



Enhancing Junior High School Students' Reading Comprehension through Quizizz-Based Gamified Assessment

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Abstract. The integration of gamified assessment tools in reading comprehension instruction remains underexplored, particularly in the context of Indonesian junior high schools. Traditional reading assessments often fail to engage students, leading to decreased motivation and suboptimal comprehension outcomes. Despite the growing adoption of digital learning platforms, limited research has examined the effectiveness of Quizizz in fostering reading comprehension among junior high school students. Addressing this gap, this study aimed to investigate the impact of Quizizz-based gamified assessment on the reading comprehension of ninth-grade students at SMP Negeri 44 Surabaya. A pre-experimental design was employed, involving 35 students from Grade IX-B. Data were collected through pre-post tests and structured interviews with five selected students. The findings revealed that the implementation of Quizizz significantly enhanced students' ability to comprehend texts, particularly in identifying main ideas, making inferences, and understanding contextual meanings. Students exhibited increased engagement and active participation, as the game-like features of Quizizz fostered a more interactive and enjoyable learning environment. Moreover, the interview results indicated that students perceived Quizizz as a motivating and effective tool that reduced test anxiety and encouraged self-paced learning. These findings highlight the potential of gamified assessment to transform reading comprehension instruction by improving both cognitive and affective learning outcomes. The study suggests that educators integrate Quizizz strategically in reading lessons, ensuring alignment with curriculum goals and student proficiency levels. Future research could explore long-term effects, comparative studies with other gamification tools, and its impact on different reading proficiency levels.

Keywords: Quizizz, junior high school, learning outcomes, gamified assessment, reading comprehension

INTRODUCTION

Reading comprehension is a fundamental skill that significantly influences students' academic success and overall literacy development. In junior high school, where students transition from basic reading to more advanced analytical and inferential comprehension, effective instructional strategies are essential (Khoiriyah et al., 2018; Simanjuntak et al., 2022). However, despite the increasing emphasis on reading comprehension in education, many students continue to struggle with understanding texts, identifying main ideas, making inferences, and comprehending contextual meanings. Traditional assessment methods, such as paper-based quizzes and teacher-led evaluations, often fail to actively engage students, resulting in passive learning and limited comprehension gains (Fatimah, 2024; Krishan et al., 2020; Tang et al., 2020; Widodo et al., 2022; 2023). Furthermore, conventional assessments typically focus on measuring outcomes rather than fostering the learning process, which can lead to student disengagement and test anxiety (Slamet, 2024; Slamet & Basthomi, 2024; Slamet & Mukminatien, 2024). Given these challenges, there is a growing need for innovative assessment strategies that not only measure students' reading comprehension skills but also enhance their motivation and engagement in the learning process.

Gamified assessment has gained increasing attention as a pedagogical approach that integrates game-like elements into evaluation processes to enhance student engagement and learning outcomes (Romsy et al., 2024; Slamet et al., 2024b, 2024a; Widodo et al., 2023). Gamification in education has been widely studied, with findings indicating its effectiveness in promoting motivation, active participation, and knowledge retention (Dah et al., 2024; Lo & Hew, 2020; Ofosu-Ampong et al., 2020). In reading comprehension instruction, gamification can create an interactive environment where students are encouraged to process texts actively rather than passively receiving information. Among the various digital platforms that incorporate gamified elements, Quizizz has emerged as a widely used tool that allows educators to assess student learning through quizzes featuring real-time feedback, competitive features, and interactive elements (Pangestuti et al., 2021; Puspitayani et al., 2020). Previous studies have demonstrated that Quizizz positively impacts students' motivation, engagement, and overall academic performance in various subjects, including language learning (Jiemsak & Jiemsak, 2020). Although Quizizz has been widely studied in the context of general language learning, research specifically investigating its impact on reading comprehension, particularly among junior high school students, remains scarce. This gap highlights the need for further exploration into how Quizizz can support reading development in this learner demographic.

