

THE USE OF MOBILE ASSISTED LANGUAGE LEARNING TO IMPROVE ENGLISH GRAMMAR FOR SENIOR HIGH SCHOOL STUDENTS

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Article Info	Abstract
Article History Received: April 2024 Revised: June 2024 Published: July 2024	<i>Mobile Assisted Language Learning (MALL) focuses on the mobility learning technology. The Utilizing of Mobile Assisted Language Learning (MALL) holds important role to improve effectiveness, flexibility, and convenience of learning. This research aims to explore Mobile Assisted Language Learning (MALL) which can enhance students' grammar skills using Duolingo. It was conducted in Widyagama Senior High School in Malang. The respondents are 53 students which consists 38 of class X and 15 of class XI B understudies who are utilizing Duolingo. To acquire data, The researcher used a Qualitative-Descriptive method by collecting data using questionnaires with Google Form and structured interviews. Data was collected employing a six-point Likert Scale questionnaires. As for the interviews, six questions were asked to obtain significant and substantial supporting research data. The results showed that more than 93% of students responded positively to this method which was considered effective to develop their knowledge, understanding, motivation and the effectiveness of Duolingo as a learning media to improve English grammar skills in the classroom. The research result appears that most of them deliver positive discernments about the application since they are simple to get the materials, they are more energized and persuaded in learning. Therefore, Technology-Based Learning using Duolingo is considered an appropriate method for English learning in senior high school. Mobile Assisted Language Learning (MALL) implementation can be optimized and can be improved in the future. This research is expected to provide new insights and can be applied in learning.</i>
Keywords Duolingo; Grammar competences; Mobile assisted language learning; Technology-based learning;	
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INTRODUCTION

Technology is a crucial part of human life, and its development has undergone tremendous advancements. These technological advances have provided convenience in many fields, including education, where technology significantly aids teachers in carrying out the learning process. The implementation of Mobile Assisted Language Learning (MALL) can be particularly engaging and effective in enhancing students' language growth and creativity. The use of modern information technologies, especially in distance learning, provides enormous opportunities for this concept's application. In this context, teachers play the role of mentors, helping students develop learning motivation and stimulating their independent learning activities (Haleem et al., 2022; You, 2019).

Incorporating technology that uses handy devices such as smartphones, known as MALL, allows students to learn anytime and anywhere. This was particularly evident during the pandemic when students had to adapt to studying in various locations. The development of communication technology, such as cell phones, facilitates the learning process by making it more accessible. One of the trending methods is MALL learning, where students can learn various subjects using mobile devices. Several studies have explored this issue (Raj & Tomy, 2023; Yeşilel, 2023), revealing that despite positive impressions of MALL, students still face challenges such as limited screen sizes, mobile features, and internet connectivity (Nuraeni et al., 2020; Zain & Bowles, 2021).

MALL significantly contributes to language components such as vocabulary, grammar, and pronunciation (Al-Ahdal & Alharbi, 2021; Wardak, 2021). Learning grammar can be particularly challenging for students due to its complexity, including rules, exceptions, and abstractions. Students often struggle with inconsistencies in sentence structures, verb tenses, and word order (Ajaj, 2022). Additional challenges include a lack of context, insufficient exposure to authentic language, and negative perceptions towards learning grammar. By developing MALL, language students can enhance their ability to learn and use grammar effectively. In this research, MALL was utilized to improve English grammar skills, emphasizing the importance of digitalizing instructional materials to make grammar learning more effective, efficient, and collaborative. Introducing MALL as a digital teaching tool underscores its positive impact on 21st-century teaching and learning processes, particularly in understanding grammar.

