Using Gamified Quizzes to Enhance Students' English Reading Comprehension Skills

Malik Salim[1]* , Karisman Muhammad Sukarno[1],
Jasim Chaudhuri[2], Fani Nabila Titania[1] , Riris Handayani[1] ,
Ziaul Haq[1], Iswan Maujud[1]

Abstract: This study sought to determine whether quiz apps significantly impacted the reading comprehension of junior high school 1 students in Yogyakarta. Pre- and post-tests were administered to both the experimental and control groups as part of the quasi-experimental design. A reading test was taken by each group of 25 students. The data were analyzed using SPSS version 25. Descriptive statistics showed that the experimental group's mean pre-test score was 47.87 while the control groups was 44.07. With a post-test score of 80.63 as opposed to the control group's 66.60, the experimental group demonstrated greater progress. At a significance level higher than 0.05, the normality test results demonstrated that the data were normally distributed. The homogeneity of variance, which also showed significance >0.05, was used to confirm the homogeneity of the data. A paired sample test was used to assess how quizzes affected reading comprehension. The significance value of 0.00 (<0.05) indicates that there was a significant difference between the pre- and post-tests in both groups. We can draw the conclusion that quiz programs significantly improved students' reading comprehension of English.

Keywords: *Reading, Reading comprehension, Quizzes application*

INTRODUCTION

Reading comprehension is the ability to understand and interpret written texts. It involves skills such as being able to recognize and understand the main ideas, details, and nuances of a text. (Elleman & Oslund, 2019). Moreover, according to Loh et al., (2024) reading plays a crucial role in education at all levels and it is a foundation of learning. it is essential for acquiring knowledge in all subject areas. The advantages of reading can be seen from the result of the students which can improve students' skills (Lammert & Brice, 2024). it also gives more improvements in academic performances especially the students who read regularly tend to better academically. Reading helps students understand complex concepts, engage with the material, and retain information more effectively (Soeharto et al., 2024).

It involves skills such as being able to recognize and understand the main ideas, details, and nuances of a text, (Zhao et al., 2024). Moreover, reading plays a crucial role in education at all levels. It is the foundation of learning and it is essential for acquiring knowledge in all subject areas (Loh et al., 2024). the advantages of reading can be seen from education throughout the result of the students. It can improve students' literacy skills (Lammert

& Brice, 2024). It also gives more improvements in academic performances especially the students who read regularly tend to better academically (Setiawan & Soeharto, 2020). Part of reading in this study connected to the discussion is phonemic awareness. Research has shown that phonemic awareness is a strong predictor of reading success (Seyed, 2012). Moreover, it is related to children who have strong phonemic awareness.the skills can be proficient readers (Demir et al., 2024). Next, vocabulary acquisition plays a crucial role in reading comprehension and overall literacy development. It encompasses both oral vocabulary (words recognized and used in listening and speaking) and reading vocabulary (words recognized and understood in print) (Carmiol et al., 2024).

In addition, vocabulary is a foundational element of reading proficiency. Effective vocabulary instruction and rich language experiences are essential for developing strong reading skills (McKeown, 2019). Another ability or approaches in vocabularies is critical thinking. Critical thinking in reading comprehension involves the active and skillful analysis, synthesis, and evaluation of information (Lin & Chen, 2024). In addition, This approach allows readers to go beyond mere understanding of the text (Mohammadi et al., 2024). Moreover, the function of critical thinking itself refers to enable readers to engage with texts more deeply and meaningfully (Lin & Chen, 2024) (Mohammadi et al., 2024).

There are some advantages of critical thinking in reading comprehension skills. first it enhanced understanding which consist of depth of comprehension refers to the reader of the text (Heidari, 2020; Lin & Chen, 2024). Second, connecting ideas which aids the students to recognize relationships between ideas within the text. It is makes connections to prior knowledge, and integrating new information. Next, it evaluates the information which consists of assessing credibility and identifying bias, connected to the students validating the information (Lin & Chen, 2024).

