

## UTILIZING KNOWORD TO IMPROVE VOCABULARY ACQUISITION OF PUBLIC HIGH SCHOOL STUDENTS IN BATAM

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### Abstract

*This study aims to investigate the effectiveness of Knoword, a gamified online tool, in improving students' vocabulary acquisition. Vocabulary mastery plays a crucial role in language learning, yet many students, particularly in public schools, struggle with insufficient vocabulary knowledge due to factors like low engagement and traditional teaching methods. This research addresses these challenges by exploring how digital tools can enhance learning outcomes. The study employed Classroom Action Research (CAR) as the methodology and was conducted in a public high school in Batam involving 42 tenth-grade students. The research process consisted of a learning cycle involving planning, action, observation, and reflection. Pre-tests and post-tests were administered to measure students' vocabulary skills before and after implementing Knoword, supported by classroom observations that provided qualitative data on student engagement and motivation. The results showed a significant improvement in vocabulary acquisition. The average test score increased from 51.59 (categorized as poor) in the pre-test to 83.05 (categorized as good) in the post-test, reflecting a 31.47% improvement. The findings indicate that using Knoword enhanced students' motivation, engagement, and vocabulary retention. In conclusion, integrating gamified learning platforms like Knoword can significantly improve vocabulary acquisition and student outcomes, especially where conventional methods have shown limited effectiveness.*

**Keywords:** Vocabulary Acquisition, Knoword, Gamified Learning, Student Motivation, Classroom Action Research.

### INTRODUCTION

Vocabulary acquisition holds immense significance in the realm of language learning, especially for those mastering a second language (Rosyada & Apoko, 2023). It goes beyond memorizing words and is a gateway to understanding the intricacies of the new linguistic landscape. Proficiency in vocabulary acquisition equips students to improve their conversational skills (Handig et al., 2023). With each new word learned, individuals gain access to a richer language that allows them to navigate diverse contexts with confidence and fluency (Kozhevnikova, 2019). This proficiency empowers them to engage meaningfully with literature, participate effectively in conversations, and appropriately express their thoughts and emotions.

Vocabulary acquisition plays an important role in effective communication and promotes social and cultural integration. It helps learners connect with native speakers, engage in conversations, and understand the cultural context (Aimin, 2013; Duff, 2019; Karlik, 2023). Vocabulary also becomes very important to improve students' writing skills (Sari & Zaki, 2022). As a foundational aspect of language learning, vocabulary supports personal, academic, and professional success while deepening appreciation for the richness of language.

However, disparities in English proficiency among students persist, particularly between private and public-school students. According to Medalia Cadiz-Gabejan (2022), students' English proficiency has a significant relationship with their type of school. Private high school students' English proficiency is better than public high school students. English language learning in public high schools is not enough and lacks depth, so many students struggle to develop effective proficiency. Many students still have difficulty expressing their ideas in English orally, worry about the structure of speech, and have problems with English pronunciation due to having a limited vocabulary in English (Marsevani & Habeebanisya, 2022).

Several contributing factors include limited learning hours, inadequate basic teaching, learning strategies that lack student interest, large class sizes, and socioeconomic barriers (Wen, 2021). Given that English proficiency is vital for higher education and career advancement, it is essential to adopt vocabulary teaching strategies that are both effective and appealing to learners. By doing so, educators can better prepare students to meet the demands of a globalized world.

In response to the challenges of vocabulary acquisition in language learning, Knoword presents an innovative and engaging solution. This cutting-edge platform enhances students' vocabulary development through interactive, game-based activities that transform traditional learning into a motivating experience. Knoword presents a word definition or prompt and asks students to type in the correct word, turning vocabulary recall into an interactive, timed challenge. By offering this format, the tool reinforces both meaning and usage in a dynamic, learner-friendly way. Its gamified approach captures students' attention and encourages self-challenge, resulting in improved vocabulary retention and recall (Gortaire Díaz et al., 2022). Additionally, the instant feedback provided helps students learn from their errors, reinforcing proper word usage and deepening their contextual understanding of the vocabulary (He et al., 2019).

