

## The Effectiveness of Gamification Technique to Students' English Vocabulary Acquisition for Seventh Grade Junior High School Students at SMP N 31 Medan

Giovani Br Lubis<sup>1</sup>, Meikardo Samuel Prayuda<sup>2\*</sup>, Fiber Yun Almanda Ginting<sup>3</sup>

<sup>1,2,3</sup> Prodi Pendidikan Bahasa Inggris, Universitas Katolik Santo Thomas, Jl. Setia Budi No.479, Kec. Medan Selayang, Kota Medan, Sumatera Utara 20133, Indonesia

E-mail: [meichardohanon@gmail.com](mailto:meichardohanon@gmail.com)

\* Corresponding Author



<https://doi.org/10.31004/jerkin.v4i1.2059>

### ARTICLE INFO

#### Article history

Received: 17 July 2025

Revised: 23 July 2025

Accepted: 29 July 2025

#### Kata Kunci:

Gamification, Vocabulary Acquisition, Kahoot, English Language Learning, Junior High School Students.

#### Keywords:

Gamification, Vocabulary Acquisition, Kahoot, English Language Learning, Junior High School Students.

### ABSTRACT

Studi ini menyelidiki efektivitas gamifikasi, khususnya menggunakan platform Kahoot, dalam meningkatkan pemerolehan kosakata bahasa Inggris di antara siswa kelas tujuh di SMPN 31 Medan selama tahun ajaran 2024/2025. Penguasaan kosakata memainkan peran penting dalam mendukung empat keterampilan berbahasa Inggris: mendengarkan, berbicara, membaca, dan menulis. Namun, metode pengajaran kosakata tradisional seringkali gagal untuk melibatkan siswa dan menghasilkan retensi yang terbatas. Studi kuasi-eksperimental ini menggunakan desain pra-tes dan pasca-tes untuk membandingkan hasil belajar antara kelompok eksperimen yang terpapar pengajaran kosakata gamifikasi dan kelompok kontrol yang diajarkan melalui metode konvensional. Temuan menunjukkan peningkatan yang signifikan dalam pemerolehan kosakata siswa yang diajarkan menggunakan gamifikasi. Kelompok eksperimen mencapai skor gain rata-rata 68,22, jauh lebih tinggi daripada kelompok kontrol 49,97. Analisis statistik menggunakan uji-t sampel independen mengungkapkan t-hitung sebesar 4,41, melebihi nilai-t kritis 2,00, yang mengonfirmasi signifikansi hasil tersebut. Selain itu, kelompok eksperimen menunjukkan kemajuan yang lebih konsisten, sebagaimana tercermin dari varians skor perolehan mereka yang lebih rendah.

*This study investigates the effectiveness of gamification, particularly using the Kahoot platform, in enhancing English vocabulary acquisition among seventh-grade students at SMPN 31 Medan during the 2024/2025 academic year. Vocabulary mastery plays a crucial role in supporting the four English language skills: listening, speaking, reading, and writing. However, traditional vocabulary instruction methods often fail to engage students and result in limited retention. This quasi-experimental study employed a pre-test and post-test design to compare learning outcomes between an experimental group exposed to gamified vocabulary instruction and a control group taught through conventional methods. The findings indicate a significant improvement in the vocabulary acquisition of students taught using gamification. The experimental group achieved a mean gain score of 68.22, notably higher than the control group's 49.97. Statistical analysis using an independent samples t-test revealed a t-count of 4.41, exceeding the critical t-value of 2.00, confirming the significance of the results. Moreover, the experimental group demonstrated more consistent progress, as reflected in the lower variance of their gain scores.*



This is an open access article under the CC-BY-SA license.

**How to Cite:** Giovani Br Lubis, et al (2025). The Effectiveness of Gamification Technique to Students' English Vocabulary Acquisition for Seventh Grade Junior High School Students at SMP N 31 Medan, 4(1). <https://doi.org/10.31004/jerkin.v4i1.2059>

## INTRODUCTION

English is one of the international languages spoken by many people in many countries Deterding et al (2011). English is also recognized as the primary language to communicate with other people, from different countries and cultures. Due to the importance of English as an international language, many people try to learn and master it as well as possible so that they will not find any difficulties in communicating with others. In Indonesia itself, the government has made some efforts to produce human resources who are able to understand and master English well. As foreign language in Indonesia, English is learnt by many people including students in schools. In learning English language there are four skills we have to master; listening, reading, speaking, and writing Nation (2013). From these fourth skills, vocabulary is one important component in language. Someone cannot express his idea if he lacks of vocabulary. Vocabulary is important for the students to support their four language skills. It means if the students master vocabulary, it will make students easier in learning English language.