Learning grammar is crucial for mastering any language, as it provides the structural framework that governs how words and sentences are organized, ensuring clarity and coherence in communication. According to Cohen & Henry (2019), learning styles and strategies positively impact both students and teachers. Students can learn more effectively, and teachers can adjust their instruction to enhance student competency. Recent studies have focused on specific language learning strategies, such as grammar (Bruen, 2020; Huang et al., 2022; Mulugeta & Beyour, 2019). This targeted approach helps develop more effective teaching methodologies that cater to the unique challenges of learning grammar. Therefore, MALL presents a modern solution to the complexities of learning grammar. By leveraging technology, educators can provide students with more engaging, context-rich, and accessible learning experiences. The integration of MALL into grammar instruction not only addresses traditional challenges associated with grammar learning but also aligns with the technological advancements of the 21st century, making language learning more relevant and effective for today's students.

The primary purpose of this research is to explore the viewpoints of English as a Foreign Language (EFL) students regarding the implementation of Mobile Assisted Language Learning (MALL) using Duolingo in senior high school. This research aims to determine students' perceptions of using the Duolingo mobile application to improve their English grammar skills. It is expected to provide new insights into gamification-based technology in grammar learning. By highlighting students' perceptions of the benefits of the Duolingo application in technology-based learning, this research seeks to offer valuable insights that can enhance students' ability to learn English grammar using the Duolingo application. The problem statement formulated from the research background underscores an important question: What are students' perceptions of the effectiveness of the Duolingo application in improving English grammar skills? This question serves as the focal point for a comprehensive investigation, which seeks to uncover the intricacies of students' perceptions and experiences in Mobile Assisted Language Learning (MALL) using the Duolingo application.

The novelty of this study lies in its comprehensive examination of the effectiveness of Mobile Assisted Language Learning (MALL) through the Duolingo application, specifically

focusing on improving English grammar skills among senior high school students. While previous research has explored the general benefits of gamification and digital learning tools in language education, this study uniquely integrates these insights within the context of a widely accessible and popular mobile application. By targeting English as a Foreign Language (EFL) students, the research addresses a specific learner demographic that often faces unique challenges in language acquisition, particularly in grammar. One significant aspect of the study's novelty is its dual-method approach, combining both quantitative and qualitative data through questionnaires and structured interviews. This methodological rigor not only provides robust evidence of Duolingo's effectiveness but also offers nuanced insights into students' perceptions and experiences. The study goes beyond mere performance metrics, delving into the motivational and engagement aspects of learning with Duolingo, thus providing a holistic understanding of how mobile applications can transform grammar learning.

Additionally, the research situates its findings, highlighting how technological advancements and mobile learning solutions became essential during periods of remote learning. By analyzing data collected during this unprecedented time, the study contributes to the growing body of literature on the resilience and adaptability of educational practices in the face of global challenges. This temporal context adds a layer of relevance and urgency to the study, underscoring the critical role of technology in maintaining educational continuity. Moreover, the study's focus on the specific elements of grammar learning—such as sentence structures, verb tenses, and word order—provides detailed insights into the areas where students benefit most from Duolingo. This targeted analysis helps in identifying the precise features of the application that contribute to its effectiveness, thereby informing future enhancements and adaptations of mobile learning tools for grammar instruction. In essence, the study breaks new ground by systematically investigating the integration of a popular mobile learning application in enhancing grammar skills, presenting evidence of its effectiveness, and providing practical recommendations for educators. Its findings have the potential to influence curriculum design, teaching strategies, and the development of educational technologies, making it a valuable contribution to the field of language education.

RESEARCH METHOD

Research Design

In this research, researchers used Qualitative-Descriptive research methods. The research method uses qualitative methods and descriptive approaches. Research design used Descriptive-Qualitative to find the goal of encompassing unity to answer the problem in research. This allows the researchers to have an in-depth understanding and informed by research findings applied in the classroom. Qualitative methods are often called naturalistic research methods because the research is conducted in natural conditions (natural settings). Qualitative research methods are used by researchers to explain a phenomenon in the deepest possible way by collecting the deepest possible data. In qualitative research, researchers emphasize the depth of data obtained. According to Creswell (2018), the Qualitative approach is the best suited to deal with a research problem in which the people do not know the variables and need to explore the issue. The researcher developed a questionnaire adapted from Amaliah, Devi (2020) into 14 statement items with six choices on a Likert scale. Completing this questionnaire is useful for knowing students' perceptions of the use of the Duolingo application as a means of learning grammar for English as a Foreign Language (EFL) in senior high school. Since the subjects of this study only 53 people, the researcher also took structured interview approach to get more in-depth and accurate information. Researchers used six questions adapted from Amaliah, Devi (2020) for a follow-up structured interview session to find out the students' perception on the topic. The researcher asked six interview questions as relevant and valid supporting data to the subjects who used Duolingo as a gamification-based

learning method. The research method is in accordance with the research objectives that have been applied.

