

Mastering English Grammar through the Implementation of Interactive Grammar Game Applications in English Classes

Dyah Sih Pratiwi¹, Bastian Sugandi², Fakhrunnisa³
Universitas Muhammadiyah Lampung, 35132, Indonesia
email: Sihpratiwi90@gmail.com, bastiansoegandi@yahoo.co.uk,
FakhrunnisaSyah@gmail.com

Abstract:

Grammar is one of the most essential parts of a language. There is not a single word in English that does not involve grammar. This research aims to enhance English grammar proficiency by utilizing a grammar game application in English classes within the context of the digital era. This application contains grammar exercises and interactive training games and is very contemporary. The data analysis process is divided into two stages. In the first part is analyzing the pretest and posttest data, while the second stage focuses on analyzing data from the questionnaire on the application's use. For the pretest and posttest data, a t-test is applied. Specifically, an independent t-test, which is a type of parametric test, is used to compare two independent groups. The analysis is based on two criteria: If the two-tailed significance value surpasses 0.05, it signifies the absence of a statistically significant difference between the groups being analyzed. Conversely, if the significance value falls below 0.05, it denotes the existence of a meaningful distinction between the groups. The findings demonstrate that the application exerts a beneficial influence. Although the experiment group initially scored lower on the pretest than the control group, the posttest results showed that the experiment showed more positive changes in grammar mastery, demonstrating the effectiveness of the application in improving grammar proficiency.

Keywords: mastering grammar, game application, interactive grammar, implementation

1. INTRODUCTION

Grammar holds a vital role in the English language, as it is inherently present in the structure of every word. Grammar is the structure of the meaning system of language. It makes grammar is essential in learning a language (Darussalam Ahmad & Gali Al Rajafi, 2022). In fact, many English proficiency tests include grammar as a key component. Mastering grammar is as significant as mastering writing and speaking, emphasizing its importance in achieving English fluency. English as the world's lingua franca is inseparable from the historical background of the control of almost all regions of the world by the British colonial government (Alrajafi Gali, 2021). As part of language, of course grammar is an interesting topic to be explored in depth. However, learning English grammar can be

challenging, especially when it is not one's first language but a second or even foreign language. English grammar learning has become a major problem for high school students in the process of English learning (Wang, 2019).

This often makes grammar lessons feel tedious and causes students to lose focus during the learning process. Addressing this issue is essential, given that English serves as a global language in today's digital era. Teaching of grammar for language learners has been a long debate among the stakeholders; the English language teachers and students, researchers and practitioners (Fithriani, 2018). It makes the teacher should consider many aspects to teach it. The relationship between grammar problems in learning outcomes and their difficulties, is also an interesting topic when researched and looking at the challenges experienced by teachers in teaching grammar because learning outcomes are closely related to situations in the teaching and learning process where the teacher is involved (Kumayas & Lengkoan, 2023). It cannot be denied that the teacher's involvement in mastering grammar in language classes is crucial.

Grammar serves as the fundamental framework of a language, instinctively understood by native speakers. It embodies the essential features of a language, including phonology, morphology, syntax, and semantics. English grammar, in particular, provides a set of rules and principles that define how the language is structured and utilized. Acting as a guiding system, it helps organize words, phrases, and sentences to convey ideas effectively and clearly. This framework ensures proper arrangement of linguistic elements, enabling coherent and meaningful communication.

Assessing an individual's understanding of English grammar is crucial for promoting clear and effective communication, especially in professional settings. Evaluating their grasp of grammar rules and sentence structures helps identify those who can excel in both written and verbal communication, thereby improving teamwork and increasing workplace productivity. In the digital era, it is essential for educators to integrate technology into the learning process. This approach not only facilitates learning but also helps students adapt to technological advancements, reducing their struggles with digital tools. Numerous digital learning media, both online and offline, along with various applications and platforms provided by companies, are available to support the educational process. Grammar instruction is no exception to this trend.

Efforts to improve grammar skills, one of which is of course with practice. Practice is not enough if done only once in a while, but it takes time to practice many times. For this reason, it is highly emphasized that practice is a primary part of the learning process. Learning in the 4.0 era must be technology-based (Azza et al., 2023). This is because the educational model of the 21st century is intentionally designed to foster a positive and welcoming environment, moving away from traditional approaches that may have been intimidating for learners. English teachers' beliefs had an important role in their decision-making about how grammar should be taught (Tarigan & Stevani, 2022). A key principle of this modern learning theory is that students are no longer expected to merely listen and memorize content, but are encouraged to actively construct their knowledge and skills within a dynamic and enjoyable learning setting. The first concern is the difficulty of lecturers in determining interesting technology-based learning strategies (Al Rajafi & Wahyungsih, 2022). Considering that grammar is one of the most difficult elements in English that sometimes makes the class very boring, the solution to the problem offered is the implementation of a game-based application for grammar learning. This application is a grammar game, a contemporary application that is very relevant in the digital era like today, and has good reviews from users. The hope is that students will be motivated and more interactive in the learning process.

