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# Evaluating the effectiveness of EGGA (English Grammar Guide Application) for grammar learning

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## ABSTRACT

This paper evaluates the effectiveness of EGGA – an English Grammar Guide Application, a mobile-assisted language learning tool for grammar acquisition that serves as a supplementary grammar learning aid for non-native English learners. The mobile application is designed as a self-directed evaluation tool that enables learners to learn basic English grammar and self-evaluate their learning outcomes. The study involved 54 diploma students from UiTM Sarawak and used a Usability Instrument to gauge their satisfaction with EGGA's multimedia elements and usefulness. The results indicate that EGGA was well-received by the participants, with high mean scores for all multimedia elements, including graphics, sound, interactivity, text, interface, and usefulness. The application was found to be effective in motivating learners to acquire and improve their grammar skills, creating a fun and interactive learning experience, and providing a mechanism for self-assessment. Based on these findings, EGGA can be concluded to be a useful and practical tool for learners of any age group to learn target grammar, serving as an effective supplementary tool for self-directed language learning.

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## 1.0 INTRODUCTION

Learning grammar is frequently linked to pessimism and a lack of enthusiasm among students. Many learners are not motivated to actively participate in grammar courses and lifetime learning by traditional methods of teaching and studying grammar (Matas & Natolo, 2010). Students frequently gripe about having to complete tedious grammar tasks in class and mastering difficult grammatical rules. For many non-native English language learners, mastering English grammar is undoubtedly a difficult and intimidating endeavour in and of itself due to the complex sets of rules they must learn and use in their reading, speaking, listening, and writing classroom tasks. For example, many English language learners from Malaysia

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struggle to apply the various parts of speech and tenses appropriately, especially when it comes to speaking and writing assignments. They thus create incorrect structures, which hinders their ability to perform well in the language. As a result, it is not unusual to witness Malaysian English language learners committing flagrant grammatical errors in both written and spoken English.

Even worse, Baron (1982) stated that students frequently think of English teachers as unappealing grammar nazis whose main source of happiness is pointing out other people's mistakes. But if the proper approach is used, teaching and studying grammar could not be as tedious and unpleasant as it is sometimes depicted. A more enjoyable, interesting, and purposeful way to teach and learn English grammar is needed, as evidenced by learners' stereotype that it is a chore to master grammar. To help students learn, acquire, and use their grammatical abilities effectively, a practical educational method must be developed and put into practice. With that in mind, in the past decades, mobile technology has given rise to a new type of learning, mobile learning (M-learning), which emphasizes mobility and makes learning possible regardless of time or location. Mobile devices, which are widely available, are critical instruments for doing this. The practice of using devices to learn language has generated tremendous attention among researchers in the realm of linguistics and pedagogy, and it is known as mobile-assisted language learning (MALL) (Fan et Al., 2023). According to Kukulka-Hulme and Shield (2008), MALL is carried out using personal, portable devices and emphasizes continuous or spontaneous access to linguistic information in a variety of circumstances. MALL adds portability, individuality, context sensitivity, and social networking to M-learning, in addition to its inherent mobility.

Furthermore, with the use of handheld mobile devices, as well as online and telecommunication technology, learning languages has become more appealing in an adaptable strategy (Fan et al., 2023). Hence, this paper introduces the English Grammar Guide Application (EGGA), a language-learning mobile device with a focus on English grammar, which offers a potential solution to make grammar learning more enjoyable and effective for learners.