However, students frequently encounter several challenges in reading comprehension. These include feelings of inertia, difficulty extracting information from texts, insufficient motivation, limited vocabulary, and challenges in grasping the content of passages. Often, they struggle with comprehending lengthy sentences and fail to establish connections between different parts of the text. Consequently, their patience wanes, and their initial enthusiasm for reading diminishes due to the extensive nature of the texts. Moreover, while many students are initially encouraged by their teachers to read books, they often lose their initial enthusiasm and interest. Instead, they tend to opt for shorter texts available on social media platforms such as TikTok, Instagram, YouTube, and engage in gaming activities. Furthermore, due to extensive administrative work of teachers that needs to be done, the limitation of time is another reason why teachers find it challenging to practice.

One potential solution to these challenges is the integration of technology. It offers a viable means for teachers to enhance reading comprehension by effectively managing the learning process through the utilization of internet resources. The incorporation of technology into language teaching and learning has been demonstrated successfully (Rintaningrum, 2023). As technology continues to evolve and become increasingly embedded in educational practices (Mokhtar & Othman, 2022). The use of digital tools is recognized for their potential to foster new literacies and pedagogies. it design elements and principles in non-game contexts, specifically in educational settings (Khan et al., 2024). It involves incorporating aspects like points, levels, badges, and rewards into the learning process (Alfadil, 2020; Thompson & von Gillern, 2020).

Moreover, gamification serves several key functions in educational settings, aimed at enhancing the overall learning experience and improving student outcomes. It increasing student engagement aiming to improve interactive learning in gamification transforms passive learning (Alfadil, 2020; Thompson & von Gillern, 2020). Next enhancing motivation by giving the students incentive and rewards which trigger the students to continue progressing. Goal setting which aims to set and achieve short-term goals, and motivating them to pursue further learning. (Thompson & von Gillern, 2020).

These tools are considered among the most advantageous resources, offering accessibility from virtually any location to support learning activities (Amirulloh et al., 2021). Gamification in education refers to the use of game design elements and principles in non-game contexts, specifically in educational settings, (Khan et al., 2024 & Sofyan el al., 2024). It involves incorporating aspects like points, levels, badges, and rewards into the learning process to make it more interactive and enjoyable (Alfadil, 2020; Thompson & von Gillern, 2020). Moreover, education has gamification which served several key functions in educational settings, aimed at enhancing and motivating all learners in learning experience.

Specifically in this study, the researcher focuses on applying quizzes in teaching reading comprehension. Some researchers found that Quizzes applications can improve students' reading ability. Furthermore, the interactive nature of gamified quizzes can accommodate diverse learning styles, making reading practice more inclusive. For instance, visual learners can benefit from the visual elements of the quizzes, while competitive learners might be motivated by the game-like aspects.

Moreover, the features such as leaderboards and team challenges encourage students to work together (Khan et al., 2024 & Setyaningsih et al., 2023). In collaboration can further enhance the learning experience by allowing students to engage in discussions (Blanco et al., 2023).This personalization ensures that students are neither bored with tasks that are too easy nor overwhelmed by tasks (Orhan Göksün & Gürsoy, 2019). Despite

the numerous advantages, the implementation of gamified quizzes is not without challenges. Teachers need to be adequately trained to design and integrate these quizzes effectively (Attig et al., 2024).

It related on some researchers' finding about the Quizizz Applications in improving students' reading ability. It previously utilized which can enhance students reading skill (Heidari, 2020; Lin & Chen, 2024). It easily understands through the content of reading comprehension (Heidari, 2020 & Darihastiningsih et al., 2023). It also enhance students' critical thinking (Thompson & von Gillern, 2020). Improving students' motivating of learning in the classroom (Alfadil, 2020; Thompson & von Gillern, 2020). However, little researchers mentioned the impact of quizzes through the result of their learning, especially in reading comprehension among junior high school students. Therefore, considering the impact of quizzes, this study is expected to answer the following questions. (1) what is the impact of quizzes at the result of their learning process in reading comprehension? (2) how does the integration of gamified quizzes impact students' engagement levels and what are the impacts of improving reading comprehension skills compared to traditional methods?