The initial step in the learning process is that the teaching staff and students together activate the grammar game application. Then the teaching staff explains the guidelines for using the application. This application contains grammar material, practice questions and interactive games. The teacher facilitates questions from students if there is material that is not understood or if there are obstacles in using the application.

In language learning, of course, there are various technology-based methods and media that can be applied. Research on the use of technology-based media and methods for language improvement, especially on grammar improvement, has been widely conducted. It indicates that language learners often encounter difficulties when learning grammar, but on the other hand it is also revealed that there are many technological media that facilitate learning grammar and can be a solution to these difficulties.

Grammar is one of the elements in English that is considered quite difficult for learners. In English, just one letter "s" can affect the meaning of a word. This shows that English is quite complex when compared to the Indonesian grammar that we use everyday.

Unlike Indonesian, English is a foreign language that students only encounter mostly in the classroom. Of course this makes mastering the grammar even more constrained.

Teaching English grammar on a communicative basis in a non-linguistic institution of higher education was conducted using professional-oriented educational texts as the basis for exercises (Degtiarova et al., 2023). In English classes in Indonesia, grammar is one of the parts that is considered quite difficult. For this reason, an interesting learning method is needed so that student motivation increases and obtains maximum learning results. In today's digital era, various applications provide features to learn grammar accurately. One of these applications is English grammar practice. This application provides a grammar learning feature that is equipped with quite complete material and is equipped with a large number of questions that users can use to measure their abilities after using the learning material feature.

The novelty of this research lies in its focus on assessing the use of game-based applications as a tool for grammar learning, specifically the *English Grammar Practice* application. This study not only investigates how the application helps improve grammar comprehension but also explores how it can enhance student motivation. Furthermore, this research combines motivation theory with grammar mastery, offering broader insights into how technology-based learning can create a more engaging and effective learning experience. In doing so, it contributes to the field of technology-assisted language learning, especially concerning English grammar instruction.

This research aims to evaluate whether utilizing the English grammar practice application results in a significant improvement among the research participants. The researcher believes that this application can motivate the students to learn grammar. Motivation is one of the most important factors in learning English (Wahyuningsih Yulia, Carla Maretha, 2023). Low motivation in speaking will be a formidable reality for the teacher (Alrajafi Gali, Yulia Wahyuningsih, 2022). The findings from this study are anticipated to provide valuable insights that can enhance the teaching of grammar in English language classes.

2. METHOD

a. Research Design

This study employed a class room action research. The experimental group utilized the Game Grammar application as a tool for learning English grammar, while the control group practiced grammar using traditional paper-based exercises. A pretest was administered before the intervention to assess the initial grammar proficiency of both groups, and a The posttest was administered upon the study's completion to assess the effectiveness of learning outcomes. Additionally, a questionnaire was distributed to the experimental group to assess their experience using the Game Grammar application.

b. Participants

The research encompassed a total of 40 students from SMK X in Bandar Lampung, with 20 students designated to the experimental group and the remaining 20 to the control group. The participants were secondary school learners acquiring English as a foreign language. The English teacher at SMK X was involved in the construct validity testing of the research instruments before they were administered to the students.

c. Instruments

Three main instruments were used in this study:

- a) Game Grammar Application. This served as the primary instructional tool for the experimental group, providing interactive grammar exercises and activities.
- b) Pretest and Posttest. These assessments were given to both groups to measure their grammar proficiency before and after the intervention. The comparison of these test scores helped determine the effectiveness of the Game Grammar application.
- c) Questionnaire. This was administered to the experimental group to gather feedback on their experience using the Game Grammar application, focusing on engagement, motivation, and perceived learning effectiveness.

d. Data Collection

The research was conducted in two phases. In the first phase, pretest and posttest scores were collected from both the experimental and control groups. In the second phase, questionnaire responses were collected from the experimental group to evaluate their perceptions of the Game Grammar application.

e. Data Analysis

To evaluate the efficacy of the Game Grammar application, an independent samples t-test was performed utilizing SPSS version 24. This statistical analysis was employed to compare the pretest and posttest scores of the experimental and control groups. The significance threshold (two-tailed) was established at 0.05. A significance value exceeding 0.05 denoted the absence of a statistically significant difference between the groups, whereas a value below 0.05 indicated a substantial enhancement in grammar proficiency favoring one group.