Population and Sample

Researchers used sampling techniques in selecting research subjects. The sampling technique used in this research is purposive sampling technique. According to Sugiyono (2018) purposive sampling is a technique for determining a sample with certain considerations. The purposive sampling technique was applied by selecting students who had the potential to participate in the study. Students were selected based on the class that applied Mobile Assisted Language Learning (MALL) gamification-based learning method by using Duolingo application to improve grammar during one semester which is relevant to the focus of this research. Respondents in this study were 53 students of Widyagama High School Malang. It consists of 38 class X and 15 class XI B. The research questionnaire was distributed to all 53 student respondents. In addition, five students from class X and five students from class XI B were invited to join the structured interview session.

Research Instruments

The study employed both questionnaires and interview guidelines as research instruments to gather comprehensive data. The questionnaire was meticulously designed to cover four key aspects: perception of knowledge using Duolingo, perception of understanding using Duolingo, perception of motivation using Duolingo, and perception of effectiveness using Duolingo. Each of these aspects aimed to capture the respondents' experiences and insights regarding their use of the Duolingo platform for language learning. The structured interview sessions were also organized to delve deeper into these four aspects, providing qualitative data to complement the quantitative data from the questionnaires. The interview guidelines included six questions for each section, ensuring a thorough exploration of each participant's perception of knowledge, understanding, motivation, and effectiveness in using Duolingo. This dual-method approach allowed the researchers to triangulate their data, enhancing the validity and reliability of their findings.

The validity and reliability of the instruments were established through a rigorous development process. The questionnaire items were carefully crafted and reviewed by experts in language learning and educational technology to ensure they accurately measured the intended constructs. Pilot testing was conducted with a small group of participants to refine the questions and ensure clarity. Statistical analyses, such as Cronbach's alpha, were used to assess the internal consistency of the questionnaire, confirming its reliability. Similarly, the interview guidelines were developed with input from experts and were tested in a pilot phase to ensure that the questions were clear and elicited detailed and relevant responses. The structured format of the interviews helped maintain consistency across different sessions, further enhancing the reliability of the qualitative data collected. By employing these validated and reliable instruments, the study ensured that the data collected were both credible and robust. The use of both questionnaires and structured interviews provided a comprehensive understanding of how Duolingo impacts learners' knowledge, understanding, motivation, and overall effectiveness in language learning. This methodological rigor supports the study's conclusions and offers valuable insights for educators and learners alike in leveraging digital tools for language acquisition.

Data Analysis

The researcher used a qualitative method with a questionnaire and structured interview. The questionnaire is presented with four aspects of students' perceptions of using Duolingo. The four aspects presented in the Google Form consist of Perception of Knowledge Using Duolingo, Perception of Understanding Using Duolingo, Perception of Motivation Using

Duolingo, and Perception of Effectiveness Using Duolingo.

Data collection using questionnaires distributed to respondents with Google Form. The questionnaire was translated into Bahasa Indonesia make it easier for respondents to answer. To measure student perceptions, researchers analyzed with a Likert Scale. Likert Scale is a research scale used to measure attitudes and opinions. With this Likert scale, respondents are asked to complete a questionnaire that requires them to indicate their level of agreement with a series of questions. The measurement scale used is Likert Scale 1-6. Likert Scale 1-6, Scale 1 = Strongly Disagree, Scale 2 = Disagree, Scale 3 = Less Disagree, Scale 4 = Less Agree, Scale 5 = Agree, and Scale 6 = Strongly Agree (Budiaji, 2018). Data collection from the questionnaire was analyzed in the form of a calculation system to determine the percentage of each question using the formula. The data is presented in the form of percentage descriptive data. According to Suharsimi Arikunto (2018) the criteria and percentage scale for descriptive data results are divided into five points, namely, 0-49% (Very Less), 50-59% (Less), 60%-69% (Medium), 70%-79% (Strong), 80%-100% (Very Strong).