Due to its engaging and innovative format, the platform has strong potential to gain traction among learners. Prior research highlights its usefulness in vocabulary instruction (Selvarasu et al., 2021). The integration of web-based tools into Foreign Language Teaching with its current and practical content makes it a valuable technology for learning (Tugayeva & Dukembay, 2021). The platform offers an interactive and fun method to build vocabulary by presenting definitions to users and asking them to recall corresponding words, encouraging active engagement and reinforcing word meanings in a fun atmosphere. Its emphasis on active recall strengthens memory retention and motivates students to dedicate time and effort to expanding their vocabulary. Overall, the platform represents a promising strategy to address the challenges of vocabulary acquisition, empowering learners to improve their proficiency and confidence through fun and engaging games.

Knoword supports collaborative learning and fosters a sense of community among students. The platform enables friendly competition through leaderboards and multiplayer modes, encouraging students to engage with their peers positively and constructively (Bouchrika et al., 2019). This social aspect of learning can increase motivation and create a supportive learning environment where students help each other succeed. Moreover, the tools can be used both in the classroom and for distance learning, making it a versatile tool that can adapt to a variety of educational settings. By incorporating this online platform into their vocabulary instruction, teachers can harness the power of technology to increase student engagement, improve vocabulary retention, and ultimately support better academic outcomes. The platform's flexibility means that students can practice vocabulary anytime, anywhere, which is particularly beneficial in hybrid or fully remote learning environments, ensuring continuous learning opportunities beyond traditional classroom hours (Raes et al., 2020).

The previous study by Selvarasu et al. (2021) titled “Teaching Writing Using Online Tools: An Experimental Study at the University of Technology and Applied Sciences” explored the efficacy of various online tools in the writing learning process. One of the tools used was Knoword. The study found that this tool significantly aided vocabulary acquisition by helping students remember and recall vocabulary in context, which is crucial for language learning. Its interactive format presents definitions and prompts students to guess the corresponding word, supporting contextual learning and improving long-term memory retention. Students who used this online platform showed improved vocabulary recall and usage in writing tasks, suggesting that the tool effectively enriched their word bank and increased lexical choice.

An identified gap in the current educational landscape is the limited research on the use of digital tools like Knoword to enhance students' vocabulary acquisition, particularly within Indonesian context. This study is among the first to examine the effectiveness of this interactive platform in supporting vocabulary development, potentially paving the way for innovative pedagogical approaches. Given the increasing emphasis on digital literacy and interactive learning in modern education, the findings from this research could offer valuable insights into more effective vocabulary instruction strategies. By addressing the limitations of traditional teaching methods, this study seeks to promote a more engaging and impactful language learning experience. Therefore, the researchers aimed to investigate the extent to which students' vocabulary acquisition could be improved through the use of this online tool.

## **METHODOLOGY**

The researchers used classroom action research (CAR) as the methodology in this study. CAR requires a form of investigation conducted by teachers to improve their understanding of the teaching and learning process and make changes in classroom learning practices (Wahyuni, 2020). CAR is a way of researching learning in the classroom by the classroom teachers themselves. It is a practical method for evaluating a teacher's practice to verify whether the learning outcomes align with the teacher's

expectations. If the teacher believes their practice requires improvement, they can take steps to enhance it and subsequently provide evidence of the improvements made (Yulianti et al., 2019). The researchers used CAR to improve the existing learning process in the classroom, which can show the direction of developing teaching practices (Meesuk et al., 2020). In this case, the research was conducted in learning cycles using the cycle procedure, using the research procedure of Stephan Kemmis and Robin Mc. Taggart, including planning, action or action, observation, and reflection (Arikunto, 2015). This learning cycle can be done more than once if the results of the first cycle do not reach the specified standards.