The study is structured into key sections, including a literature review, methodology, results, and discussion. The literature review examines research on reading comprehension, focusing on areas such as phonemic awareness, vocabulary development, critical thinking, and the use of gamification in education. This provides a theoretical basis for understanding how these factors influence reading skills. The methodology details a quasi-experimental design using pre- and post-test measures for both control and experimental groups. This approach allows for a comparison between traditional teaching methods and the use of quizzes to enhance reading comprehension, ensuring reliable results on the intervention's impact. The results section presents data from reading comprehension assessments, analyzed through descriptive statistics, normality tests, and paired t-tests. These analyses offer insights into the effectiveness of gamified quizzes in improving student performance. The discussion contextualizes the findings by integrating previous research, demonstrating that gamified quizzes increase student engagement and improve reading comprehension. It compares the study's results with traditional methods, emphasizing the benefits of interactive, game-based learning for deepening comprehension skills.

METODE

The methodology of this research, following Wheeldon & Ahlberg (2019), involves the research design, participant selection, data collection instruments, and data analysis techniques. This quasi-experimental study uses pre- and post-test measurements for both the control and experimental groups (Thyer, 2012). In the control group, traditional reading instruction methods were applied, while the experimental group received an innova-

tive approach to assess the effectiveness of both teaching strategies in improving students' reading comprehension. The participants consisted of 33 seventh-grade students from SMP 1 Yogyakarta, divided into control and experimental groups. The group included 17 girls and 16 boys. The concept of test and assessment applied in study to collect the data is that the test and assessment through their result of the test. In this study, this research focused on the individual's achievement of answering the questions (Tofade et al., 2013). First, the students were asked to answer 20 questions of reading comprehension through google form in a diagnostic test. Second, the students were taught reading comprehension by using quizzes and got the summative test 20 questions. The second instrument used was SPSS version 25 for data analysis. The analysis included descriptive statistics, tests of normality, homogeneity, and paired sample t-tests to evaluate the progress of students' reading comprehension.

RESULTS AND DISCUSSIONS
Result

The research's results about students' reading comprehension skills as determined by pre- and post-test assessments provide important new information about how well quizzes work as teaching tools. A pretest was initially administered to measure students' reading comprehension skills before any instructional intervention.

The Integration of gamified quizzes impact students' engagement levels

The implementation of quizzes occurred following the researcher's administration of an initial treatment. During the diagnostic test, the researcher administered a uniform set of questions to assess students' reading abilities. The results indicated that students' reading proficiency remained insufficient. Consequently, the researcher introduced quizzes as a method of intervention, focusing on narrative texts. The researcher observed notable differences in student interaction and motivation within the classroom. The introduction of quizzes led to increased student engagement and activity. Additionally, the researcher allocated time for students to discuss the texts using visual aids and organized them into groups. Within these groups, students collaborated and engaged in discussions to respond to quiz-based activities. These activities included creating short stories from pictures, reading texts, and guessing images based on the textual content displayed in front of the class.

After this instructional period, the researcher did a post-test through the quizzes administered to measure their ability of reading comprehension and collect their last score in post-test. In order to evaluate the impact of quizzes on students' reading comprehension, the researcher compared the pre- and post-test results, finding that students' reading comprehen-

sion skills had significantly improved. That was notably greater than the pre-test scores, indicating the positive impact of the quiz's application on the students' learning outcomes. This increase in scores suggests that the interactive and engaging nature of the quizzes may have facilitated better. The table below displays the pre-test scores for both the control and experimental groups, alongside the post-test scores for the control group. This information demonstrates the changes in students' scores prior to and following the intervention, which utilized quiz applications for instruction.

Table 1. Descriptive Statistics

	N	Min	Max	Mean	Std. Dev
Pre-Test Experiment	30	20	72	47.87	11.855
Post-Test Experiment	30	62	95	80.63	7.365
Pre-Test Control	30	20	63	44.07	9.595
Post-Test Control	30	40	87	66.60	9.467
Valid N (listwise)	30				

The data presented above details scores from multiple assessments, encompassing both pre-test and post-test results for the experimental and control groups. Descriptive statistics offer a detailed overview of performance metrics for a sample of 30 participants in each group across both assessment phases. The analysis reveals that the minimum pre-test scores were identical across the control and experimental classes, at 20 points, while their maximum scores differed by 9 points.