Researchers used a qualitative method of structured interviews with respondents. Researchers used voice recording and video recording during structured interviews. The researcher analyzed the structured interview data. The process started with transcribing the structured interview answers. This involved converting the recorded structured interviews into written text. After transcription, the researcher rereads the text of the answers to understand the data. The researcher labels the parts that are considered relevant or have important meaning. This process can involve transcription coding, where each piece of text is labeled based on four aspects. The labels that have been assigned to the transcriptions are organized into more general or related categories. This process helps in identifying patterns or themes that emerge from the structured interview answers. The researcher linked the categorizations to answer the research questions. The categories that had been created were used to frame answers to the research questions. This involved collecting and analyzing the information contained in each category. The researcher highlighted key points for discussion. The researcher highlighted the key points that emerged from the categorization analysis. These points can then serve as the basis for further discussion, the formation of conclusions, or the identification of important findings. During this entire process, it is important to maintain rigor and consistency. In addition, clarity in the use of labels and categories will help in structuring the results of the analysis and understanding the findings generated from the structured interview data.

RESEARCH FINDINGS AND DISCUSSION

The main result of the research will be explained in this study. The result related to research analysis findings from 14 questionnaires and 6 structured interview questions. There are four aspects of student's perceptions toward the use of application "Duolingo" as learning media to improve English grammar as described table below:

Table 1
The Main Result of the Research

No.	Aspect	Total Average Percentages	Criteria
1.	Knowledge	83%	Very Strong
2.	Understanding	92%	Very Strong
3.	Motivation	95%	Very Strong
4.	Effectiveness	93%	Very Strong

Based on Table 6 above, all results can be said to show a satisfactory total percentages with very strong criteria. The knowledge indicator shows a result of 83%. In this case, it is

evident that students develop their knowledge of grammar skills. Students can communicate with good language in reading and listening. To improve their knowledge, students can improve their grammar mastery with Duolingo. In accordance with the results on the understanding indicator which shows a very strong total percentage with a result of 92%. In the learning process using Duolingo, students can better understand English grammar by learning translation, transcription, and pronunciation of words. Students can learn English that makes learning progress including games, motivation, feedback, grammar, and scores so that students can better understand English grammar. In line with the results on the motivation indicator which shows a very strong total percentage with 95% results, it is proven that students are motivated to learn English grammar using Duolingo. Students feel that learning English using mobile devices is very convenient, efficient, and fun. Students can increase motivation by providing a more interesting and interactive learning experience. In accordance with the results on the effectiveness indicator which reached a very strong total percentage with 93% results, it proves that students are more effective in learning English grammar using Duolingo. Students feel that learning activities become more effective and efficient so that they can effectively improve student learning outcomes.

Based on the main results of data obtained through questionnaires and structured interviews in all four aspects, it shows that the implementation of learning using Duolingo is proven to improve students' English grammar skills. The use of Duolingo in the classroom really attracts the attention of students' attention, so that the class becomes very interactive in language learning. Students' attention is needed in receiving learning materials from the teacher. One of the efforts to provoke students' attention is by using media that stimulates students to think. One of the media that can stimulate students' attention is learning media with the Duolingo application. Duolingo is very interesting for students to learn English because they enjoy learning it and it is not boring. The appearance of Duolingo is very attractive so that it makes students happy to pay attention to the application. Smith and Vlachopoulos (2018) explain that the use of the Duolingo application can improve English language skills. This means that Duolingo is an effective media to use in the teaching and learning process.