The study was conducted in a public high school in Batam City. This location provides a diverse and representative setting for the research, which allows a comprehensive examination of the selected variables in a typical educational environment. The CAR was implemented in class 10<sup>th</sup> with 42 students in one class. The selection of a public high school ensured a broad sample of students, reflecting a range of socio-economic backgrounds, academic abilities, and cultural perspectives. This background contributed to the external validity of the study, increasing the generalizability of the findings to similar educational contexts. In addition, the urban landscape and educational infrastructure in Batam City provided a dynamic backdrop to investigate the research questions, providing valuable insights relevant to broader educational practice and policy.

This research utilized three important instruments offering a comprehensive perspective on student performance and learning outcomes. Observation, which serves as a qualitative tool, allows educators to gain insight into students' behavior, level of engagement, and interactions within their natural learning environment (Cristea Pleşan, 2021). Guided by researchers, these instruments record observations systematically, providing a holistic view of students' experiences. The pre-test, administered before instruction, acts as a formative assessment tool, assessing students' prior knowledge through customized questions (Pérez-Lemonche et al., 2019).

Following the instructional phase, the post-test evaluates students' mastery of the targeted content and learning outcomes. It provides evidence of student learning, allowing educators to assess instructional effectiveness and make appropriate adjustments. Both the pre-test and post-test consisted of multiple-choice questions designed to measure students' understanding of vocabulary. This cohesive use of observation, pre-test, and post-test creates a robust assessment framework that combines qualitative and quantitative data, fostering a nuanced understanding of student abilities and guiding continuous improvement in the teaching and learning process.

The researchers observed the class before starting the cycle to identify the challenges students face in vocabulary acquisition. The results of the class identification were supported by the results of the pre-test given to the students before the lesson to

assess the students' proficiency in English vocabulary. After observing and analyzing the students' pre-test results, the researchers implemented the cycle using the Knoword as a teaching medium to improve students' vocabulary skills. In addition, before applying the platform, students received a short lesson that increased students' vocabulary knowledge to enrich students' vocabulary mastery. This cycle lasts for 6 weeks, and a post-test was conducted after the implementation of the learning strategy to measure students' scores after the first learning cycle. The average students' vocabulary skills were assessed based on the following classification.

*Table 1. Classification of Student Score Ranges According to Depdikbud Standards (2005)*

<b>Classification</b>	<b>Score</b>
Excellent	96-100
Very Good	86-95
Good	76-85
Average	66-75
Fair	56-65
Poor	36-55
Very Poor	0-35

Source: Depdikbud (2005) in Iswara Jaya et al. (2020)

The researchers conducted a thorough review of the observed classroom sessions' pre-test and post-test results, identifying patterns and trends related to students' vocabulary skills. Next, all relevant documents, including observation notes and test answers, are carefully analyzed to extract relevant data points. A pre-test and post-test analysis is conducted to measure and assess the impact of the cycle to be implemented. Pre-test scores were analyzed alongside post-test scores to assess the overall enhancement in students' vocabulary abilities. The researchers used statistical measures, such as mean and standard deviation, to measure the central tendency and variability of the data (Berry et al., 2019). This allowed for a comprehensive understanding of the distribution of vocabulary skills within the class. The researchers also categorized students' vocabulary skills into levels based on predetermined criteria. This segmentation facilitated the evaluation of the effectiveness of using Knoword in improving students' vocabulary acquisition.

## **RESULT AND DISCUSSION**

The researchers conducted the study for three months at a public school in Batam. Initial classroom observations, carried out from July to early August 2024, revealed that most 10th-grade students had a limited vocabulary and struggled to understand English instruction, requiring bilingual explanations. These findings were reinforced by the pre-test results, in which the students scored an average of 51.59, classified as "poor" according to the standards by Depdikbud (2005) in Iswara Jaya et al. (2020). Low classroom motivation and minimal participation further contributed to their underperformance.