According to various studies, vocabulary acquisition is a fundamental component in language learning that is essential for students to express their thoughts and feelings clearly. Stresses the vital role of vocabulary acquisition in language learning, as it significantly impacts both receptive skills like listening and reading, as well as productive skills such as speaking and writing. For junior highschool students, having strong vocabulary acquisition is vital for developing their language abilities. Unfortunately, the application of traditional vocabulary learning methods such as memorization is often ineffective, as it results in limited motivation and retention. Therefore, the use of technology and innovative learning techniques such as gamification has emerged as a promising approach to enhance students' vocabulary acquisition.

In reality, vocabulary acquisition is a major challenge for many English learners, especially beginners. Based on observations at SMPN 31 Medan, I witnessed that students faced difficulties in acquiring English vocabulary. Many of them relied on memorization rather than meaningful learning, which aligns with findings that traditional vocabulary teaching methods are often ineffective for long-term retention. The main issue I observed was the lack of student engagement and motivation during vocabulary lessons. This lack of interest most likely stems from monotonous repetition techniques rather than interactive learning experiences that could better maintain students' attention and interest. Several empirical studies have demonstrated the effectiveness of gamification in educational settings. For example, a study found that gamified learning activities significantly enhanced student motivation and engagement, leading to improved learning outcomes. A meta-analysis of gamification research and concluded that gamification positively impacts user engagement and performance across various domains, including education. These findings suggest that gamification can be an effective tool for enhancing vocabulary acquisition by making the learning process more enjoyable and motivating for students.

Based on this research, there is two research problem: Does the gamification technique have a significant impact on students' vocabulary in learning at SMPN 31 Medan, How significant is the impact of gamification technique on students' vocabulary acquisition at SMPN 31 Medan?

Vocabulary acquisition is an integral part of language learning, particularly when studying English Samortin (2020). It forms the foundation for developing essential skills such as listening, speaking, reading, and writing. Vocabulary enables individuals to communicate their thoughts, concepts, and emotions effectively. Vocabulary constitutes a fundamental element in foreign language acquisition, providing students with useful words. Vocabulary consists of systematically arranged words that form sentences according to grammatical structures and established language conventions, each word carrying its own significance. Vocabulary as an assemblage of diverse words that people use for functioning and communicating Limbong et al (2021). Based on these perspectives, it can be inferred that vocabulary represents a collection of words that assists students in comprehending classroom instruction and learning processes. By developing an extensive vocabulary, students can express themselves more fluently. Consequently, vocabulary plays a crucial role in building students' knowledge within the educational setting.

Vocabulary acquisition is fundamental to language development, as it forms the basis for effective communication, reading comprehension, and overall proficiency in both spoken and written language Raskova Octaberlina (2023). This process involves not only the learning of new words but also the

ability to use them appropriately in various contexts. The importance of vocabulary knowledge in enabling learners to articulate their thoughts accurately and comprehend the expressions of others. He argues that a rich and diverse vocabulary enhances learners' ability to understand and produce language more accurately and fluently. This highlights the central role that vocabulary plays in the language acquisition process. Therefore, vocabulary acquisition is a critical aspect of language learning that involves the understanding and use of words in various contexts. It is essential for effective communication and plays a significant role in overall language proficiency.

Gamification is defined as the "application of game-based technique, aesthetics, and game thinking to engage people, stimulate action, enhance learning, and solve problems" Jaiswal (2024). One of the goals of gamification is to impact people's behaviour via perceptions and emotions produced by games, thus motivating user, customer, and worker dedication and commitment. Undoubtedly, quiz game platforms focusing on students' responses, such as Kahoot are regarded as credible sources for creating supplementary education equipment that appeals to 21st-century learners. In simple terms, this platform enables the creation of online quiz games that can be utilised in learning, particularly in ESL classrooms Nazeer et al (2023). The effects of learning through play should not be underrated because mentioned long before, play is an essential element of one's cognitive advancement from early life to adult years. Further defended Piaget's theory, which called for promoting language advancement, social competence, creativeness, and cognitive skills through play. Also, emphasised that "play is the main machine for the growth of creativity and competence, language and social skills". Gamification in education refers to the use of instructional systems designed with gaming elements but executed in non-game settings.