3. FINDINGS AND DISCUSSION

This section delineates the research findings in alignment with the research questions and critically examines the results by integrating pertinent references. The data obtained from the pre-test, post-test, and questionnaire responses are systematically analyzed and interpreted to assess the efficacy of the English Grammar Practice application in enhancing grammar proficiency.

This study uses an instrument in the form of an interactive application specifically designed to help learn English grammar, known as the English Grammar Practice application. This application offers various excellent features that support the learning process comprehensively. Not only does it provide informative and structured material on various aspects of grammar, but it is also equipped with practice questions that are designed to be relevant and appropriate to the material that has been presented previously. These exercises aim to strengthen users' understanding as well as hone their ability to apply grammar concepts practically. One of the main advantages of this app is the ease with which it can be accessed anytime and anywhere, without any time or place restrictions. This is possible because the app is designed to be used through personal mobile devices, so users only need internet access to enjoy the features available. In addition, the app is also available for free, making it very attractive and affordable for a wide range of users, whether students, college students, or individuals who want to improve their English skills independently. The instrument used in this research is an interactive grammar application called the English Grammar Practice application. This application not only presents material features about grammar, but also presents practice questions that are very relevant to the material presented.

This application is very interesting because it can be accessed anytime and anywhere by users for free through personal cellphones.

The pre-test was carried out simultaneously in the control class and the experimental class, with the aim that both groups get equal initial conditions before certain treatments are given. This aims to ensure that both classes have the same perception, so that there are no fundamental differences that can significantly affect the results of the study. This process is done to create a fair and objective foundation in comparing the effectiveness of the treatment to be given. In this study, data obtained from pre and post tests were processed using SPSS version 24 software. The use of SPSS 24 allows researchers to manage and analyze data more accurately, both through statistical tests and descriptive processing. The results of the analysis will present a comparative picture between the initial and final conditions of the two classes, namely the control class and the experimental class, thus providing relevant and in-depth information about the effect of the treatment applied. The comparison of the results of the two tests will be presented in the next section to provide a more detailed and structured understanding.

a. Effectiveness of the English Grammar Practice Application

The pre-test was administered concurrently in both the control and experimental classes to establish a uniform baseline of understanding prior to the implementation of the treatment. The data analysis for this study was conducted using SPSS 24 to process the pre-test and post-test results. The following presents a comparative analysis of the outcomes from both assessments.

Table 1. The Result of Pre Test and Post Test

<u>Kind of Class</u>		<u>number of students</u>	<u>Average Pre test</u>	<u>Average Post test</u>
Experiment	20		65,80	88,50
Control	20		66,60	78,80

The next step is to determine the 2-way significance (t-tailed) $0.000 < 0.05$. For this reason, this research uses independent sample t-test data analysis to clearly see the difference between the class treated using the English Grammar Practice application and the class using conventional methods.

Although both groups improved, the improvement in the experimental group was much more significant. This shows that the use of the grammar app provides a greater influence in improving students' grammar skills compared to the conventional learning method.

Table 2. The Result of (*t-tailed*)

Kind of test	Sig.(2-tailed)
Pre test	0,858
Post test	0,000

As the post-test significance value (0.000) falls below the threshold of 0.05, it signifies a statistically significant disparity between the control and experimental groups. This finding underscores the tangible influence of the English Grammar Practice application in enhancing students' grammar proficiency.

These findings align with previous research on digital learning in language acquisition. For instance, Wang, (2019) highlighted that technology-enhanced learning fosters better engagement and retention in grammar instruction. Digital tools support self-paced learning and improve comprehension (Azza et al., 2023).

b. Student Perception of the English Grammar Practice Application

To further assess the impact of the application, students in the experimental group were asked to complete a questionnaire regarding their experience. The responses were categorized into three areas: usability, content quality, and learning motivation.