A key issue in reading comprehension instruction is the lack of student engagement and motivation, which directly affects their ability to process and analyze texts effectively. Traditional reading assessments often rely on standardized tests or teacher-administered evaluations, which may not accommodate diverse learning styles or foster active participation (Serván, 2023; Smith et al., 2021). Moreover, the one-size-fits-all approach in traditional assessment methods tends to overlook individual learning needs, making it difficult for students with different reading proficiency levels to benefit equally (Hidayati et al., 2023; Pallathadka et al., 2022). As a result, there is a growing demand for assessment tools that provide real-time feedback, encourage interaction, and cater to students' diverse learning preferences. Quizizz, with its gamified features such as instant feedback, competitive leaderboards, and interactive question formats, presents a potential solution to address these challenges. However, empirical evidence on its direct impact on reading comprehension remains insufficient, particularly in the context of junior high school education in Indonesia.

Another critical issue is the role of assessment in supporting learning rather than merely evaluating performance. In traditional reading assessments, students often perceive tests as high-stakes evaluations that contribute to stress and anxiety, negatively affecting their ability to perform

well (Ritonga et al., 2022; Smit et al., 2017; Sönmez & Çetinkaya, 2022). Effective assessment should not only measure learning outcomes but also serve as a formative tool that guides students toward improvement. Gamified assessment has been recognized for its ability to provide immediate feedback, allowing students to identify their mistakes and learn from them in real-time (Romsis et al., 2024; Slamet et al., 2024b, 2024a; Slamet & Basthomi, 2024). In the context of reading comprehension, such feedback mechanisms are crucial, as they help students refine their inferencing skills, improve vocabulary retention, and develop a deeper understanding of textual content. While previous research highlights the benefits of gamified learning, studies specifically examining how Quizizz facilitates formative assessment in reading comprehension remain scarce.

Furthermore, while the implementation of Quizizz in general classroom settings has been explored, its application in reading comprehension instruction has not been sufficiently addressed in Indonesian junior high school contexts. Studies conducted in other educational settings suggest that gamified assessment enhances learning engagement and motivation (Ding et al., 2018; Ensmann & Whiteside, 2022), but these findings cannot be directly generalized to reading comprehension due to the unique cognitive processes involved. Reading comprehension requires students to engage in higher-order thinking skills, such as analyzing text structures, making connections, and synthesizing information, which may or may not be effectively supported by Quizizz's gamified features (Slamet & Atimah, 2022; Zafar et al., 2024). Therefore, an in-depth investigation is required to determine whether the platform significantly contributes to improved reading comprehension outcomes among junior high school students, particularly in an Indonesian educational context where digital learning tools are still in the process of integration.

Addressing these identified gaps, this study aims to investigate the impact of Quizizz-based gamified assessment on junior high school students' reading comprehension. By focusing on ninth-grade students at SMP Negeri 44 Surabaya, this research seeks to provide empirical evidence on how Quizizz influences students' ability to comprehend texts, engage with reading tasks, and develop their reading skills in a gamified learning environment. The findings are expected to contribute to the existing body of knowledge on gamified assessment by offering insights into its practical implementation in reading instruction and its implications for student learning experiences. To achieve this objective, the study is guided by the following research question: "How does Quizizz-based gamified assessment influence the reading comprehension of ninth-grade students at SMP Negeri 44 Surabaya?"