Gamification involves the use of game-thinking strategies to improve the learning experience. They emphasize that an effective gamified learning environment should include elements like goals, feedback, and voluntary participation. Similarly, highlights that gamification enhances learning outcomes by integrating interactive elements that stimulate student involvement and retention. Kahoot is a game-based learning platform that is used as educational technology in schools and other educational institutions Vadodkar (2022). Its learning games are multiple-choice quizzes created by users that can be accessed via a web browser or the Kahoot app. It can be reached using the link <https://Kahoot.com> and the users can create a username and get a password. To use Kahoot, the users can simply duplicate the available quizzes or create a new quiz themselves. If users want to create a new Kahoot, they must decide for certain if it will be a survey, a quiz, or a discussion question. If the users choose to use the readily accessible Kahoot, they can do so based on their needs, either they use the full readily accessible quiz or edit it by adding some questions if needed. Indicates that students using Kahoot for vocabulary learning scored significantly higher on retention tests than those taught using traditional methods Hamari et al (2019).

Vocabulary plays a bigger role in enhancing a learner's proficiency level of a language and in acquiring all four skills such as reading, writing, listening and speaking Thornbury (2019). Researchers proved that language learning relies totally on vocabulary acquisition, and those who fail to acquire a good vocabulary tend to struggle to learn a language. Consequently, good vocabulary knowledge is necessary to convey a message to someone in terms of a written or verbal form. Gaining as much vocabulary knowledge is important in order to have good communication as well. It is important for teachers to enhance the importance of vocabulary in language learning to students from their early learning stages Tatlı et al (2023). Teaching vocabulary should be carried out more interactive and engaging to make the lesson more effective and efficient. Gamification tool in learning vocabulary is correlated to modern teaching method which is student-centred where students can learn independently with minimum support from the teacher.

## **METHOD**

This study employs a quasi-experimental design within the framework of quantitative research. The quasi-experimental approach is suitable for educational research where random assignment of participants to control and experimental groups is not feasible. The study aims to investigate the effectiveness of gamification, specifically using the Kahoot platform, in enhancing English vocabulary acquisition among seventh-grade students. The design includes a pre-test and post-test for both an experimental group ("taught with gamification platform Kahoot") and a control group ("taught using

traditional technique”). This approach allows for a comparative analysis of the impact of gamification on vocabulary acquisition. This study was conducted at SMPN 31 Medan which is located at Jalan Jamin Ginting KM. 13, Laucih Kecamatan Medan Tuntungan. The writer chose the school because based on the writer’s experience during internship program in the school, the students needed improvement on their vocabulary. Another reason was because there had never been research about gamification vocabulary acquisition at the school. This study was conducted on May in four meetings included the pre-test and post-test.

In this study, the data collection instrument is quantitative data. Data collection was carried out using a vocabulary acquisition test, which includes a pre-test and a post-test. The test is designed to assess students' vocabulary knowledge before and after the treatment. The vocabulary test consists of various formats to comprehensively assess different aspects of vocabulary knowledge, including word recognition, meaning comprehension, contextual usage, and word formation. The test consists of 30 items covering relevant vocabulary categories. The data collection process began with administering a pre-test to both the experimental and control groups to establish a baseline for vocabulary knowledge. Following the pre-test, the experimental group underwent a treatment phase that involved gamification learning activities designed to enhance vocabulary acquisition. The control group continued with traditional teaching techniques without gamification. After the treatment period, a post-test was administered to both groups to measure any changes in vocabulary acquisition.

The sample researcher tests whether the mean gain (the difference between the post-test and pre-test scores) in the experimental group is significantly different from that in the control group. In SPSS, a gain score is calculated by subtracting the pre-test score from the post-test score for each participant. These gain scores are then compared across groups using an independent samples t-test.

## **RESULT AND DISCUSSION**

This chapter presents the data obtained from the research, consisting of the pre-test and post-test results from both the experimental and control classes. The data were collected to determine whether the gamification technique has a significant effect on students' English vocabulary acquisition. The pre-test was administered before the treatment to measure students' initial vocabulary knowledge, while the post-test was given after the treatment to evaluate the improvement. The experimental class received vocabulary instruction through gamification (using Kahoot), while the control class was taught using traditional methods. The analysis was carried out by calculating the gain score of each student by subtracting the pre-test score from the post-test score. Then, the average gain score of the two classes was compared using an independent sample t-test. This study employed quantitative data obtained through a pre-test and post-test administered to both the experimental and control groups. The data were numerical in nature and consisted of individual student scores measured on a scale of 0 to 100.

