

Technology-Enhanced Vocabulary Learning: The Use of Canva and Quizizz in Primary Education

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Abstract

This study investigates the effectiveness of integrating Canva and Quizizz as technology-enhanced learning tools to improve English vocabulary mastery among fifth-grade students at SD Inpres 14 Kabupaten Sorong. The study employed a quantitative approach using a pre-experimental one-group pretest–posttest design. The participants consisted of 11 students who participated in six learning sessions using Canva-based instructional materials and Quizizz as a gamified assessment tool. Data were collected through vocabulary tests administered before and after the instructional intervention. The test consisted of 20 items, including multiple-choice and matching questions designed to measure students' vocabulary knowledge. The results showed a clear improvement in students' vocabulary performance after the implementation of the learning strategy. The mean score increased from 44.55 in the pretest to 70.00 in the posttest, indicating a substantial improvement in students' vocabulary mastery. The N-Gain score of 0.45 suggests that the intervention had a moderate level of effectiveness in improving students' vocabulary learning outcomes. These findings indicate that the integration of Canva and Quizizz can create a more engaging and interactive learning environment for young learners. Canva supports vocabulary learning through visually rich instructional materials, while Quizizz reinforces learning through gamified practice and immediate feedback. The combination of visual presentation and interactive assessment helps students retain vocabulary more effectively and increases their participation during the learning process. Therefore, Canva and Quizizz can be considered practical and effective digital tools for supporting vocabulary instruction in elementary EFL classrooms.

Keywords: Canva; Quizizz, Vocabulary

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Introduction

Vocabulary is a fundamental component of language learning and plays a crucial role in developing students' ability to communicate effectively in a second or foreign language. A strong vocabulary foundation allows learners to understand spoken and written texts and express their ideas more clearly. In English language learning, vocabulary knowledge is closely related to the development of the four main language skills: listening, speaking, reading, and writing. Nation (2020) explains that vocabulary knowledge forms the basis of language comprehension and production, while Schmitt (2020) emphasizes that learners with a wider vocabulary repertoire are generally more successful in understanding texts and participating in communication.

In the context of English as a Foreign Language (EFL), vocabulary learning is particularly important during the elementary school years, when learners begin to build their initial language foundation. Young learners need sufficient vocabulary to describe objects, express simple ideas, and understand classroom instructions. However, teaching vocabulary at the primary school level often presents several challenges. In many classrooms, vocabulary instruction still relies heavily on traditional methods such as textbook explanations, repetition, and memorization. According to Zein and Stroupe (2019), such approaches may limit student engagement because they do not fully address the learning preferences of young learners, who typically respond better to visual, interactive, and meaningful learning activities.

Similar challenges were observed at SD Inpres 14 Kabupaten Sorong, where fifth-grade students demonstrated difficulties in mastering English vocabulary. Classroom observations indicated that many students had limited vocabulary knowledge and often struggled to understand basic English words

presented during lessons. In addition, students showed low motivation and engagement during vocabulary instruction because the learning process relied mainly on conventional teaching methods and lacked the use of interactive media. As a result, students perceived English vocabulary learning as difficult and less interesting, which affected their overall learning outcomes.

To address these challenges, educators are increasingly encouraged to integrate technology-enhanced learning tools into classroom instruction. Technology can support language learning by providing visually rich materials, interactive activities, and immediate feedback that help students engage more actively in the learning process. Chappelle (2019) explains that digital technologies can enrich language input and create meaningful opportunities for language practice that traditional classrooms often lack. In addition, multimedia learning theory suggests that students learn more effectively when information is presented through both visual and verbal channels simultaneously (Mayer, 2009). Therefore, digital learning tools that combine visual design and interactive features have the potential to improve vocabulary learning among young learners.

Two digital tools that have gained increasing attention in educational settings are Canva and Quizizz. Canva is a graphic design platform that allows teachers to create visually attractive learning materials such as flashcards, infographics, and presentation slides. Through its visual features, Canva helps learners connect words with images and contextual information, which can strengthen vocabulary retention. Meanwhile, Quizizz is an online learning platform that provides game-based quizzes with features such as leaderboards, points, and instant feedback. According to Prensky (2001), gamified learning environments can increase students' motivation and engagement because they incorporate elements of competition, challenge, and reward.

Previous studies have reported positive outcomes from the use of digital learning tools in education. Hapsari and Zulherman (2021) found that Canva-based instructional materials improved students' motivation and learning achievement by presenting information in visually engaging formats. Similarly, Setiawan et al. (2019) reported that the use of Quizizz increased student participation and reinforced knowledge through interactive assessment activities. These findings suggest that both tools can contribute to more engaging and effective learning experiences.