## **2.0 PROBLEM STATEMENT**

Many non-native learners of English find it challenging to master the complex rules and structures of the language, leading to errors in their spoken and written English. Additionally, there is a common perception among learners that grammar learning is a tedious chore, which calls for a more engaging and meaningful approach to teaching and learning English grammar. The many rules that constitute English grammar make it more difficult for learners to grasp them. Majority of the non-native English language learners, including Malaysian students, struggle to correctly use the English various parts of speech and tenses in both writing and speaking. Most grammatical principles are typically misunderstood by students trying to use their language skills, which results in incorrect structures frequently appearing in their speaking and writing. Hence, to teach grammar to students—especially those with low skill levels or beginners—effective pedagogical approaches must be used. One such approach is the use of mobile applications like the English Grammar Guide Application (EGGA), which aims to make grammar learning enjoyable, engaging, and learner-centred. This approach not only complements the role of the regular grammar teacher in the classroom but also provides learners with an informal, personalized, and entertaining learning experience, thus making language learning more attractive and motivating.

## **3.0 SIGNIFICANCE OF THE STUDY**

The significance of the study lies in its contribution to addressing the challenges associated with traditional English grammar learning that has been viewed as boring and unappealing and has frequently failed to inspire students. Thus, this paper presents the English Grammar Guide Application (EGGA), which is a useful, entertaining, and practical method for learning English grammar. EGGA demonstrates its potential

as an effective supplementary tool for self-directed language learning. This mobile application offers a promising solution to make English grammar learning more engaging, practical, and convenient for learners of all ages, ultimately contributing to a more positive and effective experience. In addition, this paper highlights the benefits of using mobile technology for teaching and learning, providing easy access for learners to target grammar without the constraints of place and time. The research findings further support the idea that mobile applications like EGGA can scaffold language learning, equipping learners with an informal, personalized learning experience and access to language resources beyond the classroom teacher's routine instructions.

#### **4.0 OBJECTIVES OF EGGA**

EGGA aims to revolutionize the English grammar learning experience, making it more accessible, engaging, and effective for learners of all competence levels. The following are the objectives of EGGA:

- (i) To develop a platform for English grammar learning: EGGA aims to create a comprehensive and accessible platform for learners to improve their English grammar skills. This platform provides clear explanations and examples of English grammar rules to help learners understand complex grammar structures.
- (ii) To enable learners to acquire and improve their English grammar skills: EGGA offers various resources and examples of grammar contexts to help learners practice and improve their English grammar skills. These resources include diagnostic assessments, personalized learning paths, and adaptive assessments.
- (iii) To create a fun and interactive learning experience: EGGA incorporates engaging and interactive features to make the learning process enjoyable and engaging. This includes features such as quizzes and interactive exercises to help learners practice and improve their grammar skills in a fun way.
- (iv) To gauge learners' level of grammar competence: EGGA includes notes, quizzes, and assessments to help learners track their progress and identify areas for improvement. These assessments are tailored to each learner's needs, providing personalized feedback and suggestions for improvement.

#### **5.0 LITERATURE REVIEW**

The importance of grammar in language learning has evolved, reflecting changes in teaching methods and educational priorities. In the early 20th century, grammar underwent a revival in school classrooms, but in the latter part of the century, its instruction transformed, emphasizing teaching grammar in the context of writing rather than as a formal set of rules (Hammond, 2023). The traditional teaching model had little effect on students' psychological motivation in the process of English grammar teaching, leading to a shift towards more innovative and engaging approaches (Lin, 2022). The evolving approach to grammar teaching has been influenced by modern-day trends, such as the communicative language teaching approach, which focuses on language fluency and effective communication (Frederick, 2015). Additionally, the use of educational tools in teaching grammar has brought benefits to both teachers and students, making the learning process more active, proactive, and creative (Tu, 2022). These changes reflect a broader shift in language education towards more dynamic and engaging methods that prioritize effective communication and language fluency. With the spread of mobile devices today, English language educators and instructors around the world are increasingly exploring the possibility of mobile learning as a

pedagogical technique for teaching the language, especially as a method for improving students' grammatical abilities (Ganapathy et al., 2016).