The purpose of collecting these data was to determine the level of vocabulary mastery before and after the implementation of the gamification-based learning strategy. In total, 26 students in the experimental class and 29 students in the control class participated in the tests. The pre-test was administered at the beginning of the study to assess students' initial vocabulary knowledge. The post-test was administered after the treatment period to measure the improvement in vocabulary acquisition. Each student’s test consisted of multiple-choice vocabulary items aligned with the instructional objectives. The scoring rubric was based on four core aspects of vocabulary knowledge: word recognition, meaning comprehension, contextual usage, and word formation. Scores from each section were combined to generate a final total score for each student, which was then converted into a standardized score ranging from 0 to 100. The pre-test and post-test scores for each student were recorded in tabular format and organized by group (experimental and control). These raw data formed the foundation for subsequent statistical analysis, including the calculation of mean scores, variance, gain scores, and independent samples t-tests.

The comparative analysis of the pre-test and post-test mean scores between the experimental and control groups reveals notable differences in students' vocabulary acquisition. In the experimental class, the mean pre-test score was 16.00, which increased substantially to a mean post-test score of 86.92 after the implementation of gamification strategies using Kahoot. This represents a mean gain score of 68.22. In contrast, the control class had a slightly higher initial mean pre-test score of 19.29, but the mean post-

test score reached only 68.78, resulting in a lower mean gain score of 49.97. The difference in mean gain scores between the two groups was 18.25 points, favoring the experimental class. To evaluate whether this difference was statistically significant, an independent samples t-test was conducted, yielding a t-value of 4.41. This t-value exceeds the critical t-value of 2.00 at the 0.05 level of significance with approximately 53 degrees of freedom, thereby indicating that the observed difference was statistically significant. This result provides strong evidence that the use of gamification produced a significantly greater improvement in vocabulary mastery compared to traditional instruction.

The relatively low variance in the experimental group's gain scores (60.64) further suggests that the intervention led to more consistent progress among students, whereas the higher variance in the control group (431.31) indicates that outcomes in conventional instruction were more varied and less predictable. Consequently, the data analysis can be considered valid, as it followed rigorous statistical procedures and demonstrated consistent patterns aligned with the research objectives and hypotheses. The purpose of this study was to investigate the effectiveness of gamification in enhancing vocabulary acquisition among seventh-grade junior high school students. Based on the analysis of gain scores, statistical measurements, and hypothesis testing, several important insights can be drawn. The experimental class, which received instruction through gamification-based learning, achieved a mean gain score of 68.22 with a relatively low variance of 60.64. In contrast, the control class, which was taught using conventional methods, obtained a lower mean gain score of 49.97 and a much higher variance of 431.31. The large difference in variance indicates that the students in the control class had more widely varied outcomes, while the experimental class showed more consistent improvement across students.

The result of the independent samples t-test further supported these observations. The computed t-value of 4.41 significantly exceeded the critical t-value of 2.00 at the 0.05 significance level with approximately 53 degrees of freedom. This confirms that the difference in mean gain scores between the experimental and control groups was statistically significant. Therefore, the null hypothesis, which stated that there is no difference in vocabulary acquisition between students taught using gamification and those taught with conventional methods, is rejected. This finding supports previous studies suggesting that gamification can enhance motivation and engagement, which in turn improves learning outcomes. Therefore, it can be concluded that gamification is an effective method for improving vocabulary acquisition among seventh-grade students. In conclusion, the discussion of the results clearly demonstrates that gamification had a significant and positive impact on students' vocabulary acquisition. The statistical evidence, combined with educational theory and classroom observations, confirms that gamification is a powerful tool in the teaching and learning process. It is therefore recommended that educators explore more opportunities to apply gamified strategies in language teaching, especially when addressing skill areas that require memorization and repeated practice, such as vocabulary.

## **CONCLUSION**

Based on the findings and data analysis in the previous chapter, the researcher draws the following conclusions: The experimental class, which was taught using gamification-based learning activities through the Kahoot platform, demonstrated a significant improvement in vocabulary mastery compared to the control class. The gain score mean of the experimental group was 68.22, higher than the control group's mean of 49.97. The results of the independent sample t-test further confirmed that the difference between the two groups was statistically significant, with a t-count of 4.41 exceeding the critical t-table value of 2.00. The gain score mean of the experimental class was 68.22 with a variance of 60.64, while the control class had a mean of 49.97 with a higher variance of 431.31. The variance in gain scores showed that learning outcomes in the experimental group were more consistent among students, while the control group exhibited more widely varied results. This suggests that gamification not only improved overall achievement but also supported weaker students to progress more evenly alongside their peers. The result of the independent t-test showed that the t-count value (4.41) exceeded the t-table value (2.00), indicating that the difference in mean gain scores between the two classes was statistically significant. Therefore, it can be concluded that gamification is effective in improving students' vocabulary acquisition compared to conventional learning methods.