However, many existing studies tend to examine these digital tools individually rather than investigating their combined use in vocabulary instruction. Research focusing specifically on the integration of Canva and Quizizz in elementary-level English vocabulary learning remains relatively limited. This indicates a gap in the literature regarding how visual presentation tools and gamified learning platforms can be combined to support vocabulary acquisition among young EFL learners.

Based on this research gap, the present study aims to investigate the effectiveness of integrating Canva and Quizizz in improving English vocabulary mastery among fifth-grade students at SD Inpres 14 Kabupaten Sorong. Specifically, the study seeks to determine whether the use of visually designed learning materials through Canva, combined with interactive vocabulary practice through Quizizz, can significantly improve students' vocabulary learning outcomes. The findings of this study are expected to provide practical insights for English teachers on how digital learning tools can be integrated effectively into vocabulary instruction for young learners.

Literature Review

a. Vocabulary in English Language Learning

Vocabulary is a core element of language acquisition and plays a crucial role in developing the four primary language skills: listening, speaking, reading, and writing. Nation (2020) states that vocabulary knowledge forms the basis of both language comprehension and production. Likewise, Schmitt (2020) argues that learners with broader vocabulary knowledge generally demonstrate stronger reading comprehension and oral fluency. For primary school learners, vocabulary development enables them to name objects, express simple ideas, and participate in classroom communication. In many EFL contexts, including Indonesia, vocabulary instruction still faces several challenges such as limited exposure to English, low student motivation, and reliance on memorization-based teaching (Sutresno, 2017). Traditional approaches often fail to support long-term retention or meaningful use of new words. These issues are more pronounced in primary education, where learners require engaging and concrete

learning experiences. Therefore, innovative and technology-supported vocabulary teaching strategies are increasingly recommended to enhance both retention and learner engagement.

b. *Technology-Enhanced Learning in ELT*

Technology-enhanced learning refers to the integration of digital tools and multimedia resources to support language instruction. In English Language Teaching (ELT), technology has been shown to increase learner engagement, provide immediate feedback, and create interactive learning environments. According to Chapelle (2019), technology can enrich language input and provide meaningful opportunities for practice that traditional classrooms often lack. Digital learning environments also align with multimodal learning theory, which suggests that students learn more effectively when information is presented through multiple modes such as text, audio, and visuals. Mayer (2021) explains that multimedia learning supports deeper cognitive processing and improves memory retention. In vocabulary learning specifically, technology allows repeated exposure, contextualization, and interactive reinforcement, all of which are essential for young learners. As a result, the use of educational technology has become increasingly prominent in primary EFL classrooms.

c. *Characteristics of Young Learners in Digital Contexts*

Young learners, typically aged between 6 and 12 years, have distinct cognitive and affective characteristics that influence how they learn languages. Harmer (2007) describes children as naturally curious, energetic, and highly responsive to visual and interactive stimuli. They tend to learn best through activities that are colorful, game-like, and physically or mentally engaging. From a theoretical perspective, Piaget's cognitive development theory highlights that children in the concrete operational stage learn more effectively through visual and hands-on experiences. Similarly, Vygotsky's concept of the Zone of Proximal Development (ZPD) emphasizes the importance of guided support and interactive learning. In digital environments, these principles translate into the need for platforms that combine visual appeal, interaction, and structured guidance. Technology tools that include gamification, visual design, and immediate feedback are therefore particularly suitable for primary learners. When properly implemented, digital media can support motivation, sustain attention, and facilitate vocabulary acquisition among young EFL learners.

d. *Canva as Visual Learning Media*

Canva is a digital design platform widely used in education to create visually rich instructional materials such as flashcards, posters, infographics, and presentations. In vocabulary learning, Canva supports the dual coding of information by combining images and text, which strengthens word-meaning associations. Mayer's multimedia learning theory suggests that learners remember information better when verbal and visual elements are presented together. Recent classroom studies report that Canva-based materials can improve vocabulary mastery and student engagement. The platform allows teachers to design colorful and context-rich vocabulary content that is especially appealing to young learners. Its drag-and-drop interface also makes it accessible for teachers with limited technical expertise. Because primary learners are highly responsive to visual stimuli, Canva serves as an effective tool for introducing and reinforcing new vocabulary. However, most existing studies focus on Canva as a presentation tool rather than examining its integration with interactive practice platforms.

