the researchers, offers concise grammar notes, interactive practice exercises, and a final test. The app includes eight sets of exercises comprising 80 practice questions in total. Additionally, 20 test questions including multiple-choice and sentence formation tasks are designed to assess users' grammar knowledge and mastery in context.

2. METHODOLOGY

This study employed a quantitative approach for data collection and analysis (Creswell & Creswell, 2018). Grammar Craze 2.0 was tested in an English classroom involving post-secondary students pursuing Diploma studies at a Malaysian polytechnic where the researchers were based. To examine whether there was a significant difference in students' writing performance, a quasi-experimental design was adopted, involving two groups: an experimental group and a control group. Grammar Craze 2.0 was introduced as the instructional tool for 30 Semester 3 students enrolled in the Diploma in Food Service (Halal Practice) program. Over the course of two weeks, students received six hours of grammar instruction covering subject-verb agreement, the passive voice, and the imperative form, in preparation for a writing assignment involving processes, procedures, and instructions. A separate group of 32 students from the Diploma in Tourism Management program served as the control group and received instruction on the same topics using conventional grammar teaching methods. Due to constraints in accessing randomly selected samples, intact classes were used as the experimental and control groups. Grammar Craze 2.0, which offers both grammar notes and interactive activities through objective and subjective questions, enabled the experimental group to type their answers directly into the app. The app then provided instant feedback, evaluating responses for spelling accuracy and grammatical correctness. For incorrect answers, it displayed the correct version, allowing students to learn from their mistakes and avoid repeating them. Students' scores on their written assignments were analyzed using an independent samples t-test to determine the significance of the mean difference between the experimental and control groups.

3. FINDINGS

The results of the independent samples t-test indicated a statistically significant difference in writing performance between the experimental and control groups. Students in the experimental group, who received a six-hour grammar lesson using Grammar Craze 2.0, outperformed those in the control group who were taught using conventional methods. The experimental group recorded a higher mean score ($M = 14.46$, $SD = 2.31$) than the control group ($M = 12.93$, $SD = 3.24$), suggesting enhanced writing performance as a result of using the mobile application (see Table 1).

Table 1 Mean Difference between the Experimental and Control Group

Group	N	Mean	Std. Deviation	Std. Error Mean
Experimental	30	14.460	2.3105	.4218
Control	32	12.925	3.2413	.5730

Levene's Test for Equality of Variances		t-test for Equality of Means		t-test for Equality of Means		
				Sig. (2-tailed)	Mean Difference	Std. Error Difference
F	Sig.	t	df			
2.901	.094	2.134	60	.037	1.5350	.7192
		2.157	56.096	.035	1.5350	.7115

Table 2 Independent Samples T-Test Results

The t-test results revealed a statistically significant mean difference between the two groups $\{t(60) = 2.13, p < .05\}$, with a mean difference of 1.54 (SE = .72). This finding suggests that Grammar Craze 2.0 positively impacted students' application of grammar and writing accuracy, particularly in areas such as subject-verb agreement, passive voice, and the imperative form. The results align with previous studies by Kashanizadeh & Shahrokhi (2021) and Vu et al. (2024), affirming that digital grammar applications can enhance language learning outcomes. In this study, Grammar Craze 2.0 significantly improved students' ability to apply targeted grammar elements specifically tenses, subject-verb agreement, passive constructions, and imperatives in their writing assignments. With its concise grammar notes, topic-based exercises, and immediate feedback on user responses, the app encourages active engagement and supports independent learning. Its interactive features, including score tracking and personalized performance insights across grammar topics, further motivate learners to improve. Given its adaptability for both classroom instruction and self-directed study, Grammar Craze 2.0 demonstrates strong potential as a practical and impactful tool for improving grammar proficiency and writing performance among ESL learners.

4. CONCLUSION

Grammar Craze 2.0 was developed and launched on the Google Play Store to enhance English grammar proficiency among students through a user-friendly and interactive mobile platform. It offers structured grammar notes and engaging exercises designed to support both self-directed learning and classroom instruction. Teachers and lecturers can also benefit from this application as a complementary teaching tool, helping to make grammar instruction more engaging and effective. Grammar Craze 2.0 aligns with current educational trends that emphasize digital literacy while addressing common challenges in grammar acquisition. Its free accessibility ensures that all learners regardless of financial background can take advantage of its features. Moreover, the app contributes meaningfully to national initiatives aimed at improving English language proficiency among students, while supporting the broader goal of strengthening bilingual competency alongside Bahasa Melayu in Malaysia.

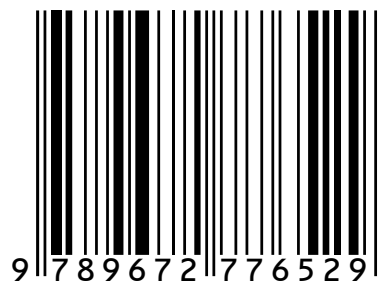
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