The pre-test results show the same thing as the observations conducted, so it can be said that the observation results are quite accurate. Before the game-based vocabulary learning using Knoword was implemented in the classroom, the researchers collected data by conducting a pre-test. Observation and data collection using a pre-test were conducted on 42 students in one class in a public school. The pre-test score was 51.59, which is classified as poor according to the classification of scores by Depdikbud (2005) in Iswara Jaya et al. (2020).

The pre-test confirmed the observation data, which showed a lack of extensive vocabulary acquisition. The issue of motivation as an important internal factor affecting learning outcomes was also evident: students often appeared disengaged (Rafiola et al., 2020; Sulistiyarini, 2016). Table 2 presents the pre-test scores.

*Table 2. The Students' Average Pre-test Score*

	<b>Score</b>	<b>Classification</b>
Highest score	87	Very Good
Lowest score	20	Very Poor
Average	<b>51,59</b>	<b>Poor</b>

The average student score is classified as poor if it is synchronized with the rubric in Table 1, which the researchers have determined. Therefore, the researchers conducted a study by utilizing the gamification method using Knoword as a vocabulary learning platform. Knoword is an innovative tool designed to improve students' vocabulary acquisition through an engaging and interactive platform. The platform presents definitions to users and prompts them to guess the corresponding word, effectively reinforcing the meaning and usage of the word dynamically. This gamification approach not only captures students' interest but also encourages them to challenge themselves, leading to improved vocabulary retention and recall (Gortaire Díaz et al., 2022). Thus, the use of Knoword can be considered as an effective method for students' vocabulary acquisition.

The use of Knoword as learning media can increase students' motivation and make them more engaged in the classroom. Yudha & Mandasari (2021) also found that games are in line with the playful and curious nature of young students, making learning fun and interesting. This approach not only makes learning fun, but also helps maintain students' interest and motivation.

The first Knoword session took place on August 14, 2024. Students reacted positively, showing enthusiasm during their initial interaction with the platform. As one student expressed:

*"It's really fun! I want to get a perfect score, so I keep repeating it!"*

This competitive spirit transformed the classroom into a lively and collaborative space. The leaderboard and scoring features further encouraged students to practice

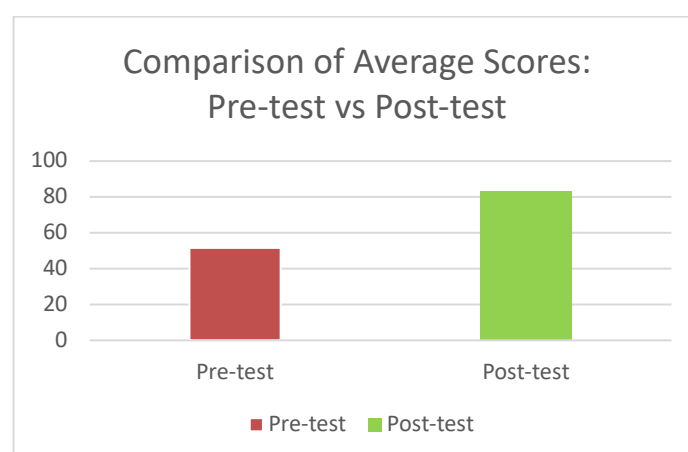
repeatedly (Hwang et al., 2019), indirectly increasing their vocabulary exposure. The observed improvement could be influenced by the novelty effect. Students might have shown heightened enthusiasm and engagement simply because Knoword presented a fresh and fun alternative to traditional learning methods. While this may temporarily boost performance, it remains unclear whether such an engagement would sustain over a longer period. Longitudinal studies are needed to determine whether the tool has enduring benefits beyond initial exposure.

After conducting four sessions of vocabulary learning with the Knoword method, the researchers administered a post-test to the students. A total of 42 students took the vocabulary test that had been learned through the Knoword game. The researchers then assessed and compared the students' vocabulary skills from the pre-test and post-test results. The post-test results showed notable improvement compared to the pre-test before using Knoword. The increase in students' scores was quite satisfactory and exceeded the school's Minimum Completion Criteria (KKM), which is 70. Therefore, this study was completed in one cycle. The post-test results of this study are shown in Table 3.