e. *Quizizz as Gamified Vocabulary Learning Tool*

Quizizz is a game-based learning platform that incorporates quizzes, points, leaderboards, and instant feedback to create an engaging classroom experience. Gamification elements in Quizizz align with Prensky's (2001) view that games promote active participation, motivation, and positive emotional involvement in learning. In vocabulary instruction, Quizizz enables repeated retrieval practice, which is known to strengthen long-term memory. Empirical studies consistently show that Quizizz improves student motivation, participation, and vocabulary achievement in EFL classrooms. The platform allows teachers to conduct formative assessment in an enjoyable format, making learning feel less stressful for young learners. Features such as real-time feedback and competitive scoring help maintain students' attention and encourage active involvement. Despite these advantages, Quizizz is often used mainly for

assessment rather than as part of an integrated instructional cycle that includes visual presentation and guided practice.

f. Integration of Canva and Quizizz in Vocabulary Learning

Although both Canva and Quizizz have demonstrated individual benefits, research examining their combined use in primary vocabulary instruction remains limited. Pedagogically, the two tools serve complementary functions. Canva supports the presentation and visualization of vocabulary, helping learners build initial understanding through images and structured layouts. Quizizz reinforces learning through gamified practice, retrieval, and feedback. Theoretical perspectives suggest that combining visual input with interactive retrieval practice can significantly enhance vocabulary retention. Visual exposure helps learners encode new words, while game-based quizzes strengthen recall and application. This integrated approach also aligns with learner-centered and multimodal teaching principles that are increasingly emphasized in contemporary ELT. However, current literature reveals several gaps. First, many studies investigate digital tools in isolation rather than as part of an integrated learning model. Second, research focusing specifically on primary-level EFL learners in Indonesian contexts is still limited. Third, there is a need for classroom-based empirical evidence examining how the combined use of Canva and Quizizz affects both vocabulary mastery and student engagement. Therefore, the present study seeks to address these gaps by investigating the effectiveness of integrating Canva and Quizizz in technology-enhanced vocabulary learning for primary education. The findings are expected to contribute practical insights for teachers seeking engaging, low-cost, and pedagogically sound digital strategies for young EFL learners.

Methodology

This study employed a quantitative research approach using a pre-experimental design, specifically the one-group pretest–posttest design, to examine the effectiveness of integrating Canva and Quizizz in improving students' English vocabulary mastery. This research design allows the researcher to measure students' vocabulary performance before and after the implementation of the instructional treatment in order to determine whether a significant improvement occurs. The research was conducted at SD Inpres 14 Kabupaten Sorong during the 2024/2025 academic year. The population of the study consisted of all students from Grade I to Grade VI at the school. A purposive sampling technique was used to select the research participants. The sample of the study was the fifth-grade class, which consisted of 11 students, including 6 male students and 5 female students. These students were selected because they participated fully in all stages of the research, including the pretest, treatment sessions, and posttest. The primary instrument used in this study was a vocabulary test designed to measure students' vocabulary mastery. The test consisted of 20 items, including 10 multiple-choice questions and 10 matching questions. The same test format was used for both the pretest and posttest to ensure consistency in measuring students' vocabulary improvement. The vocabulary items were based on themes familiar to elementary students, such as food, animals, vegetables, and fruits.

The research procedure consisted of three main stages: pretest, treatment, and posttest. In the first stage, a pretest was administered to measure students' initial vocabulary knowledge before the intervention. After the pretest, the treatment phase was conducted over six instructional sessions. During the treatment sessions, the learning materials were presented using Canva-based visual presentations. The teacher used Canva to design colorful and visually engaging slides containing vocabulary items accompanied by images and short explanations. These materials helped students associate English words with visual representations, making the vocabulary easier to understand and remember. After each learning session, students participated in Quizizz activities to reinforce the vocabulary that had been introduced. Quizizz provided interactive quizzes with gamified features such as points, timers, and leaderboards. These features encouraged students to actively recall the vocabulary and participate enthusiastically in the learning process.

After completing all treatment sessions, a posttest was administered to evaluate students' vocabulary improvement. The data obtained from the pretest and posttest were analyzed quantitatively. The mean scores of both tests were calculated to identify the level of improvement in students' vocabulary mastery. To examine the distribution of the data, a Shapiro–Wilk normality test was conducted. In addition, the effectiveness of the treatment was measured using the Normalized Gain (N-

Gain) formula. According to the classification proposed by Mirani et al. (2019), an N-Gain score between 0.70 and 1.00 indicates high effectiveness, 0.30 to 0.69 indicates moderate effectiveness, and below 0.30 indicates low effectiveness. The results of the analysis were used to determine the effectiveness of integrating Canva and Quizizz in improving students' English vocabulary mastery.

Result

The researcher presented the research data from the students vocabulary learning by canva and quizizz. The researcher used pre-experimental. The researcher chose class V of SD Inpress 14 as experimental class. The experimental class consists of 11 students with 6 male and 5 female when the researcher is doing the presents, treatment and posttest.