Table 3.Results of Questionnaire on the Use of English Grammar Practice Application

No.	Pertanyaan	SS	S	RG	TS	STS	Index (%)
1.	Is the app easy to use?	14	3	2	0	0	98
2.	Is it an interesting type of app?	15	5	0	0	0	95
3.	Are the features easy to understand?	16	2	2	0	0	94
	Average	15	3	1	0	0	96

No.	Pertanyaan	SS	S	RG	TS	STS	Index (%)
1.	Is the grammar level appropriate?	15	3	2	0	0	93
2.	Are the exercises level-appropriate Basic level	14	5	1	0	0	93
3.	Is the material complete?	12	5	3	0	0	89
	Average	14	4	2	0	0	92

No.	Pertanyaan	SS	S	RG	TS	STS	Index (%)
1.	Is this App feasible?	15	5	0	0	0	95
2.	Can the app be used independently?	18	2	0	0	0	98
3.	Does the app increase interest in learning	15	5	0	0	0	95
4.	Is there a positive change After using the app	20	0	0	0	0	100
5.	Would I use Use this app again?	17	3	0	0	0	97
	Average	17	3	0	0	0	97

From the results of this question, it was concluded that of the three categories of questions the first category got a percentage of 96% very good, the second category was 92% very good and the 3rd category was 97% very good. These results are consistent with prior studies, such as (Alrajafi Gali, Wahyuningsih,Y 2022), (Kasriyati et al., 2018; Kasriyati & Rosidah, 2020) which demonstrated that interactive learning applications positively influence student motivation and engagement. Integrating gamification in language learning enhances retention and interest in difficult grammar topics (Tarigan & Stevani, 2022).

c. Critical Analysis and Interpretation

While the findings suggest that the grammar application significantly improved students' grammar proficiency and motivation, several factors must be considered. First, the experimental group's improvement could be attributed not only to the application itself but also to increased student engagement driven by the novelty of digital tools. As noted, the motivation to use digital learning methods can sometimes overshadow actual learning outcomes (Fithriani, 2018). Additionally, the study's focus on short-term improvements does not account for long-term retention of grammar rules. Sustained improvement in grammar proficiency requires continuous practice, suggesting that future research should examine whether students maintain their progress after a longer period (Degtiarova et al., 2023). Furthermore, while the application provided structured and engaging content, it did not replace the role of teachers. The teacher guidance remains crucial in clarifying complex grammar rules that technology alone may not address effectively (Kumayas & Lengkoan, 2023). Thus, a blended learning approach that combines digital tools with traditional instruction may be the most effective strategy.

The comparative analysis of pre-test and post-test scores between the experimental and control groups provided critical insights into the efficacy of the English Grammar Practice application in fostering grammar proficiency. The results underscored a significant positive impact attributable to the application. Despite the experimental group initially exhibiting lower average pre-test scores relative to the control group, the post-test outcomes indicated that the experimental group outperformed their counterparts. These findings substantiate the application's effectiveness in enhancing grammatical competence.

The findings of this study indicate that the English Grammar Practice application effectively enhances students' grammar proficiency, as evidenced by the significant improvement in post-test scores. Additionally, student feedback highlights that the application is user-friendly, engaging, and motivating. However, its effectiveness should be further tested in long-term studies, and a hybrid approach that integrates technology with teacher-led instruction may yield even better results.

Future research should expand the sample size, include diverse educational settings, and investigate the long-term effects of game-based grammar applications. By doing so,

educators can develop more robust digital learning strategies that support sustained grammar mastery.

4. CONCLUSION

Grammar is the basic structure of a language that is known intuitively by every native speaker of a language. Grammar also contains the characteristics of a language. These characteristics are phonology, morphology, syntax, and semantics. English grammar encompasses a comprehensive set of rules and principles that dictate the structure, formation, and application of the English language. It functions as a framework that guides the construction of sentences, phrases, and words, enabling us to communicate meaningfully and coherently. Essentially, English grammar offers a structured system that aids in understanding how words and phrases should be organized to produce clear and effective communication. This system includes various linguistic components such as syntax, morphology, phonology, and semantics, which collectively shape the form and arrangement of the language.

To evaluate the effectiveness of the English Grammar Practice application in enhancing grammar proficiency, a comparative analysis of pre-test and post-test scores was conducted between the experimental and control groups. The results demonstrated a substantial positive impact of the application. Although the experimental group initially recorded lower pre-test scores, the post-test outcomes revealed that they surpassed the control group in performance. These findings underscore the application's efficacy as a robust tool for advancing grammatical competence.

d. Limitations

This study was conducted in a single school (SMK X in Bandar Lampung), meaning the findings may not fully represent students from different educational backgrounds or regions. Additionally, the study focused only on short-term improvements in grammar proficiency; long-term retention and application of grammar skills were not assessed. Lastly, while the Game Grammar application proved effective, external factors such as students' prior knowledge, motivation levels, and learning styles were not deeply examined, which might have influenced the results.

