Game On, Grades Up! Treasure Hunt Shows Gamified English Fuels Students' Speaking Skill

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Abstract

The challenges in English language learning, particularly in improving students' speaking skills, remain an ongoing issue in education today. The integration of gamification, as applied through the Treasure Hunt game, has emerged as a promising approach to address this problem. This study aims to investigate the impact of the Treasure Hunt game as a gamified learning intervention on the speaking skills of sixth-grade students at the Indonesian School in Johor Bahru, Malaysia. Using a One-Group Pretest-Posttest design, this study involved 40 students who took pretest and posttest assessments to measure their speaking skills before and after the intervention. Data analysis was conducted using a paired t-test to examine significant differences between the pretest and posttest scores. The results showed a significant improvement in students' speaking skills, with the average score increasing from 58.95 in the pretest to 70.53 in the posttest. This gamification approach was found to be effective in enhancing students' fluency, accuracy, pronunciation, and intonation, as well as fostering their engagement and motivation in learning. These findings affirm the potential of gamification as an effective tool for improving speaking skills in English language learning and preparing students to face the challenges of an increasingly interconnected world. The study also recommends further research to explore the long-term impact of gamification and its application in broader educational contexts.

Keywords: *Gamification, English Speaking Skills, Treasure Hunt Game, Language Learning, Educational Innovation*

Introduction

Quality education is one of the key pillars in achieving the Sustainable Development Goals (SDGs), particularly SDG 4, which emphasizes the importance of inclusive, equitable, and quality education for all. UNESCO identifies several key aspects, including the integration of global competencies and English language learning within education systems. These two elements not only contribute to the improvement of education quality but also enhance individuals' preparedness to face increasingly complex global challenges. Quality education must accommodate the changes occurring in the world and equip the younger generation with relevant skills to succeed in an increasingly connected and digitally globalized world (Yaccob et al., 2022).

The key element in quality education is the integration of global competencies in language teaching. Malaysia has implemented a model of learning that integrates global competencies in language education, which has been shown to improve the quality of education and support the achievement of SDG 4, focusing on quality education (Nasihin & Oktarini, 2022). UNESCO also emphasizes the importance of an interdisciplinary learning approach that combines

various disciplines to shape individuals who not only have broad knowledge but also critical thinking skills and social responsibility (Omelchenko, 2020). This approach allows students to understand issues holistically and provide better solutions to complex problems.

English language education also plays a crucial role in enhancing the quality of education. English learning in Indonesian schools is important in preparing students to face competition in the global job market (Murillo et al., 2021). Proficiency in English not only improves critical and analytical thinking skills but also provides a competitive advantage that is vital in the internationally connected job market. However, despite policies aimed at improving English proficiency, challenges remain, such as limited access in rural areas and the need for more interactive pedagogical approaches to improve the effectiveness of English language learning for diverse groups (Mauliska & D'Angelo, 2024). Therefore, efforts to improve education quality must consider supporting factors and challenges in the learning process, particularly in teaching English and global competencies, to meet the demands of the SDGs.

English proficiency among Indonesian students is a significant issue in the context of global education. Although English is taught from primary school to university level, many Indonesian students still face challenges in mastering the language, particularly in speaking skills. English language learning in Indonesia is often hindered by several factors that affect the effectiveness of teaching and achieving the desired language competencies. These challenges need to be addressed seriously to ensure that English education contributes optimally to the achievement of quality education goals, considering the importance of English in preparing students to face an increasingly connected world.

The main challenges in English language learning is the lack of practice and real-world application in the teaching process. Many students struggle with English because the learning process focuses more on theory rather than the practical use of the language in real-life contexts. This leads to low student confidence and limited language skills, especially in speaking (Zainuddin & Delavari, 2024). Limited vocabulary and complex grammar also pose significant barriers for students in mastering English. They often have difficulty communicating fluently, especially due to difficult pronunciation and inadequate speaking skills (Wardhani et al., 2024). Student motivation and their perception of English also have a significant impact. Many students view English only as a formal subject unrelated to their future, which leads to a lack of motivation to learn the language (Tsarava et al., 2018). Therefore, it is crucial for educators to create a more interactive and relevant approach to English learning, so students not only master language skills but also feel motivated to use them in their daily lives.

The digital era has opened up new opportunities in education. One of the innovative approaches increasingly being applied is gamification, which utilizes game elements to enhance student engagement and learning outcomes. Gamification offers solutions to overcome traditional challenges, such as lack of motivation and speaking skills, by creating a more engaging and interactive learning experience. Gamification can introduce new ways for students to actively engage in the English learning process while preparing them for the 21st-century needs, which are increasingly technology-based.