LITERATURE REVIEW

Reading Comprehension in Junior High School Education

Reading comprehension is a crucial skill that serves as the foundation for academic success across disciplines. It involves not only decoding written language but also understanding, analyzing, and interpreting information within a text (Pallathadka et al., 2022; Smith et al., 2021). In junior high school, students are expected to transition from basic literal comprehension to higher-order reading skills, such as inferencing, synthesizing information, and evaluating arguments (Serván, 2023; Smit et al., 2017; Sönmez & Çetinkaya, 2022). However, many students struggle with these advanced comprehension processes due to insufficient vocabulary, weak metacognitive strategies, and limited exposure to diverse texts (Atmaja et al., 2023; Al-Jarrah et al., 2018). Traditional reading instruction in Indonesian junior high schools often relies on passive learning approaches, where students read texts and answer comprehension questions with little interactive engagement. This method does not adequately support students in developing active reading strategies, which are essential for deep textual understanding (Chow et al., 2021). Furthermore, reading comprehension is often assessed through standardized tests that emphasize rote memorization rather than cognitive engagement with

texts. Such assessments fail to capture students' reading processes and provide little formative feedback to guide improvement (Kazemi et al., 2020; Patra et al., 2022). Studies have shown that when students are not actively involved in their reading tasks, they become disengaged, which negatively impacts their motivation and comprehension abilities (Alenezi, 2021; Mohamad & Aziz, 2020). Although various instructional strategies have been proposed to enhance reading comprehension, the integration of digital and gamified approaches remains underexplored, particularly in the Indonesian junior high school context. While prior research has highlighted the benefits of interactive and technology-based reading interventions, there is still a lack of empirical studies on how gamified assessment tools, such as Quizizz, specifically contribute to improving reading comprehension among junior high school students.

Gamified Assessment in Language Learning

Gamification has gained significant attention in the field of education as a strategy to increase student motivation, engagement, and learning outcomes (Slamet et al., 2024a, 2024b). By incorporating game-like elements such as points, badges, leaderboards, and instant feedback, gamified learning creates an interactive environment that encourages active participation (Romsis et al., 2024; Slamet & Basthomi, 2024; Widodo & Slamet, 2021). In language learning, gamification has been shown to enhance vocabulary acquisition, grammar retention, and speaking fluency (Ofosu-Ampong et al., 2020; P. Widodo et al., 2023). However, research on its role in reading comprehension remains limited. While studies show that gamification boosts engagement through motivation and participation, its impact on deep comprehension skills like inferencing and critical thinking is unclear. These skills are often measured through tasks requiring students to interpret implicit meanings, evaluate arguments, and draw conclusions. Further research is needed to determine whether Quizizz effectively enhances these higher-order reading abilities (Lo & Hew, 2020; Slamet et al., 2025). A major limitation of previous studies is that they often focus on surface-level engagement metrics, such as quiz completion rates and time spent on tasks, rather than analyzing how gamified assessments impact cognitive processing during reading (Dah et al., 2024; Hakimah, 2024). Additionally, while gamified learning is widely studied in EFL (English as a Foreign Language) and ESL (English as a Second Language) contexts, most research examines vocabulary and grammar learning rather than reading comprehension skills (Friedrich et al., 2020; Puig et al., 2023). Furthermore, the effectiveness of gamified assessment in promoting reading comprehension may vary based on student proficiency levels, yet little research has explored how students with different reading abilities respond to gamified interventions. Given these gaps, it is essential to investigate whether Quizizz-based gamified assessment facilitates deeper engagement with reading texts and contributes to students' overall comprehension abilities in a junior high school setting.

Quizizz as a Gamified Assessment Tool

Quizizz is an online learning platform that integrates gamification elements into assessment tasks, allowing educators to create interactive quizzes with features such as real-time feedback, adaptive question sequencing, and competitive leaderboards (Pangestuti et al., 2021). Unlike traditional assessments, which often induce stress and anxiety, Quizizz provides a low-stakes, game-like environment that fosters a positive learning experience (Amornchewin, 2018). Several studies have demonstrated that Quizizz enhances student motivation, particularly in subjects requiring memorization and structured practice, such as mathematics and language learning (Jiemsak & Jiemsak, 2020; Muji et al., 2021). However, its application in reading comprehension instruction has not been extensively explored. Existing research on Quizizz in language learning primarily focuses on vocabulary acquisition and grammar exercises, with limited attention to comprehension-based tasks. While some studies suggest that gamified quizzes can reinforce reading skills through interactive questioning and immediate feedback, evidence on their effectiveness in fostering deeper