## REFERENCES

- Abdel-Ghany Al-Sabbagh, A. (2023). Enhancing English Language Skills Through Gamification: A Case Study at Umm Al Quwain University. *International Journal of Instructional Technology and Educational Studies*, 4(3), 29–43. <https://doi.org/10.21608/ihites.2023.240979.1163>
- Deterding, S., Dixon, D., Khaled, R., & Nacke, L. (2011). From game design elements to gamefulness: Defining “gamification.” *Proceedings of the 15th International Academic MindTrek Conference: Envisioning Future Media Environments, MindTrek 2011, March 2014*, 9–15. <https://doi.org/10.1145/2181037.2181040>
- Hamari, J., Koivisto, J., & Sarsa, H. (2019). Does Gamification Work? *Proceedings of the Annual Hawaii International Conference on System Sciences*, January (6–9), 3025–3034.
- Huseinović, L. (2023). The Effects of Gamification On Student Motivation And Achievement In Learning English As A Foreign Language In Higher Education. *MAP Education and Humanities*, 4(1), 10–36. <https://doi.org/10.53880/2744-2373.2023.4.10>
- Jaiswal, P. (2024). Enhancing Vocabulary Acquisition through Gamification. *Qeios*, 1–12. <https://doi.org/10.32388/pclda3.2>
- Limbong, A. Etrika. U., Lumban Raja, V., & Sari, A. S. P. (2021). the Correlation Between the Students’s Vocabulary Mastery and Their Writing Skill of the Tenth Grade Students of Sma Negeri 1 Kerajaan in the Academic Year of 2020/2021. *Kairos English Language Teaching Journal*, March 2021, 106–125. <https://doi.org/10.54367/kairos.v4i2.1140>
- Nation, I. S. P. (2013). Learning vocabulary in another language. *Learning Vocabulary in Another Language*, 1–624. [https://doi.org/10.1016/s0889-4906\(02\)00014-5](https://doi.org/10.1016/s0889-4906(02)00014-5)
- Nazeer, I., Mukhtar, S., & Azhar, B. (2023). Exploring the Effectiveness of Vocabulary Acquisition Strategies in Foreign Language Learning. *7(3)*, 0–14. <https://harf-o-sukhan.com/index.php/Harf-o-sukhan/article/view/777>
- Piaget, J. (2017). Play, dreams and imitation. *Social and Personality Psychology Compass*, 9(1), 21–40. <https://doi.org/10.1080/21594937.2019.1580338>
- Raskova Octaberlina, L. (2023). Learning gamification: exploring high school learners’ vocabulary acquisition through experimentation. *Salience Journal*, 3(1), 12–22. <https://jurnal.stkipgriponorogo.ac.id/index.php/Salience>
- Samortin, M. (2020). Effects of Gamified Learning Activities in Enhancing Junior High School Students’ English Vocabulary Retention. *Asian Journal on Perspectives in Education*, 1(1), 71–85.
- Tatlı, Z., Gülay, A., & Mert, A. (2023). Impact of Gamification Applications on Students’ Attitudes towards Lesson and Procrastination Behaviors. *International Journal of Contemporary Educational Research*, 10(2), 522–534. <https://doi.org/10.52380/ijcer.2023.10.2.387>
- Thiagarajah, K., Ng, M. M., Benjamin Jeyaraja, S. S., Gunasehgaran, V., & Maniam, M. (2022). Effectiveness of Gamification Tool in Teaching Vocabulary. *International Journal of Academic Research in Business and Social Sciences*, 12(9), 1046–1063. <https://doi.org/10.6007/ijarbss/v12-i9/14604>
- Thornbury, S. (2019). Teachers research teacher talk. *ELT Journal*, 50(4), 279–289. <https://doi.org/10.1093/elt/50.4.279>
- Vadodkar, A. R. (2022). The Impact of Gamification on Motivation. *UC Merced Undergraduate Research Journal*, 14(1). <https://doi.org/10.5070/m414157328>