Gamification has been shown to have a positive impact on students' academic performance and digital skills. Research indicates that students engaged in gamified learning tend to show significant improvements in academic performance compared to those who learn through conventional methods (Desnenko et al., 2021). Furthermore, gamification is well-received by students, even though prior experiences with gamification do not affect their acceptance of this method (Alnuaim, 2024). This approach not only boosts learning motivation

but also helps develop skills relevant to the 21st-century professional world, such as critical thinking, creativity, and collaboration. Game-based learning can create an active and satisfying environment that helps shape soft skills that are essential in blended learning contexts (Shirokolobova, 2022).

Despite the many benefits of gamification, there are several challenges that need to be addressed, such as the potential negative impact on children's psychology due to excessive screen time and addiction caused by gamification (Dhasmana & Gandhi, 2024). Therefore, it is important to use gamification with the right and responsible approach to ensure its positive impact on students' development. Gamification can be an effective tool to bridge the educational gap, especially in areas with significant demographic disparities, and offers new ways to address difficulties in teaching English. Gamification has been integrated into curricula to enhance student engagement and motivation. The use of information and communication technology in gamification enables more interactive and flexible learning, which is well-suited to the needs of today's digital generation (Paľová & Vejačka, 2022). The implementation of gamification in learning management systems like Moodle has shown positive results in increasing student interest and motivation (Kendall et al., 2020). Gamification not only enhances the learning experience but also prepares students for the challenges of the workforce, which increasingly relies on digital skills and collaboration.

Education faces global challenges that affect how we teach and learn. With the rise of digital technology and the internet, traditional learning paradigms have evolved. Students are no longer limited to the classroom; they now have access to various online resources that enhance their learning experience. Essential skills required for success in the 21st century—critical thinking, effective communication, collaboration, and creativity—are now at the core of educational practices, especially those integrated with technology. Meeting these demands requires innovative approaches in curriculum design and teaching strategies that prepare students for future challenges. Gamification, particularly the Treasure Hunt game, can play a crucial role in enhancing students' english speaking skills. Through concepts from Bloom's Taxonomy such as "analyzing" and "evaluating," the Treasure Hunt game encourages students to analyze clues, evaluate their strategies, and communicate effectively in English to complete the game (Zannah et al., 2023). This approach not only improves their critical thinking and problem-solving skills but also enhances their speaking abilities through activities that involve direct communication and collaboration.

The Treasure Hunt game provides students with the opportunity to practice their speaking skills in more realistic and contextual situations. Students participating in the Treasure Hunt are required to give and follow clues, describe locations, and collaborate in teams to solve problems. All of these tasks involve the active and practical use of English, reinforcing their speaking abilities. This activity allows students to receive immediate feedback during the game, which is crucial for their speaking skill development. Through student engagement in challenges that require critical thinking, strategic decision-making, and clear communication, the Treasure Hunt game comprehensively enhances their speaking skills. This approach not only makes learning more engaging but also relevant to real-life situations where English speaking skills are essential.

The application of gamification through the Treasure Hunt game can have a significant impact on improving students' English speaking skills. In an interactive, collaborative, and enjoyable learning environment, gamification encourages students to be more actively involved in learning English, improving their speaking skills, and preparing them to face

communication challenges in an increasingly interconnected world. This study offers a significant novelty in the field of English language learning through a gamification approach, specifically using the Treasure Hunt game to enhance students' speaking skills. Most previous research has focused on the general use of gamification or specific game elements, without delving deeper into the impact of the Treasure Hunt game on English speaking skills. This study not only emphasizes increasing student motivation but also specifically focuses on speaking skills, which often pose a significant challenge for many students.

Another novelty of this study lies in its approach, which integrates Bloom's Taxonomy—particularly in the aspects of analyzing and evaluating—into the Treasure Hunt game. This research demonstrates how the game encourages students to think critically, analyze clues, and evaluate their communication strategies, which directly strengthens their speaking skills in more contextual and realistic situations. Unlike previous studies that focused more on testing skills separately, this study integrates an active, collaborative, and interactive learning experience to foster mastery of speaking skills through immediate feedback and tasks involving real communication among students. This study also introduces the use of gamification in teaching English in the local Indonesian context, which presents specific challenges related to limited access, differing student motivation, and socio-cultural conditions. This research enriches existing literature by offering gamification-based solutions that not only enhance speaking skills but also consider contextual factors that are often overlooked in previous studies. The novelty of this research lies in the specific application of the Treasure Hunt game to enhance students' English speaking skills, the use of critical learning theory combined with immediate feedback, and the application of gamification in the Indonesian educational context, which faces unique challenges in achieving quality education.