Duolingo is also a learning media to help users learn languages while using their learning exercises through the web and applications. It has various and up to date techniques in learning languages. It can make students easier to understand, interested, and enjoy learning because it gives the impression of learning while in the learning process. Duolingo also provides data such as points earned, course overview tree, scribbles, and time spent. Duolingo is easy to use because the procedure is simple, so Duolingo can be used for all ages. This means that Duolingo is easy to use and more interesting, so it will be comfortable as a medium that we use in teaching in the classroom. This is in line with Pamuji (2018), who stated that all students agree that they want to increase their English skills so they like to learn English with Duolingo. In Addition, based on the main results of the research above Duolingo is proven to improve students' English grammar skills as a technology-based learning media.

Perception of Knowledge Using Duolingo

In this study, seven key statements were analyzed to gauge students' perceptions. These statements were designed to capture various aspects of their experience with Duolingo, including its effectiveness, usability, and impact on their language learning process. The results of the data, which will be described in Table 2, provide a comprehensive overview of how students perceive the role of Duolingo in their language acquisition journey. The analysis of these statements revealed several important findings. For instance, a significant majority of students agreed that Duolingo effectively facilitates their understanding of English grammar. This indicates that the app's interactive and gamified approach is beneficial in

breaking down complex grammatical concepts, making them more accessible and easier to grasp for learners. Additionally, students reported that the use of Duolingo increased their motivation to learn English, suggesting that the app's engaging format plays a crucial role in maintaining their interest and encouraging consistent practice.

Table 2
The Finding from Perception of Knowledge Using Duolingo

Statement	Aspect	%	Criteria
I recognize the Duolingo as a gamification-based grammar learning application		97%	Very Strong
I easily apply the Duolingo application as an English grammar learning application		93%	Very Strong
I can easily learn English grammar with the Duolingo application anywhere and anytime		92%	Very Strong
I am interested in learning English grammar with the Duolingo application	Knowledge	95%	Very Strong
I feel bored when learning English grammar using the Duolingo application		50%	Less
I find it difficult when learning English grammar using the Duolingo application		60%	Medium
I find Duolingo Useful for Learning English Grammar		95%	Very Strong
Total		83%	Very Strong

Based on the table above, the participants agreed that Duolingo was an effective tool for providing grammar instruction in learning English. This consensus highlights the transformative impact of Duolingo in language education, as it leverages technology to enhance learning outcomes. Duolingo, a widely recognized language learning app, utilizes gamification and adaptive learning techniques to engage users in acquiring new languages, including English. Its user-friendly interface and interactive features make it an appealing tool for both beginners and advanced learners. In the context of teaching grammar, Duolingo's structured lessons and interactive exercises help students grasp complex grammatical concepts more easily. The app breaks down grammar items into manageable parts, allowing students to practice and reinforce their understanding step-by-step. This incremental approach reduces the cognitive load on learners, making it easier for them to internalize and apply grammar rules in various contexts.

Additionally, Duolingo fosters collaborative learning among students. During discussion sessions, students often ask each other questions about any issues they encounter, facilitating peer-to-peer learning. This collaborative environment encourages active participation and helps students clarify their doubts, reinforcing their understanding of grammar (Rusli et al., 2023; Putri & Ismiati, 2018). By engaging in discussions and seeking assistance from peers, students develop a deeper comprehension of grammatical structures and become more confident in using them. Overall, the participants' positive feedback underscores the effectiveness of Duolingo in teaching grammar. Its innovative approach, combining technology with interactive and adaptive learning, provides a robust platform for language acquisition. By making grammar learning more accessible and enjoyable, Duolingo supports students in developing their English language skills effectively.

The students said that Duolingo was an effective tool for providing grammar in learning English, and ten participants agree that Duolingo helped them to understand English grammar material. From the result, the researcher found some perceptions from statement, Duolingo is an effective tool for providing grammar in learning English. Duolingo helped

them to understand English grammar material. On the other hand, the participants were interested in learning with Duolingo since It was simple to use and gave them the chance to be more active in learning English grammar. According to the research conducted by Astarila (2018), Duolingo provides engaging characteristics that can stimulate and engage students to learn English. The students agree that Duolingo makes it simple to practice and apply English in everyday situations.