The group performing the experiment scored 47.87 on the pretest on average, which was significantly higher than the control group's 44.07 score. During the post-test phase, the experimental group's lowest score was 60, whereas the control group's score was at least 40. The control group's highest score was 87, whereas the experimental group's maximum was 95. Compared to the control group, which had a mean post-test score of 66.60, the experimental group had a mean score of 80.63. As a result, the information suggests that the post-test scores, which vary from 70 to 95, show both overall participant improvement and variability. The researcher performed a normality test to determine whether the distribution of these scores resembles a normal distribution.

Table 2. Normality Test

Class	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pre-Test Experiment	.107	30	.200[*]	.983	30	.877
Pos-Test Experiment	.161	30	.030	.943	30	.082
Pre-Test Control	.107	30	.200[*]	.983	30	.877
Post-Test Control	.099	30	.200[*]	.976	30	.651

Using the normality test previously mentioned, the researchers looked at the significance scores for each of the four test classes—pre-control, pre-experiment, post-control, and post-experiment—to see if the test score distribution followed a normal distribution. Many statistical tests rely on the fundamental assumption of normality, and it is essential to confirm this assumption in order to ensure the validity of any further studies. In order to assess normalcy, the Kolmogorov-Smirnov and Shapiro-Wilk tests were employed. Both tests yield significance values, where a value greater than 0.05 suggests that the distribution does not significantly deviate from normality. The Kolmogorov-Smirnov test produced significance scores of 0.107, 0.161, 0.107, and 0.099 for the pre-control, pre-experimental, post-control, and post-experimental groups, respectively.

These scores suggest that the distributions in all four test classes do not significantly differ from a normal distribution, as each score exceeds the 0.05 threshold. Similarly, the Shapiro-Wilk test, which is particularly sensitive to small sample sizes, produced significance scores of 0.983, 0.943, 0.983, and 0.976 for the same groups. These results further support the conclusion drawn from the Kolmogorov-Smirnov test, reinforcing the assertion that the test score distributions in this study are normal. Given that all the significance scores from both tests are greater than 0.05, we can confidently conclude that the data in this study follow a normal distribution. This finding is essential, as it validates the use of parametric statistical methods for further analysis. Ensuring the normality of data distributions enhances the reliability and accuracy of the statistical inferences made, thereby strengthening the reliability of the study's conclusions. To ascertain whether the tests exhibit normality in the pre-test control or experimental groups and homogeneity in the post-test control and experimental groups, further evaluation is needed.

Impacts of improving reading comprehension skills compared to traditional methods

The impact of reading comprehension was a critical skill that played a foundational role in the educational development of students. While traditional methods of teaching reading had served learners for generations,

there was a growing recognition of the profound impacts that improving reading comprehension skills could have on the student, compared to these traditional approaches. These impacts extended, influencing cognitive development, lifelong learning, and even social and emotional intelligence One of the most notable effects of improved reading comprehension was the advancement of students' critical thinking and analytical skills. Traditional reading methods often focused on surface-level understanding, where students are encouraged to memorize facts or summarize basic content. However, improving comprehension skills pushed students to engage more deeply with the text, encouraging them to evaluate arguments, identify underlying biases, and connect disparate ideas. This deeper level of engagement nurtures critical thinking, enabling students to not only understand what they are reading but also to question and critique it. As a result, students became more discerning readers, capable of navigating complex texts and extracting meaningful insights

Another crucial impact was the increased retention and recall of information. Traditional reading instruction often emphasized speed or the completion of reading assignments without necessarily ensuring that students fully understood the material. This could lead to gaps in knowledge and a superficial grasp of content. In contrast, focusing on improving comprehension ensures that students are not just reading words but are fully processing and internalizing the information. This enhanced understanding is more likely to be retained in long-term memory, enabling students to recall and apply their knowledge across various contexts. Consequently, students were better positioned to perform academically, as they could draw upon a robust foundation of knowledge.

Improving reading comprehension skills also had a direct correlation with overall academic performance. When students could fully understand and engage with reading materials, they performed better across all subjects, not just in language arts. Whether in science, history, or mathematics, the ability to comprehend complex texts and instructions was essential for success. Traditional methods that focus more on rote learning or basic summarization might not prepare students adequately for the demands of academic work that require deep comprehension and application of knowledge. Thus, by enhancing comprehension skills, students were better prepared to excel in all areas of study. Beyond academics, enhanced reading comprehension skills contribute to the development of lifelong learning abilities. In an era where information is constantly evolving, the ability to learn independently is invaluable.