Previous research on the use of mobile applications to teach grammar indicated the acceptance and respondents' positive attitudes towards the applications. In a study carried out by Solibar (2019), the assessment results demonstrated that the materials were highly effective and relevant. There was a remarkable improvement in the students' grammatical skills after using the application. The students were exposed to meaningful learning and application of knowledge through the smartphone simulation, demonstrated through the learners' post-test results and behaviour towards the application. This suggests that employing a mobile application to improve the learners' English grammar was highly effective. Solibar (2019) recommended that mobile applications should be used to learn and teach English grammar to students of all grade levels to create a more motivating and interactive learning environment, in which students will become active participants in discussions and learn grammar in a meaningful and stress-free manner. Furthermore, the researcher suggested that teachers do more than just teach grammar principles through memorization or drills. It must also be used in the learners' everyday conversations so that the knowledge gained becomes meaningful and relevant. In another study carried out by Fan et al. (2023), the researchers mentioned that language learning applications offer unparalleled benefits, namely, user-friendly design, a diverse range of available learning resources, effectiveness in developing English skills and motivation, and effectiveness in supplementing traditional English instructions. However, the study also mentioned some flaws in the tools' design and practical application, such as inadequate feedback and connectivity functions, inefficient Internet connection, an unsuitable external environment for its use, and insufficient utilization. Thus, it was recommended that instructors, educators, and developers collaborate to construct more engaging and successful English learning apps. Undoubtedly, MALL enhances students' English skills and learning motivation, as well as functions as a useful tool in traditional teaching. In another related study done by Yuliyanto and Fitriyati (2019) on the effectiveness of using Quizlet for learning grammar, the majority of the respondents stated that Quizlet helps improve their grammar mastery. The study mentioned several benefits of using Quizlet in learning grammar: Quizlet motivates the interest of students; Quizlet's features make the learning process easier; and the portability of mobile devices, combined with their processing speed, make them the favoured medium for using Quizlet to study outside of the classroom. Furthermore, apps such as Quizlet and MyEvo offer interactive and game-like learning experiences for students, including video, audio, interactive sections, four-choice grammar training, sentence sorting, spelling correction, and word learning games. These apps can enhance traditional classroom learning strategies. Choosing a word from a list of synonyms, for example, can assist teachers improve classroom efficiency and effectiveness.

Based on past research, mobile applications are effective tools for teaching and learning English grammar. These apps offer various benefits, such as acceptance and positive attitudes; effectiveness and relevance; user-friendly design and diverse resources; enhanced learning experiences; as well as portability and accessibility.

## **6.0 DESCRIPTIONS OF EGGA**

English Grammar Guide App or EGGA (see Figure 1), is a mobile application that learners can use to learn fundamental grammar and assess themselves. It is intended to be used as a self-directed assessment tool. Through the mobile platform, students can access study resources and take quizzes on Android-powered tablets or mobile devices. Parts of speech, subject-verb agreement, and tenses are the three learning material categories that are currently offered, which are arranged on a digital bookshelf. There are thorough brief notes with straightforward examples for every category (see Figure 2). After completing the self-instruction phase, students can take an exam to gauge how well they have understood the three grammatical categories on their own (see Figure 3). Each category contains ten (10) multiple-choice questions (MCQ), and there

is no time limit on how long one can take to finish the test. All ten questions must be answered consecutively, and each question can only be attempted once. After the quiz, a brief performance report with the score and grade will be shown (see Figure 4).