The pretest is given the first meeting. This is to determine the students vocabulary abilities. This test consists of 20 questions : 10 items multiple choice questions and 10 items matching items and the test carried out using quizizz media. After getting the pretest, the student of experimental will be given treatments. On the first day, students will learn the theme Food using presentation slides prepared with Canva, followed by an interactive quiz using the Quizizz application. On the second day, the topic will be Animals, delivered in the same way through Canva slides and a quiz activity via Quizizz. On the third day, students will be introduced to the theme Vegetables using Canva-based learning slides and a quiz as a comprehension check. On the fourth day, the lesson will focus on the theme Fruits, also presented through Canva slides and concluded with a Quizizz quiz to assess students' understanding. When the treatment finished, the researcher give the posttest to the students.

The use of Canva as a learning medium allows teachers to present learning materials in a visually engaging, colorful, and easy-to-understand format for elementary students. Visuals designed creatively through Canva help students associate words directly with images, thereby strengthening their memory and understanding of new vocabulary. Meanwhile, Quizizz serves as an interactive evaluation tool that provides a fun learning experience through game-based quizzes. By answering questions right after receiving the material, students are encouraged to recall and apply the vocabulary they have just learned. Features like scores, timers, and leaderboards in Quizizz also foster a sense of competition and increase student participation in the learning process. By applying the themes Food, Animals, Vegetables, and Fruits which involve concrete vocabulary familiar to students' everyday lives the combination of Canva and Quizizz creates an active, contextual, and meaningful learning environment. This effectively enhances students' vocabulary mastery in a gradual and enjoyable way.

Table 1. Average Percentage Change in Student Grades

Classification	Range	Pretest		Posttest	
		F	P	F	P
Very Good	90-100	1	9%	2	18%
Good	70-89	3	27%	3	27%
Fair	50-69	0	0%	5	46%
Poor	30-49	2	18%	1	9%
Very Poor	10-29	5	46%	0	0%
Total :		11	100%	11	100%

Table 1 show a significant improvement in students' learning outcomes after the implementation of learning using Canva and Quizizz with the vocabulary topics *Food, Animals, Vegetables, and Fruits*. In the pretest, the majority of students were in the *Very Poor* category (46%) and *Poor* category (18%), indicating that their vocabulary mastery was still very low before the learning process. However, after the learning activities took place, a positive shift occurred. The number of students in the *Very Poor* category dropped to 0%, and only 1 student (9%) remained in the *Poor* category. On the other hand, students in the *Fair* category increased significantly from 0% to 46%, showing that nearly half of the students improved their vocabulary knowledge to an intermediate level.

Furthermore, there was also an increase in the *Very Good* category, from only 1 student (9%) in the pretest to 2 students (18%) in the posttest, while the *Good* category remained stable with 3 students (27%). This indicates that the learning method involving Canva for visually engaging material delivery

and Quizizz as an interactive evaluation tool successfully enhanced students' engagement and understanding of the vocabulary taught. The learning process became more interesting, contextual, and enjoyable, which positively impacted the overall improvement in student scores.

Table 2. *The Mean Score and Standard Deviation in Pretest and Posttest*

Descriptive Statistics				
	N	Mean		Std. Deviation
		Statistic	Std. Error	Statistic
Pretest	11	44.55	8.352	27.700
Posttest	11	70.00	6.142	20.372
Valid N (listwise)	11			

The table 2 showed the students' scores pretest and posttest of the learning process using Canva and Quizizz. The number of students involved in the study was 11 ($N = 11$). The mean score in the pretest was 44.55, indicating that students' vocabulary mastery was relatively low before treatment. After the implementation of the learning process, the mean score increased to 70.00 in the posttest. This increase shows a significant improvement in vocabulary understanding after students participated in the educational media-based learning.

Discussion

The results of this study indicate that the integration of Canva and Quizizz significantly improved students' vocabulary mastery. This improvement is evident from the increase in the students' posttest scores compared to their pretest scores. The mean score increased from 44.55 in the pretest to 70.00 in the posttest, indicating that the use of technology-enhanced learning tools contributed positively to students' vocabulary development. These findings suggest that combining visual learning media and gamified assessment tools can create a more effective and engaging learning environment for young learners.

One important factor contributing to this improvement is the use of Canva as a visual learning medium. Canva allowed the teacher to present vocabulary materials through colorful slides, images, and visually structured layouts that were attractive and easy for elementary students to understand. Visual elements help students connect words with images, which strengthens word-meaning associations and improves memory retention. This finding supports Mayer's multimedia learning theory (Mayer, 2009), which states that learners process and retain information more effectively when it is presented through both visual and verbal channels. In the context of vocabulary learning, visual representations can help learners understand the meaning of new words more clearly and remember them for a longer period.