Additionally, enhancing comprehension skills contributes to broader vocabulary development and improved language skills. Advanced comprehension techniques often involve contextual learning, where students infer the meanings of new words from the surrounding text. This approach not only enriches their vocabulary but also helps them understand and use new

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words in context, leading to better communication skills. In contrast, traditional methods may focus on rote memorization of vocabulary lists, which can be less effective in helping students integrate new words into their active vocabulary.

Moreover, the analysis presented below reflects the results obtained from comparing the means of two related groups or conditions. Specifically, the researcher aimed to ascertain whether a statistically significant difference existed between the mean scores of the two groups under examination. By utilizing this method, the researcher aimed to identify any potential variations in performance, which would indicate the presence of a meaningful difference between the groups' outcomes. Consequently, the results displayed in the table below allow us to infer whether the implementation of quizzes had a measurable impact on the students' learning outcomes. These findings are essential for understanding the efficacy of quizzes as a pedagogical tool in enhancing student performance.

Table 3. Paired t-test

Class Pair	Mean	Std. Dev	Std. Error Mean	95% Confidence		t	df	Sig.
				Lower	Upper			
Pair 1. Pre- post Test Experiment -	-32.76	14.93	2.72	-38.34	-27.19	-12.01	29	.000
Pair 2. Pre-post Test Control	-22.53	11.90	2.17	-26.97	-18.08	-10.36	29	.000

The average differences between paired samples are reflected in the above-mentioned paired sample test results. A p-value of less than 0.05 is necessary to meet the usual significance criteria. A statistical method called the paired sample test is used to compare the means of two related groups and determine whether the differences between their means are statistically significant. Two comparisons were included in the analysis: one from the experimental group's pretest to post-test and one from the control group's pretest to post-test. The two-tailed significance value (Sig. 2-tailed) indicates the significance of the differences between each pair. Pairs 1 and 2 are used to categorize the results, where each pair represents a comparison. The significance value for Pair 1, which contrasts the experimental group's pre- and post-test results, is 0.000. The fact that this number is below the 0.05 cut off suggests that there was a statistically significant difference between the experimental group's average scores before and after the intervention. This finding implies that the participants' performance was significantly impacted by the intervention. In a similar manner, Pair 2 assesses the control group's pre- and post-test results.

This pair's significance value is 0.000, which is far below the 0.05 cut-off and indicates a statistically significant difference between the control group's pre- and post-test average scores. As a result, the paired sample test results show significant average differences in both groups. The experimental group's test results seem to have significantly improved as a result of the intervention. While the control group also demonstrated significant differences, the absence of an intervention in this group necessitates further investigation to fully understand these changes.

To summarize, the paired sample test findings show statistically significant differences in the pre- and post-test average scores for both the experimental and control groups. These findings demonstrate how well the intervention worked for the experimental group, but they also raise the possibility that other factors may have affected the control group's performance. The significant differences, evidenced by p-values below 0.05, substantiate the reliability of these results and offer a solid basis for further analysis and interpretation of the outcomes. Consequently, the researcher may infer a considerable improvement in the post-test scores of students in the experimental group, where quizzes were utilized as an instrument for enhancing reading comprehension.

Discussion

The findings from the data analysis clearly indicate that the implementation of Quizizz had a substantial and noteworthy effect on the educational outcomes of the study. Specifically, the integration of Quizizz as a teaching tool for reading comprehension played a pivotal role in significantly improving student engagement, participation, and overall involvement in the learning process. This impact was particularly evident among the seventh-grade students at SMP 1 Yogyakarta during the 2023/2024 academic year. The analysis underscored that the use of this interactive platform fosters a more active learning environment, thereby promoting better comprehension skills. Prior to this intervention, the researcher identified several deficiencies in the students' reading comprehension abilities which related on their performance through their result of learning. These included challenges in identifying the main idea, extracting implicit and explicit information from texts, and recognizing supporting details and understanding the text comprehensively.in this research, the researcher employed quizzes as part of broader pedagogical strategy that capitalized on the inherent attraction of gamified quizzes as this approach aimed to traditional teaching methods by creating a more interactive and engaging learning experiences. By incorporating these gamified elements, the researchers sought to foster a dynamic and immersive educational environment for junior high school students, promoting active participation and deeper involvement in the learning process (Chen & Chang, 2020; Lv et al., 2024; Mohammadi et al., 2024; Noroozi et al., 2020; Zhang & Huang, 2024). The researcher also incor-