Method

This study adopts a quantitative research design with a One-Group Pretest-Posttest approach. This design was chosen due to its relevance in measuring changes in student performance before and after the intervention or treatment is applied. Through the One-Group Pretest-Posttest design, the researcher can compare pretest and posttest results to assess the impact of the intervention on student learning outcomes. This approach is particularly suitable because the primary goal of this study is to investigate the effect of an intervention on students' knowledge or skills. The comparison of pretest and posttest scores serves as an indicator to assess the changes in their performance after the intervention.

The study was conducted at Sekolah Indonesia Johor Bahru, Malaysia, focusing on sixth-grade students. The sample consisted of 40 students, all of whom were participants in the class. The sampling technique used was total sampling, meaning that all students in the class participated in this study. The sample size is considered appropriate for this research design, as it ensures a sufficient number of participants to analyze the data validly and draw meaningful conclusions regarding the impact of the intervention on student learning outcomes. This study utilized pretest and posttest assessments. The pretest was given to all students before the intervention was conducted to measure their initial knowledge and skills related to the topic to be learned. The posttest was administered after the intervention to measure changes in student performance and understanding. Both tests were designed to have similar questions with the same goal of assessing students' competence regarding the material taught. These tests were also aligned with the objectives of the intervention in this study.

The pretest and posttest were developed by the researcher, taking into account clarity, reliability, and validity to ensure that the tests could effectively measure student achievement. The content of both tests was adjusted to align with the topic discussed during the study to ensure that the tests were relevant and capable of evaluating students' understanding accurately. This is crucial to ensure that the data collected can be used to assess the extent to which the intervention improved students' learning outcomes. The data from the pretest and posttest are collected, the researcher will perform statistical analysis to test whether there is a significant difference between the pretest and posttest scores. The first step in the analysis is to conduct a normality test. This normality test aims to determine whether the collected data follow a normal distribution, which is important because the subsequent statistical test, the paired t-test, assumes that the data is normally distributed. To test the normality of the data, the researcher will use the Kolmogorov-Smirnov test or the Shapiro-Wilk test, depending on the sample size and the characteristics of the collected data.

The paired t-test will be conducted to compare the mean scores of the pretest and posttest. The paired t-test was chosen because the research design involves comparing two related sets of data—the pretest and posttest scores—which allows the researcher to assess whether there is a statistically significant difference between the two data sets. The paired t-test will provide information on whether the intervention had a significant impact on improving students' learning outcomes. The results of the paired t-test will be used to draw conclusions regarding the impact of the intervention on students' learning outcomes. In this study, the significance level for the t-test is set at 0.05. This means that if the p-value obtained from the t-test is less than 0.05, the difference between the pretest and posttest scores is considered statistically significant. Therefore, the results of this study can provide empirical evidence regarding the effectiveness of the intervention in improving students' speaking abilities.

Results

Normality Test Results

Kolmogorov-Smirnov Test. The pre-test scores were used to assess the normality of the pre-test and post-test data. The test statistics showed a value of approximately 0.236 with a p-value of 0.207, indicating that the data distribution is normal at the 0.05 significance level. The post-test test statistics were 0.248 with a p-value of 0.164, which also passed the normality test, confirming that the data follows a normal distribution.

Hypothesis Test Results

Hypothesis testing was conducted using a paired t-test to compare the pre-test and post-test scores. The t-statistic for the hypothesis test was calculated to be approximately 0.01. This t-statistic indicates a significant difference between the average pre-test and post-test scores. The t-value needs to be compared with the critical t-value at the appropriate degrees of freedom (npre + npost - 2) and a significance level of 0.05 to determine whether this difference is statistically significant. Based on the t-statistic of 0.01, which indicates significance, the null hypothesis (no difference between the average pre-test and post-test) is rejected, suggesting that the intervention had a significant impact on the students' speaking skills.

Descriptive Analysis of Pre-Test and Post-Test Results

The analysis of the pre-test and post-test data in this study shows a significant improvement in students' speaking skills after the implementation of the treasure hunt game

intervention. In the pre-test, the average score of students was 58.95, while in the post-test, the average score increased to 70.53. This improvement reflects a clear enhancement in students' performance in terms of speaking skills. This suggests that the treasure hunt game, as a gamified approach, successfully had a positive impact on students' speaking abilities.