Perception of Understanding Using Duolingo

One of the key strengths of Duolingo is its structured curriculum, which breaks down language learning into manageable lessons that cover vocabulary, grammar, pronunciation, and comprehension. Each lesson is designed to be concise and interactive, often incorporating elements of gamification such as points, levels, and rewards to motivate users. This approach not only makes learning more enjoyable but also helps in maintaining user engagement over extended periods. The effectiveness of Duolingo in teaching English can be attributed to its adaptive learning technology, which personalizes the learning experience based on the user's performance (Taalas et al., 2018; Rusli et al., 2023; Putri & Ismiati, 2018). This means that the app adjusts the difficulty level of exercises according to the learner's progress, ensuring that they are constantly challenged but not overwhelmed. Such customization helps in addressing individual learning needs and paces, making it suitable for a diverse range of learners.

Furthermore, Duolingo emphasizes practical language use by incorporating speaking and listening exercises. These exercises are designed to mimic real-life conversations, helping learners develop their communication skills in English. The app also provides instant feedback, allowing learners to correct their mistakes and improve their pronunciation and grammar in real time (Rusli et al., 2023; Putri & Ismiati, 2018). In addition to the core language skills, Duolingo enhances cultural understanding by integrating cultural notes and context within its lessons. This holistic approach ensures that learners are not only proficient in the language but also aware of the cultural nuances, which is essential for effective communication. Research has shown that the use of Duolingo can significantly improve language learning outcomes. For instance, studies have highlighted its effectiveness in increasing vocabulary retention, enhancing grammatical understanding, and boosting overall language proficiency. The convenience of accessing Duolingo on mobile devices also allows for flexible learning schedules, enabling users to practice English anytime and anywhere.

However, while Duolingo is a powerful tool for language learning, it is most effective when used in conjunction with other learning methods (Pamuji 2019; Putri & Ismiati, 2018). Traditional classroom instruction, immersion experiences, and conversational practice with native speakers are crucial for achieving comprehensive language mastery. Duolingo serves as a supplementary tool that reinforces and expands upon these traditional methods. In conclusion, the application of Duolingo for teaching English offers a dynamic and engaging way to learn the language. Its structured, adaptive, and interactive approach caters to various learning styles and paces, making it a valuable resource for learners worldwide. By combining Duolingo with other language learning strategies, educators and learners can achieve more robust and well-rounded English language proficiency.

Based on the data, participants agreed that Duolingo was an effective tool for providing grammar instruction in learning English. The questionnaire results indicated that 93% of participants agreed with the statement that students can improve their English grammar knowledge by using Duolingo. In statement number 2, 90% of the students agreed that Duolingo was a comfortable platform for learning English grammar. Furthermore, statement number 3 revealed that 94% of the participants found the grammar questions in Duolingo interesting and easy to understand. Students reported that learning English with the Duolingo

application was interesting, with ten participants specifically noting that using Duolingo made them more active in their learning process. This feedback suggests that Duolingo not only engages students but also promotes active learning. The researcher's analysis found that participants perceive Duolingo as a useful tool for learning and practicing English.

Supporting these findings, Tan (2018) claims that gamification is a creative pedagogical technique that uses digital games in educational settings as learning tools. Duolingo, which employs gamification, can help increase English grammar knowledge. Syahputra (2019) also supports this, having examined the effectiveness of Duolingo in reducing grammatical errors in student writing. His results suggested that Duolingo's gamification platform was adequate in minimizing grammatical errors in text production. Overall, the data and additional studies indicate that students find learning English with Duolingo to be engaging and beneficial. The use of gamification in Duolingo makes grammar lessons more appealing and understandable, fostering a positive learning environment. As a result, students become more active learners, further enhancing their language acquisition and proficiency.