porated critical elements in reading such as interactive content, immediate feedback, and narrative storytelling, game-based learning captivates students' interest and encourages deeper engagement with textual materials. These elements are particularly effective in making reading more enjoyable and accessible, especially for students who may be reluctant readers (Tavares, 2022). Additionally, the researcher discovered a variety of tools that offered immediate feedback, allowing learners to promptly recognize their errors and make corrections. This feature plays a crucial role in fostering a deeper understanding of the material being studied, as it encourages students to reflect on their mistakes and grasp the correct concepts more effectively to foster their learning skills (Azhra et al., 2024).Among these tools, Quizizz stands out as an innovative online assessment platform, designed as a fun and interactive multiplayer classroom activity. This tool enables all students to actively participate in learning sessions using their computers, smartphones, or tablets, promoting collaboration and engagement (Lin & Chen, 2024). The researcher chose to utilize this specific application because it functions not only as a medium for assessment but also as an instructional model that can be integrated seamlessly into the learning process. Moreover, the use of gamified quizzes, such as those offered by Quizizz, has proven to be an especially promising method for improving reading comprehension skills among junior high school students. By combining elements of fun, competition, and interactive learning, the implementation of these quizzes helps create a dynamic and engaging environment that supports academic development (Chang et al., 2024).

In this context, quizzes provide a dynamic and engaging alternative by transforming reading exercises into enjoyable and competitive activities that actively motivate students to engage more deeply with the texts (Sanchez et al., 2020). The appeal of gamified quizzes lies in their ability to make reading practice more engaging and rewarding. These quizzes typically include elements such as points, leaderboards, badges, and immediate feedback, which collectively enhance student motivation and engagement. Immediate feedback is particularly important in the learning process, as it allows students to quickly recognize and correct their mistakes, thereby facilitating a more effective and continuous learning experience (Orhan Göksün & Gürsoy, 2019). It involves the incorporation of game design elements into non-game contexts, has been empirically shown to increase student motivation, engagement, and overall learning outcomes (Chang et al., 2024).

Furthermore, the narrative aspects of educational games foster an immersive learning experience, helping students to develop a more nuanced understanding of the content. Despite the challenges associated with the implementation of game-based learning such as ensuring equitable access to technology and providing adequate training for educators the benefits of this approach are compelling (Chen & Chang, 2020; Murray et al., 2018;

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Tavares, 2022). Game-based learning not only fosters a positive reading environment but also significantly enhances reading comprehension, making it a valuable addition to contemporary educational practices (Taub et al., 2020). This pedagogical strategy holds considerable promise for the future of education, particularly in its potential to engage students and improve their reading skills in an increasingly digital world especially in reading comprehension.

Recent research has increasingly underscored the effectiveness of incorporating gamified quizzes as a teaching tool to improve students' English reading comprehension abilities. These studies have demonstrated that the use of interactive, game-like quiz formats can play a critical role in fostering student engagement and motivation, making the learning process more enjoyable and immersive (Bicen & Kocakoyun, 2018; Bolat et al., 2017; Fotaris et al., 2016; Tsihouridis et al., 2018; Turan & Meral, 2018). For instance, a study examining the impact of online assessment tools, specifically quizzes, on student motivation, participation, and learning outcomes concluded that such tools significantly enhance students' motivation in developing reading comprehension skills and their interest in engaging with course content through online platforms. The study identified students' strong inclination towards quizzes due to the immediate feedback they provide on their performance, thus fostering a deeper engagement with learning materials (Bolat et al., 2017; Sanchez et al., 2020). The researcher found from observing the class that the interactive nature of game-based learning allows students to engage with texts in a more meaningful way, facilitating a better understanding of complex materials. Empirical research and numerous case studies have substantiated the effectiveness of game-based learning in enhancing reading comprehension. Students utilizing game-based tools have demonstrated significant improvements in vocabulary acquisition, critical thinking, and analytical skills (Alfadil, 2020).