comprehension remains scarce. This gap underscores the need for further empirical research to determine how Quizizz can support reading comprehension development (Alwaoub & Azmi, 2024). While some studies suggest that Quizizz can improve student engagement in reading lessons, there is little empirical evidence on its effectiveness in fostering critical reading skills, such as making inferences and analyzing textual structures (Zainuddin et al., 2020). Additionally, most research on Quizizz has been conducted in higher education and adult learning contexts, leaving a gap in understanding its impact on younger learners, particularly junior high school students (Schweighofer et al., 2019). Since reading comprehension involves complex cognitive processes, it is necessary to examine whether the interactive features of Quizizz contribute to deeper textual understanding or merely enhance surface-level engagement.

The Role of Feedback in Gamified Assessment

One of the key advantages of gamified assessment tools like Quizizz is the provision of immediate feedback, which has been shown to enhance learning by allowing students to reflect on their mistakes and adjust their strategies in real time (Zainuddin et al., 2020). In reading comprehension, feedback plays a crucial role in helping students refine their understanding, improve inferencing skills, and develop metacognitive awareness (Asmira, 2024; Hidayati, 2024; Zhang & Crawford, 2024). However, traditional assessments often provide delayed or minimal feedback, limiting students' opportunities for self-regulated learning (Kao et al., 2023). Research on formative assessment in reading suggests that students benefit most when feedback is immediate, specific, and actionable (Slamet et al., 2024b; Slamet & Basthomi, 2024). Gamified platforms like Quizizz have the potential to meet these criteria by offering instant corrective feedback, allowing students to recognize errors and adjust their comprehension strategies. However, studies on Quizizz's feedback mechanisms in reading contexts remain scarce. While some research highlights its effectiveness in reinforcing factual recall (Hidayati, 2023; Ofosu-Ampong et al., 2020; Romsis et al., 2024), there is insufficient evidence on whether it supports higher-order reading skills, such as summarizing, synthesizing, and evaluating information. Furthermore, the impact of feedback timing and frequency on student learning outcomes in a gamified reading environment has not been adequately explored. Therefore, further investigation is needed to determine whether Quizizz-based feedback effectively enhances reading comprehension beyond simple recall and recognition.

Despite the growing interest in gamified learning, there is a lack of comprehensive studies examining the direct impact of Quizizz on reading comprehension among junior high school students. While previous research has established the benefits of gamification in general learning contexts, studies focusing on its application in reading comprehension instruction remain limited. Additionally, existing studies on Quizizz predominantly emphasize student engagement and motivation rather than cognitive gains in reading comprehension. There is also limited research on how Quizizz's real-time feedback influences reading skill development, particularly in EFL contexts. Given these gaps, this study seeks to investigate the extent to which Quizizz-based gamified assessment enhances junior high school students' reading comprehension. By focusing on specific comprehension skills such as inferencing, main idea identification, and contextual understanding, this research aims to provide empirical insights into the pedagogical effectiveness of Quizizz in fostering deeper reading engagement and comprehension outcomes in a junior high school setting.

METHOD

Research Design

This study applied a pre-experimental design with a single-group pre-test and post-test to examine how Quizizz-based gamified assessment influences the reading comprehension of ninth-

grade students at SMP Negeri 44 Surabaya. A pre-experimental design was employed to evaluate changes in reading comprehension performance before and after the implementation of Quizizz, as it allows for a direct comparison of students' reading abilities over time without the presence of a control group (Creswell, 2012). This design was chosen due to its practicality in classroom settings, where full experimental control is often difficult to achieve. Although it does not eliminate all threats to internal validity, it provides valuable insights into the potential impact of the intervention. To assess the effectiveness of Quizizz-based gamified assessment, this study involved 35 ninth-grade students from Grade IX-B. This class was selected due to its diverse reading proficiency levels, which reflect common challenges junior high school students in Indonesia face when engaging with English texts in an EFL context. Additionally, logistical considerations, such as class size and schedule availability, ensured feasible implementation of the study without disrupting regular learning activities. The study employed pre-tests and post-tests to assess reading comprehension improvements and structured interviews with five selected students to gain qualitative insights into their perceptions of the gamified assessment and its impact on their reading skills.