e. Suggestions

Future investigations should endeavor to broaden the sample size and incorporate participants from varied educational contexts to strengthen the generalizability of the findings. Furthermore, a longitudinal analysis examining students' grammatical proficiency over an extended duration would yield valuable insights into the sustained effects of game-based grammar instruction. Additional research may also explore the synergistic integration of complementary digital learning tools alongside the Game Grammar application to identify the most effective technology-enhanced instructional strategies. Moreover, an in-depth examination of students' motivational dynamics, learning preferences, and engagement within digital learning environments could provide a more comprehensive understanding of how to optimize grammar pedagogy.

f. Implications of the Study

The success of the Game Grammar application suggests that incorporating interactive, technology-based learning tools into grammar instruction can enhance student engagement and learning outcomes. Teachers may consider integrating similar digital applications into their lesson plans to make grammar instruction more dynamic and engaging. Additionally, educational institutions could invest in research and development of digital learning resources to support technology-enhanced language learning. Policymakers should recognize the potential of game-based applications in language education and encourage the adoption of digital tools to improve English proficiency among students.

REFERENCES

- Ahmad Darussalam, & Gali Al Rajafi. (2022). Learning Grammar Strategies Using by Student of STIT Ibnu Rusyd Tanah Grogot (Metacognitive and Cognitive Strategies). *ELT-Lectura*, 9(2), 253–259. <https://doi.org/10.31849/elt-lectura.v9i2.10835>
- Al Rajafi, G., & Wahyulingsih, Y. (2022). Promotion of Modern Tourism in Lampung Province with the Scaffolded Reading Method in the New Normal Era. *ELT-Lectura*, 9(1), 56–66. <https://doi.org/10.31849/elt-lectura.v9i1.8423>
- Alrajafi, G. (2021). The use of English in Indonesia: Status and Influence. *SIGEH ELT : Journal of Literature and Linguistics*, 1(1), 1–10. <https://doi.org/10.36269/sigeh.v1i1.355>
- Azza, S. Y., Alrajafi, G., & Sanjaya, F. H. (2023). Strategi Jitu Kuasai Grammar Melalui Inovasi Aplikasi Kekinian English Grammar Ultimate Di Era Merdeka Belajar. *Wahana Didaktika : Jurnal Ilmu Kependidikan*, 21(3), 526–533. <https://doi.org/10.31851/wahanadidaktika.v21i3.11663>
- Degtiarova, K., Zhyvolup, V., Karas, A., Kibenko, L., & Lyakhova, I. (2023). Features of teaching grammar in foreign language classes in non-linguistic institutions of higher education. *Scientific Bulletin of Mukachevo State University Series "Pedagogy and Psychology"*, 9(2), 18–27. <https://doi.org/10.52534/msu-pp2.2023.18>
- Fithriani, R. (2018). Grammar Class : Suggested Activities and. *Jeels*, 5(2), 171–188.
- Gali Alrajafi, Yulia Wahyuningsih, C. M. (2022). Contributing Factors in Development of Speaking Skill. *Contributing Factors in Development of Speaking Skill*, 2(1), 1–8.
- Kasriyati, D., Rafiah, S., Herdi, H., & Farhy, M. F. (2018). Lexical Errors Found in Subtitling Projects of EFL Learners of University of Lancang Kuning. *Lexical Errors Found in Subtitling Projects of EFL Learners of University of Lancang Kuning*, 9(02), 155–166.
- Kasriyati, D., & Rosidah, A. (2020). A Study on Students' Understanding on Applying Declarative Sentence. *Jurnal Smart*, 6(1), 1–9.
- Kumayas, T., & Lengkoan, F. (2023). The Challenges of Teaching Grammar at the University Level: Learning From the Experience of English Lecturer. *Journal of English Culture, Language, Literature and Education*, 11(1), 98–105. <https://doi.org/10.53682/eclue.v11i1.6058>
- Tarigan, K. E., & Stevani, M. (2022). English Teachers' Beliefs in Teaching English Grammar to Improve Students' Speaking Skill. *Journal of English Language and Education*, 7(1), 2022.
- Wang, L. (2019). Research on the application of the mind map in english grammar teaching. *Theory and Practice in Language Studies*, 9(8), 990–995. <https://doi.org/10.17507/tpls.0908.15>
- Yulia Wahyuningsih, Carla Maretha, G. A. (2023). The Use of Total Physical Response Method on the Students' Learning Motivation. *The Use of Total Physical Response Method on the Students' Learning Motivation*, 3(2), 117–124.