*Table 3. Comparison between pre-test and post-test scores*

	Score Average	Classification
Pre-test	51,59	Poor
Post-Test	83,05	Good
<b>Improvements</b>	<b>31,47</b>	

Based on Table 3, the average score that students get on the pre-test is 51.59 which is in the bad category; the average score on the post-test is 83.05, falling into the good category. Additionally, the average scores from the pre-test and post-test increased by 31.47%. This is an extraordinary achievement, and the score has met the school's Minimum Completion Criteria (KKM).



*Figure 1. Students' pre-test and post-test score improvement*

After the implementation of vocabulary learning using Knoword, the average score of students' vocabulary skills increased. Students got an increase of 31.47% from the

test results conducted before the implementation of Knoword. This is in line with Naodin & Yana (2022), who noted that games can contribute significantly to vocabulary learning. Knoword's vocabulary games offer an engaging form of learning using fun gamification methods. Students often need engaging and interactive methods to maintain their interest in learning a new language (Naodin & Yana, 2022). Games, by offering a fun and stress-free learning environment, can boost student motivation and involvement, leading to improved learning outcomes.

The findings of this study indicate a clear improvement in students' vocabulary acquisition following the integration of Knoword. However, some critical reflections are necessary to better understand the outcomes and limitations of this intervention. First, the observed improvement could be influenced by the *novelty effect*. Students might have shown heightened enthusiasm and engagement simply because Knoword presented a fresh and fun alternative to traditional learning methods. While this may temporarily boost performance, it remains unclear whether such engagement would sustain over a longer period. Longitudinal studies are needed to determine whether the tool has enduring benefits beyond initial exposure.

Second, *motivation from competition*, a key feature of gamified learning, can be both advantageous and problematic. The leaderboard and scoring system fostered a competitive environment that initially excited students. However, over time, the same competitive elements might lead to decreased motivation if the novelty wears off or if certain students consistently underperform and feel discouraged. Educators may need to rotate or personalize gamification strategies to maintain long-term engagement.

Lastly, while the average improvement was significant, it's important to acknowledge that *not all students may have benefited equally*. Some students may have faced challenges such as digital illiteracy, lower baseline vocabulary knowledge, or anxiety related to timed or competitive tasks. These students might not have shown measurable improvement despite the overall class gains. Future research should explore individual and subgroup performance data to ensure that digital learning tools like Knoword are inclusive and effective for all learners.

## CONCLUSION

The results of this study demonstrate a significant improvement in students' vocabulary skills after the implementation of the Knoword game-based learning platform. Initially, observations and a pre-test revealed that the 10th-grade students had limited vocabulary knowledge, with an average score of 51.59, classified as poor. Students also showed low motivation and faced difficulties in understanding English during lessons. The use of the platform introduced a fun and competitive element to vocabulary learning, which noticeably increased student engagement and motivation. The four sessions of Knoword vocabulary activities culminated in a post-test, where students achieved an average score of 83.05, indicating an improvement of 31.47%.



This exceeds the school's Minimum Completion Criteria (KKM) and highlights the effectiveness of gamified learning in enhancing vocabulary acquisition.

However, this study was limited to one cycle over a short period of time, which may not fully capture the long-term impact of this tool. Future research could explore the use of Knoword over a longer period or over multiple cycles to test for sustained effects. Additionally, applying the platform at a higher level or testing it with different grade levels and learner groups may provide greater insight into its potential as a versatile language learning resource.

These findings align with previous studies (Naodin & Yana, 2022; Yudha & Mandasari, 2021) that suggest games can create an enjoyable and interactive learning environment, motivate students, and contribute to better learning outcomes. The significant improvement in students' vocabulary retention demonstrates that Knoword is a successful tool in promoting both vocabulary growth and student engagement in English language learning.

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