Furthermore, research investigating the use of quizzes as both formative and summative assessment tools among pre-service teachers has underscored their positive influence on academic achievement as what the researcher observed more advantages of using quizzes, first, gave students instant feedback, which keeps them motivated and inspired for continual studying by enabling them to see their progress and places for growth. In this term, the role of the teachers is necessary through the game to trigger the students to have interaction in their learning process through the computers, face to face interaction which can expose the human expressions (Thompson & von Gillern, 2020). Second, development of critical skills which means to involve educational games involve problems that call for strategic preparation and execution in order to foster critical thinking and problem-solving abilities. Furthermore, as players must cooperate to accomplish common objectives, cooperative and multiplayer games help students develop their communication and cooperation abilities. Another reason is, the used of quizzes in

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learning is to neutralize the course, discovering that this approach was more effective in enhancing the learning effectiveness and attitudes of students than traditional PPT teaching and even influenced their dietary habits. Using a game similar to Monopoly to teach students about the area of circles and obtained similar results (Heidari, 2020). Through game-based learning, participants learn more actively and with greater interest, enabling the learned content to leave a deeper impression than would be possible using conventional methods (Mohammadi et al., 2024).

These abilities are critical in both academic and practical contexts (Alfadil, 2020; Thompson & von Gillern, 2020). Moreover, in the game-based learning animated graphics and pictures, audio and sound effects as well as immersive stimulation. Therefore, as an English teacher supposed to have teaching media which can trigger students to think further such as; variety of features and mechanisms designed to make the learning process more engaging, interactive, and more effective for students. Additionally the use of quizzes in game-based learning offered supporting differentiated instruction, and offering flexibility in learning approaches (Thompson & von Gillern, 2020). This investigation, informed by the revised Bloom's taxonomy, revealed that students who participated in gamified quizzes achieved notably higher academic scores, demonstrating the potential of gamification to elevate student performance (Sanchez et al., 2020). From the findings, the researcher concluded that incorporating game-like elements into educational assessments not only significantly improved learning outcomes but also effectively maintained students' interest and active participation over an extended period. This approach provided a more engaging and interactive learning environment, encouraging students to remain focused and motivated throughout the educational process. By blending learning with elements of fun and competition, game-based assessments enhanced students' comprehension and retention of material, making the learning experience both enjoyable and effective. These findings suggest that gamified assessments can be a powerful tool for sustaining long-term academic engagement and improving overall educational performance(Alfadil, 2020).

Additionally, Henning (2016) The findings emphasized that the implementation of quizzes can have a profound impact on student engagement and motivation during reading activities, largely due to the interactive and dynamic nature of these tools. These engaging features capture students' attention and make the learning process more enjoyable and stimulating. The positive effects were particularly noticeable during classroom interventions where quizzes were seamlessly integrated into reading exercises. This integration led to heightened levels of student participation, encouraging them to become more deeply involved with the material. As a result, students exhibited a greater interest in their studies, which contributed to an overall improvement in their academic performance. Specifically, their reading comprehension skills showed marked advancement, demonstrating

that the use of quizzes not only made learning more engaging but also fostered better educational outcomes. This approach highlighted the potential for quizzes to serve as an effective tool for enhancing both motivation and achievement in reading-related tasks.

The findings of Henning (2016) align closely with earlier studies that emphasize the positive impact of incorporating quizzes into educational curricula as a tool for enhancing learning outcomes. In particular, the work of Henning and colleagues revealed that students demonstrated substantial improvements in reading comprehension when quizzes were implemented consistently throughout the learning process. These gains in comprehension can largely be attributed to the function of quizzes as frequent, formative assessments that provide students with continuous feedback on their progress. The immediate feedback mechanism inherent in quiz-based learning plays a pivotal role in encouraging students to repeatedly engage with the material, which in turn reinforces their understanding and retention of knowledge over time. Moreover, this process not only enables students to track their own progress and identify areas for improvement, but it also fosters a sense of accountability and self-directed learning. By allowing students to continuously monitor their performance, quizzes empower them to take an active role in their education, which is critical for long-term academic success. This approach is in line with constructivist educational theories, which stress the importance of active learning, ongoing interaction with content, and student engagement as essential components for effective knowledge acquisition. Constructivism posits that learners construct their own understanding and knowledge through experiences, particularly those that involve hands-on learning and continuous reflection.