Fig 1. EGGA

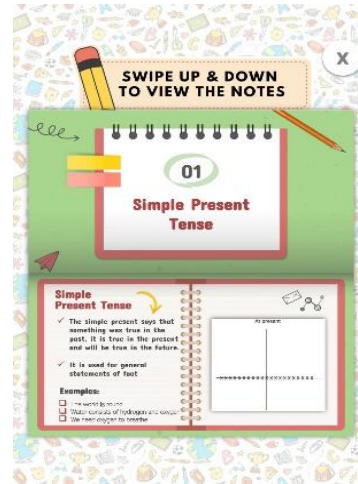


Fig 2. Short notes with simple examples



Fig 3. A feedback sample of a quiz

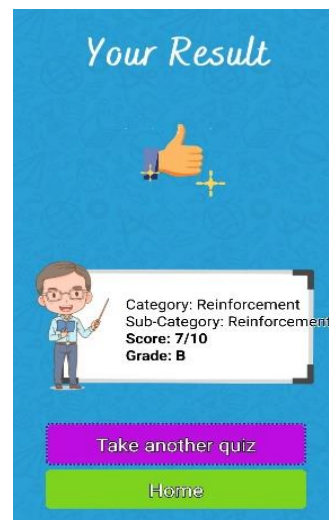


Fig 4. Score and grade

## 7.0 METHODOLOGY

### 7.1 Sample

A total of 54 students from UiTM Sarawak consented to take part in this research; involving 35 participants (64.8%) from Samarahan Campus 1 and 19 participants (35.2%) from Samarahan Campus 2. The participants' ages ranged from 18 to 24 years old. In terms of gender distribution, it is evenly split, with 50% male and 50% female representation. The participants were composed of diploma and degree students in their first and second semesters of their academic programmes from diverse fields, namely; engineering, fine arts, agriculture, architecture, sports science, accounting, computer science, and business. They were selected from diverse programmes for representation from various disciplines. Before the students participated in the study, the class lecturers were approached by the researchers and were briefed on how the mobile application was operated. Nomination of the participants was done by the class lecturers, who agreed to support the study. The participants were then identified as the class representatives based on their varying levels of English proficiency (ranging from average to advanced) and their availability.

### 7.2 Instrumentation

For this study, a set of questionnaires was used, i.e. Usability Instrument. The instrument was selected because it has strong validity and reliability indices and has been used extensively in research. The estimated reliability at the overall level of Usability Instrument using Cronbach's Coefficient Alpha was .972. The Usability Instrument consists of three sections: (1) Profile of the Respondent, (2) Evaluation of multimedia elements, and (3) User satisfaction. A five-point scale for rating was used and valued. The level of satisfaction of each item is indicated by referring to the mean score of each item (Landell, 1997) (See Table 1).

Table 1. Mean scores of satisfaction level

Low	1.00 to 2.39
Medium	2.40 to 3.79
High	3.80 to 5.00

## 8.0 RESULTS AND DISCUSSION

The following section presents a detailed analysis of the multimedia elements in the EGGA mobile application based on the mean scores and standard deviations obtained from a survey of 54 respondents. The analysis covers the graphics, sound, interactivity, text, interface, usefulness of the elements, and an overall analysis.

### 8.1 Graphic

As shown in Table 2, all of the items of the graphic element in EGGA had high mean scores ranging from 4.41 (SD=0.599) to 4.54 (SD=0.539). The findings indicate that the respondents were satisfied with the colours, clarity, suitability, and ease of understanding of the graphics.

Table 2. The mean scores of the Graphic Element in EGGA

Items	N	Mean	Std. D
• The colours used for graphics are attractive.	54	4.41	0.599
• The graphics are clear.	54	4.54	0.539
• The graphics used are suitable.	54	4.48	0.637
• Explanations using graphics are easy to understand.	54	4.52	0.574
Valid N (listwise)			

## 8.2 Sound

Similarly, the sound element received high mean scores ranging from 4.30 (SD=0.743) to 4.44 (SD=0.604), as shown in Table 3. This suggests that the respondents were satisfied with the clarity, suitability, and ease of understanding of the audio, as well as their timing and relevance.

Table 3. The mean scores of the Sound Element in EGGA

Items	N	Mean	Std. D
• The audios are clear.	54	4.44	0.604
• The audios are suitable.	54	4.31	0.722
• Instructions using audio are easy to understand.	54	4.30	0.743
• The audios are both well-timed and relevant.	54	4.30	0.792
Valid N (listwise)	54		

## 8.3 Interactivity

The interactivity element also obtained high mean scores ranging from 4.39 (SD=0.656) to 4.52 (SD=0.574) (see Table 4). The findings revealed the respondents' satisfaction with the clarity, navigability, correctness, and consistency of the interactive tools and links provided by EGGA, as well as the reasonability of the number of buttons or links provided by EGGA.