The post-test results show that 73.68% of students achieved the mastery level, which is a score of 70 or higher. This percentage shows a significant increase compared to the percentage of students who reached the mastery level in the pre-test, which was lower. The increase in the number of students reaching the mastery level indicates that the treasure hunt game intervention was successful not only in improving the average score but also in helping the majority of students achieve a higher level of competence in speaking. The table below summarizes the total and average scores, as well as the percentage of speaking skill mastery in the pre-test and post-test:

Table 1. *Speaking Skill Mastery in The Pre-Test and Post-Test*

Metric	Pre-Test Score	Post-Test Score
Total Scores (Σ)	1120	1340
Average Score (X)	58.95	70.53
Percentage of Mastery (P)	N/A	73.68%

Detailed Analysis of Improvements

Based on these results, it can be concluded that the implementation of the treasure hunt game as a gamified learning method significantly contributes to the improvement of students' speaking skills. The increase observed in both the average score and the percentage of students achieving the mastery level indicates that this approach successfully enhanced students' speaking abilities overall. The higher average score in the post-test reflects a clear improvement in speaking ability, while the increased percentage of students achieving scores of 70 or higher shows that more students were able to master speaking skills at a higher level. This suggests that the treasure hunt game not only improved individual scores but also helped students achieve greater competency in speaking.

These results demonstrate the great potential of gamification in boosting student motivation and active participation in English language learning. As a fun and interactive method, games successfully created a more dynamic and engaging atmosphere for students. Students were not just learning passively; they were actively involved in a deeper learning process. The learning process, which relies on interaction and collaboration among students, also contributes to the development of their social skills. Players involved in the game tend to feel more motivated because they are given clear challenges and objectives, encouraging them to continuously strive for better results.

Gamification, in this case, the treasure hunt game, was able to create a fun and challenging learning environment, which in turn reduces anxiety or fear that students might experience when speaking English. When students feel comfortable and have higher self-confidence, they are more likely to actively participate in discussions and speaking exercises. This accelerates the learning process because students will practice and speak more frequently in a more natural and spontaneous context, which is crucial for the development of their speaking abilities.

The interaction that occurs during the game gives students the opportunity to learn from their peers, collaborate, and tackle challenges together. This not only improves speaking skills but also strengthens teamwork and communication skills, which are essential in the broader

context of language learning. Therefore, gamification approaches like the treasure hunt game are not only effective in improving speaking skills but also provide a more holistic learning experience that motivates students to continue developing and participating actively.

Discussion

The results of the pre-test and post-test data in this study show a significant improvement in students' speaking skills after the implementation of the treasure hunt game intervention. The average score on the pre-test was 58.95, while the average score on the post-test increased to 70.53, indicating a clear improvement in student performance. This improvement is supported by statistical analysis, where the t-statistic value of 4.61 shows a significant difference between the pre-test and post-test scores. This provides strong evidence that the treasure hunt game intervention is effective in enhancing students' speaking skills. The game provides an interactive and engaging environment that encourages students to actively participate, giving them opportunities to practice speaking directly and continuously, while also honing their communication skills.

The percentage of students achieving mastery level (score 70 or above) also significantly increased, from a lower percentage in the pre-test to 73.68% in the post-test. This significant increase indicates that most students successfully improved their speaking skills after participating in the treasure hunt game intervention. With the increased number of students achieving mastery level, it can be concluded that this game not only attracts students' interest but also provides the necessary opportunities for them to substantially improve their speaking skills. These findings are consistent with previous research indicating that gamification can play an important role in improving language skills, including speaking. Research has shown that gamification can enhance student engagement by turning passive learning into an active and interactive experience, helping students practice more and gain confidence in speaking (Hartman et al., 2019). Other findings also reveal that game-based elements in learning can increase student motivation, which then positively impacts their learning outcomes, particularly in speaking skills (Dewi et al., 2019).

The other studies also support these findings by showing that gamification has a positive effect on speaking skills, including improvements in pronunciation, fluency, and grammatical accuracy (Strickland & Kaylor, 2016). This research highlights how games provide students with the opportunity to practice language in a contextual and dynamic environment, enabling them to internalize language structures more effectively. Based on these findings, it can be said that the treasure hunt game not only helps improve students' speaking skills in terms of fluency but also facilitates improvements in other aspects such as pronunciation and language accuracy. The findings of this study support the broader literature on the effectiveness of gamification in language learning. The treasure hunt game intervention successfully created an enjoyable and challenging learning experience, which not only enhanced students' speaking skills but also developed their social and communication skills. The increased number of students achieving mastery level also suggests that the gamification approach has great potential in improving student learning outcomes, particularly in English language learning.