Moreover, Qureshi & Khatoon (2023) focused on the application of gamified quizzes as an innovative approach to improving students' reading comprehension abilities. The research findings revealed that students held overwhelmingly favorable views toward the use of gamification technologies in the classroom, expressing the belief that these tools were not only enjoyable but also highly effective in enhancing their reading comprehension skills. The positive reception of gamified quizzes can be attributed to their dynamic and interactive nature, which transforms traditional reading exercises into engaging learning experiences. By incorporating game-like elements, such as point scoring, competition, and immediate feedback, these tools capture students' attention and motivate them to participate actively in the learning process. One of the key benefits highlighted by the study is the way in which gamification fosters a learning environment that encourages a culture of error tolerance. Unlike traditional assessment methods, where mistakes may be met with negative consequences or criticism, gamified quizzes allow students to make errors without fear of judgment. This approach creates a safe space for exploration, where students feel empowered to take risks, try different strategies, and learn from their mistakes. As a result, the process of learning

becomes more fluid and less constrained by the fear of failure, which is crucial for fostering a growth mindset in students.

Next, Sihombing & Astuti (2022) The research found that online application tools, particularly gamification-based platforms like Quizizz, can create an engaging and interactive learning experience for students. By leveraging the elements of gamification, such as point scoring, levels, and competitive gameplay, Quizizz transforms traditional educational activities into exciting challenges that capture students' attention and motivate them to participate actively in their learning. This engaging format not only makes learning more enjoyable for students but also encourages them to take ownership of their educational journey. As a result, they are more likely to invest time and effort into their studies, leading to a deeper understanding of the material. Furthermore, the benefits of using gamified quizzes extend beyond just student engagement. Teachers can also anticipate improved outcomes in terms of academic performance and overall classroom dynamics. By incorporating tools like Quizizz into their instructional strategies, educators can facilitate a more dynamic and collaborative classroom environment (Mokhtar & Othman, 2022). This platform enables teachers to design quizzes that align with their curriculum objectives, allowing them to assess students' comprehension in real-time. The immediate feedback provided through these quizzes helps teachers identify areas where students may be struggling, enabling them to adjust their instructional approaches accordingly and provide targeted support. The results of these studies collectively suggest that the use of quizzes, particularly those with gamified elements, is an effective strategy for enhancing student engagement, motivation, and academic performance. These tools not only provide immediate feedback, which is critical for sustained student engagement, but also create an interactive learning environment that aligns with contemporary pedagogical approaches focused on active learning and student-centered instruction. Thus, the growing body of evidence supports the integration of gamified quizzes into educational practices, as they offer a valuable means of promoting deep learning and improving student outcomes in various academic contexts.

CONCLUSION

The results of this study indicate that the integration of gamified quizzes into the reading comprehension curriculum has a notable positive impact on student learning outcomes. The findings from pre- and post-test assessments demonstrate a significant improvement in students' reading comprehension skills, particularly in the experimental group, where quizzes were used as an instructional tool. Compared to the control group, the experimental group showed a more substantial increase in post-test scores, with higher mean scores and a greater range of improvements. This suggests that the engaging, interactive nature of gamified quizzes effectively

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enhances student engagement, motivation, and ultimately, reading comprehension. The descriptive statistics and paired t-tests reinforce these conclusions, as they show statistically significant differences between pre- and post-test results in both groups. However, the experimental group, which used quizzes, exhibited a larger mean improvement, highlighting the effectiveness of this teaching method. Moreover, the quizzes provided students with continuous feedback, allowing them to track their progress and encouraging more active participation in the learning process. In summary, this study supports the notion that incorporating gamification tools like Quizizz can significantly enhance student engagement and comprehension in educational settings. These tools foster a more dynamic and collaborative learning environment, helping students develop critical reading skills in a way that traditional methods may not. The results affirm the potential of gamified assessments to improve educational outcomes, suggesting that they may be a valuable addition to reading instruction strategies.

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