Table 4. The mean scores of the Interactivity Element in EGGA

Items	N	Mean	Std. D
• Interactive tools are clear and easy to understand.	54	4.52	0.574
• Interactive tools are easy to navigate.	54	4.39	0.605
• The interactive links used are correct and consistent.	54	4.48	0.656
• The number of buttons/links is reasonable.	54		0.606
Valid N (listwise)	54		

## 8.4 Text

As shown in Table 5, the text element in EGGA obtained high mean scores ranging from 4.59 (SD=0.630) to 4.63 (SD=0.623). This demonstrates that the respondents were satisfied with EGGA's clarity and ease of understanding, navigability, correctness, and consistency of the interactive links, as well as reasonability on the number of buttons or links.

Table 5. The mean scores of the Text Element in EGGA

Items	N	Mean	Std. D
• Interactive tools are clear and easy to understand.	54	4.59	0.630
• Interactive tools are easy to navigate.	54	4.59	0.630
• The interactive links used are correct and consistent.	54	4.63	0.623
• The number of buttons/links is reasonable.	54	4.59	0.630
Valid N (listwise)	54		

## 8.5 Interface

Table 6 shows the mean scores and standard deviations of the interface element in EGGA were high as well, ranging from 4.39 (SD=0.738) to 4.46 (SD=0.719). From the findings, the respondents were satisfied with EGGA's user-friendliness, clarity of instructions, organization of information, and provision of visual feedback.

Table 6. The mean scores of the Interface Element in EGGA

Items	N	Mean	Std. D
• The design is user-friendly.	54	4.46	0.745
• Instructions given in the software applications are clear.	54	4.44	0.769
• The organization of information is clear.	54	4.46	0.719
• User Interface elements provide visual feedback when pressed.	54	4.39	0.738
Valid N (listwise)	54		

## 8.6 Usefulness

The usefulness of EGGA was highly rated by the respondents, with all items receiving mean scores ranging from 4.54 ( $SD=0.665$ ) to 4.69 ( $SD=0.609$ ) (see Table 7). The findings suggest that the respondents found the mobile application helpful for learning, testing, improving, and revising English grammar, as well as motivating and providing a fun way to learn.

Table 7. The mean scores of the Usefulness of EGGA

Items	N	Mean	Std. D.
• The app helps me learn basic English grammar.	54	4.67	0.583
• The app helps me test my understanding and knowledge of basic English grammar.	54	4.65	0.619
• The app helps me to improve my knowledge of English grammar.	54	4.69	0.609
• I believe that regular use of the app would positively benefit my learning.	54	4.61	0.738
• The app has all the functions and capabilities I expected it to have.	54	4.54	0.665
• The app would be a great revision tool.	54	4.59	0.687
• The app is a useful resource for enhancing English grammar learning.	54	4.61	0.656
• The app motivates me to explore English grammar further.	54	4.56	0.718
• The app provides a fun way to learn English grammar.	54	4.56	0.718
• I would recommend the app to others who are interested to learn and improve English grammar.	54	4.69	0.609
Valid N (listwise)	54		

## 8.7 Overall Analysis

Table 8 shows the mean scores and standard deviations of all the multimedia elements in EGGA. The overall analysis revealed that all multimedia elements in EGGA received high mean scores ranging from 4.34 ( $SD=0.613$ ) to 4.61 ( $SD=0.603$ ). The respondents were satisfied with the software's graphics, sound, interactivity, text, interface, and usefulness. The results suggest that the respondents were generally satisfied with all the multimedia elements in EGGA, highlighting the effectiveness of the software in supporting English grammar learning and providing a positive user experience. Thus, the detailed analysis provides valuable insights into the strengths of the EGGA mobile application, particularly in its multimedia elements and the high level of satisfaction among the respondents.