Perception of Motivation Using Duolingo

In this part of the study, two key statements were analyzed to understand the students' motivation levels when using Duolingo for learning English. The first statement revealed that 97% of the students agreed they felt motivated to learn by using Duolingo. The second statement showed that 92% of students agreed Duolingo made them feel excited about memorizing English grammar. These results indicate that students were more eager to learn English grammar using Duolingo, suggesting that their perceptions of the app were positive. The participants consistently reported that Duolingo could motivate them in learning English grammar. Ten participants specifically noted that after using the Duolingo application, they felt more excited and motivated to continue their studies. This positive feedback highlights the effectiveness of Duolingo in fostering a motivational learning environment.

The researcher observed that students felt motivated to learn English grammar, corroborating the participants' perceptions. The application not only made the learning process enjoyable but also significantly boosted their enthusiasm for grammar studies. These findings align with the research conducted by Bicen & Kocakoyun (2018), which found that gamification made the learning process more appealing and motivated students to achieve their learning goals. Overall, the integration of Duolingo into the English learning curriculum appears to inspire and motivate students. The gamified elements of Duolingo make grammar learning more engaging, which in turn encourages students to invest more effort and enthusiasm into their studies. This enhanced motivation can lead to better learning outcomes, as students are more likely to persist and excel in their language learning endeavors.

Perception of Effectiveness Using Duolingo

In this part of the study, two key statements were analyzed to assess the effectiveness of Duolingo in learning grammar. The results of the data are described below. The first statement indicated that 95% of the students agreed their grammar skills had improved after using Duolingo. The second statement revealed that 91% of students felt their grammar knowledge had significantly enhanced after using the app. These high percentages suggest that students have a positive perception of Duolingo's effectiveness in improving their grammar skills. Students reported that Duolingo was effective for learning English grammar, with ten participants specifically noting that using Duolingo allowed them to apply their English skills in daily life. This feedback underscores the practical benefits of Duolingo, as it not only aids in learning grammar but also facilitates the application of these skills in real-world contexts. The researcher observed that students perceive Duolingo as an effective tool for learning English grammar, and the participants' feedback reinforces this finding.

The interactive nature of the Duolingo application and its various training options,

including listening, grammar, and pronunciation, contribute to its effectiveness. This perspective is supported by Muddin (2018), who noted that Duolingo is very effective, not only because it is fun but also because it teaches English grammar from the most basic to the most difficult levels. This feature is particularly beneficial for students who want to learn English grammar from the ground up. Therefore, the data suggests that Duolingo is an effective tool for learning English grammar. The positive feedback from students indicates that the app enhances grammar skills and knowledge, making it a valuable resource for language learners. The ability to apply learned skills in daily life further demonstrates Duolingo's practicality and effectiveness. The interactive and comprehensive nature of the app, as highlighted by both participants and supporting research, makes it an ideal tool for learners at all levels of proficiency.

CONCLUSION

The purpose of this research is to explore the perceptions of Widyagama Senior High School students regarding the application of technology-based learning methods using Duolingo to improve students' English grammar. Based on the findings and discussion above, it can be concluded that students who gave positive responses can improve aspects of knowledge, understanding, motivation and effectiveness. First, knowledge received 83% of the students and this is supported by Duolingo offering contextualized grammar lessons, which often integrate grammar knowledge with practical examples. Some students like this approach as it allows them to learn grammar knowledge in the context of actual language use. Second, understanding gets 92% and this is supported by Duolingo an effective application for learning and practicing grammar so that students become more understanding in learning English grammar. Third, motivation gets 95%, proven that Duolingo provides an interactive learning experience so that it can increase students' motivation to learn English grammar. Fourth, effectiveness gets 93% and this is supported by learning by using Duolingo gives students the opportunity to be more active in learning. Duolingo provides interesting characteristics that can stimulate and engage students to learn English so that learning English grammar using Duolingo is considered very effective. It can be concluded that students felt their knowledge, understanding, motivation, and effectiveness improved in learning English grammar using Duolingo. Based on the findings, it is recommended that teachers maximize the use of Mobile Assisted Language Learning (MALL) to teach English. The researcher also hopes that future research can further explore other aspects of Mobile Assisted Language Learning in English language teaching.

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