The findings are also consistent with the study conducted by Hapsari and Zulherman (2021), which reported that the use of Canva-based learning materials increased student motivation and improved learning achievement. In this study, Canva helped transform vocabulary lessons into visually engaging learning experiences that were more suitable for the learning characteristics of elementary school students. In addition to Canva, the use of Quizizz as a gamified learning platform also contributed to the improvement in students' vocabulary mastery. Quizizz provided interactive quizzes that encouraged students to recall vocabulary through game-like activities. Features such as points, leaderboards, and immediate feedback motivated students to participate actively in the learning process. When students answered quiz questions after the presentation of vocabulary materials, they practiced retrieving the words they had just learned. This retrieval practice is known to strengthen long-term memory and improve vocabulary retention.

These findings support the results of Zuhriyah and Pratolo (2020), who found that Quizizz increased students' engagement and motivation during learning activities. Similarly, Setiawan et al. (2019) reported that Quizizz improved students' learning outcomes by providing interactive and competitive learning experiences. In the present study, Quizizz not only increased student participation

but also reinforced vocabulary knowledge through repeated exposure and immediate feedback. Another important aspect of the findings is the integration of Canva and Quizizz as complementary learning tools. Canva was used to introduce and visualize vocabulary, helping students build an initial understanding of new words through images and structured presentations. Quizizz then reinforced this learning by providing interactive quizzes that encouraged students to recall and apply the vocabulary they had learned. This combination aligns with multimodal learning principles, where learners benefit from receiving information through multiple forms of representation and practice.

Furthermore, the integration of visual and gamified learning tools helped increase students' motivation and engagement during the learning process. Elementary school students often respond positively to colorful visuals and game-based activities, which help maintain their attention and interest. The learning sessions became more interactive and enjoyable, encouraging students to participate actively and learn vocabulary in a meaningful context. Despite these positive findings, several limitations should be acknowledged. First, the study involved a relatively small sample of 11 students, which limits the generalizability of the findings. Second, the research used a pre-experimental design without a control group, making it difficult to compare the effectiveness of this instructional strategy with other teaching methods. Third, the treatment focused on vocabulary related to familiar and concrete themes such as food, animals, vegetables, and fruits, which may not represent broader vocabulary categories. Future research is therefore recommended to involve larger participant groups, longer treatment periods, and experimental research designs with control groups to obtain more comprehensive results. Researchers may also explore the use of other digital learning platforms and examine how different types of vocabulary can be taught through technology-enhanced learning strategies. Overall, the findings of this study demonstrate that the integration of Canva and Quizizz can serve as an effective and engaging strategy for improving vocabulary mastery among young EFL learners.

Conclusion

This study aimed to examine the effectiveness of integrating Canva and Quizizz as technology-enhanced learning tools to improve English vocabulary mastery among fifth-grade students at SD Inpres 14 Kabupaten Sorong. The findings of the study indicate that the use of these digital tools contributed positively to students' vocabulary learning outcomes. This improvement can be observed from the increase in the mean score from 44.55 in the pretest to 70.00 in the posttest, showing that students' vocabulary mastery improved after participating in the learning activities. In addition, the N-Gain score of 0.45 indicates a moderate level of effectiveness, suggesting that the integration of Canva and Quizizz was effective in supporting students' vocabulary development. The improvement in students' learning outcomes can be attributed to the complementary roles of the two digital tools. Canva helped present vocabulary materials through visually engaging slides that combined images and text, allowing students to understand the meaning of new words more easily. Meanwhile, Quizizz reinforced vocabulary learning through interactive and gamified quizzes that encouraged students to recall and apply the vocabulary they had learned. The integration of visual presentation and interactive practice created a more engaging learning environment that increased students' motivation and participation during the learning process.

However, this study has several limitations. The research involved a relatively small sample of 11 students from a single class, and the treatment was conducted over a limited number of learning sessions. In addition, the study used a pre-experimental design without a control group, which limits the ability to compare the effectiveness of this approach with other instructional methods. Therefore, the findings should be interpreted with caution. Based on the results of this study, it is recommended that English teachers consider integrating digital learning tools such as Canva and Quizizz into vocabulary instruction to create more engaging and interactive learning experiences for young learners. Future research is also encouraged to involve larger participant groups, longer treatment periods, and experimental research designs to further investigate the effectiveness of technology-enhanced vocabulary learning in elementary EFL classrooms.

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