Table 8. The mean scores of all of the Multimedia Elements in EGGA

Items	N	Mean	Std. D
• Graphic	54	4.49	0.515
• Sound	54	4.34	0.613
• Interactivity	54	4.46	0.531
• Text	54	4.60	0.610
• Interface	54	4.44	0.680
• Usefulness	54	4.61	0.603
Valid N (listwise)	54		



## 9.0 DISCUSSION

The survey clearly shows that EGGA was an effective additional grammar-learning tool. The respondents were generally satisfied with EGGA's overall multimedia components, including its images, sound, text content, interface, and usefulness, as seen by the high mean scores. The students were drawn to EGGA and showed curiosity in the grammar learning applications as well as apprehension about what would happen next in the lesson plan. EGGA has demonstrated its ability to transmit information quickly. Additionally, EGGA self-assessment exams were provided, which catalysed the students to determine their proficiency with grammar. The English Grammar Guide Application (EGGA) is designed as a supplementary grammar learning aid for non-native English learners. This mobile application serves as a self-directed assessment tool for learning basic English grammar and conducting self-evaluation of learning outcomes. The growing use of mobile technology in education has led to the development of mobile applications such as EGGA, which facilitate language learning by making the target grammar easily accessible to all learners regardless of location or time constraints. In addition to being enjoyable, pleasant, useful, and engaging, it offers the students a non-formal, customized learning experience and language resources outside of the classroom teacher's regular instructions (Butarbutar, 2020). Because of this, students find it enjoyable to learn straight from their smartphones, which makes learning the English language engaging and exciting.

There are several key features and benefits of EGGA, which include the following:

- i. **Multimedia Components:** The application includes images, sound, text content, interface, and usefulness, which have been well-received by users.
- ii. **Self-Assessment Exams:** EGGA provides self-assessment exams that serve as a catalyst for students to determine their proficiency with grammar.
- iii. **Engaging and Enjoyable:** The application is enjoyable, pleasant, useful, and engaging, making language learning more exciting for students.
- iv. **Mobile Learning and Scaffolding Mechanism:** The application aims to make grammar learning more approachable, enjoyable, and learner-centred, while also supporting the role of traditional grammar teachers in the classroom. It is designed to provide easy access to language materials outside of regular classroom instruction, allowing learners to absorb grammar without being limited by time or location.

In general, mobile applications like EGGA can function as an efficient scaffolding mechanism for language acquisition, given the growing use of mobile technology in education. This allows learners to grasp the grammar without being constrained by time or space. As a result, language learning becomes engaging and exciting for students by allowing them to learn directly from their mobile devices.

## 10.0 CONCLUSION

In a nutshell, the English Grammar Guide Application (EGGA) is an enjoyable, useful, practical, and captivating method of learning English grammar. It offers users access 24/7 and can be used in any learning environment, including classrooms and settings with varying age groups. According to the results, employing EGGA in grammar instructions can inspire students to learn and develop their grammatical abilities, make learning engaging and dynamic for them, and give them a way to assess their own grammar proficiency. Learners of all ages can benefit from using EGGA as a practical and helpful tool for mastering the target grammar. Learners of all ages can benefit from using EGGA as a practical and helpful tool for mastering English grammar. EGGA is a useful add-on tool for self-directed language learning since it enhances motivation, reduces anxiety, and provides learners with an enjoyable, interesting, and engaging approach to learning English grammar. EGGA offers self-assessment tests to assist students in determining their level of grammatical competency. Given the increasing usage of mobile technology in education, the mobile application provides an effective scaffolding mechanism for language acquisition.

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## 13.0 CONFLICT OF INTEREST STATEMENT

We declare that we have no conflicts of interest.

## 14.0 CONTRIBUTION OF AUTHORS

The authors certify equal contributions to each section of this manuscript, in which all authors evaluated and approved the final version of this manuscript.

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