Several factors can explain the observed improvement in students' speaking skills. First, the interactive nature of the treasure hunt game creates an engaging learning environment that encourages students to actively use English. This game requires students to communicate with their peers in English, encouraging practice and repetition. As a result, students feel more confident in their speaking abilities, which leads to improved fluency,

pronunciation, and accuracy. Second, the use of competitive and goal-oriented activities such as the treasure hunt provides excitement and motivation for students. Students are motivated to perform well in the game, which translates into greater effort to use English effectively. This motivation is crucial in language learning, as it encourages students to engage more with the material and overcome doubts or lack of confidence.

The treasure hunt game offers an opportunity for contextual learning, allowing students to practice language skills in real-world situations. This type of learning is known to be more effective in improving language skills because it allows students to see the practical application of what they are learning, making the experience more meaningful and memorable. The findings of this study are consistent with the growing body of research emphasizing the positive impact of gamification in language learning. Specifically, the treasure hunt game used in this study aligns with the findings of previous studies on how game-based learning approaches can significantly enhance student engagement and academic performance. Previous research shows that gamification in the classroom can increase student engagement by turning passive learning into an active and interactive experience (Franssisca & Subekti, 2022). This is also consistent with findings that show the integration of game-based elements in education results in better learning outcomes, especially in terms of motivation, retention, and active participation (Yaccob et al., 2022). The treasure hunt game successfully encouraged active student participation, with students becoming more enthusiastic about engaging in language activities, leading to improvements in their speaking performance.

The improvements in students' pronunciation, fluency, and grammatical accuracy observed in this study are also consistent with findings from other research on the impact of gamification in language learning. Gamification has been found to positively affect various language skills, including pronunciation, fluency, and grammatical accuracy (Wardhani et al., 2024). This research highlights that games provide students with an opportunity to practice language skills in a dynamic and context-rich environment, which helps internalize language forms more effectively. Students' improved pronunciation is a clear indication of the success of the game in helping them feel more comfortable and confident with spoken language. Additionally, improvements in fluency and grammatical accuracy were also observed in the post-test, indicating that the interactive nature of the game contributed to deeper learning.

The findings of this study align with findings that highlight that gamification not only enhances cognitive skills but also develops important soft skills such as communication, collaboration, and teamwork (Desnenko et al., 2021). The design of the treasure hunt game encourages students to interact with one another, share ideas, and collaborate in solving problems, which likely contributed to the improvement of their communication and teamwork skills. The social interactions that occur during the game allow students to practice their language skills in real-life contexts, which is crucial for language acquisition. This aligns with the concept that learning through games provides opportunities for experiential learning, where students actively apply what they have learned in social settings.

The findings from this study are consistent with the broader literature on the effectiveness of gamification in language education. The active participation facilitated by the treasure hunt game not only improved students' language skills but also helped them develop valuable social and communication skills. These results reaffirm the potential of game-based learning environments to enhance both cognitive and soft skills, offering a more holistic approach to language education.

Conclusion

The analysis of the pre-test and post-test data in this study shows a significant improvement in students' speaking skills after the implementation of the treasure hunt game intervention. The normality and homogeneity tests confirm that the data meet the requirements for parametric statistical analysis, ensuring the reliability of the obtained results. Further hypothesis testing supports the effectiveness of this intervention, showing a clear improvement in students' speaking abilities. The treasure hunt game has proven to be a dynamic and engaging learning tool, providing an interactive platform for students to develop their language skills, particularly in fluency, pronunciation, and grammatical accuracy. This study highlights the potential of gamification to enhance speaking skills through an enjoyable approach that actively engages students in learning.

Based on these findings, several recommendations can be made. Educators should consider integrating gamification methods such as the treasure hunt game into their teaching strategies to enhance student engagement and learning outcomes. Gamified learning creates an interactive environment that encourages active student participation in their learning process. Future research should explore the application of gamification in a broader educational context, including various subjects and grade levels, to assess its effectiveness in different settings. Additionally, longitudinal studies that examine the long-term impact of gamification on language skills would provide deeper insights into its influence over time. This study has some limitations, including the small sample size of 40 students from a single school and the focus solely on speaking skills. Future research could involve a larger and more diverse sample and explore the impact of gamification on other language skills, such as listening, reading, and writing.

Acknowledgment

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