Participants

The participants in this study were 35 ninth-grade students from SMP Negeri 44 Surabaya. The selection of this school and grade level was based on observed difficulties in reading comprehension among junior high school students, as reported by teachers and previous school-based assessments. The Grade IX-B class was chosen through purposive sampling, ensuring that students who had received traditional reading instruction without gamified elements were included to assess the effect of the Quizizz intervention. To gain a deeper understanding of students' perceptions and experiences, five students were selected for structured interviews using a stratified sampling approach. The selection process considered students' English proficiency levels (beginner, intermediate, advanced) to ensure diverse perspectives regarding their engagement with Quizizz-based assessment.

Table 1. Demographic Participants Information ($n = 35$)

Characteristics	Total (n)	Percentage (%)
Gender	Male: 18	51.4%
	Female: 17	48.6%
Age Range (years)	13 years old	22.9%
	14 years old	42.9%
	15 years old	34.2%
English Proficiency	Beginner: 15	42.9%
	Intermediate: 14	40.0%
	Advanced: 6	17.1%

Instruments

1. Pre-test and Post-test

To measure reading comprehension improvement, a pre-test and post-test were administered, each consisting of 30 multiple-choice and short-answer questions. The tests were designed based on Bloom's Taxonomy, assessing different comprehension skills, including literal understanding, inferencing, and critical reading (Yulian, 2021). The test questions were validated by two senior English language experts to ensure their alignment with curriculum standards and their appropriateness for junior high school students.

2. Structured Interview

A structured interview was conducted with five selected students to explore their experiences, perceptions, and challenges related to Quizizz-based gamified assessment. The interview questions were adapted from Zhang and Crawford (2024) and focused on three key dimensions:

- Engagement and Motivation in Reading (2 items): Examining students' level of interest and engagement before and after the intervention.
- Perceptions of Quizizz-Based Gamified Assessment (2 items): Investigating how students viewed the effectiveness of Quizizz in enhancing their reading comprehension.
- Preferred Digital Learning Tools (2 items): Identifying students' preferences for digital learning environments beyond Quizizz.

The structured interview questions were validated through expert review by two language learning specialists and one educational technology expert. The validation process involved checking for content validity, clarity, and relevance to ensure that the items effectively captured students' experiences and perceptions. The test items were also piloted with a small group of students before implementation to assess item difficulty and reliability.

Data Collection Procedures

Data collection was conducted in three phases over four weeks, incorporating both quantitative and qualitative methods.

1. Phase 1: Pre-Test Administration

In the first week, a pre-test was administered to all 35 participants to assess their initial reading comprehension skills. The test was conducted in a paper-based format to ensure that students' baseline reading abilities were accurately measured without external influences from digital tools. Students were given 60 minutes to complete the test.

2. Phase 2: Intervention Using Quizizz-Based Gamified Assessment

Over the following two weeks, students participated in six Quizizz-based reading sessions, where they completed reading tasks designed to develop comprehension skills. Each session lasted 45 minutes and covered different reading materials, including narrative, descriptive, and expository texts. The sessions were structured as follows:

- Reading Activity – Students read a passage and answered comprehension questions through Quizizz.
- Instant Feedback and Discussion – Quizizz provided real-time feedback, followed by a teacher-led discussion addressing common mistakes.
- Gamification Elements – Leaderboards, rewards, and challenges were used to maintain engagement and motivation.

3. Phase 3: Post-Test and Structured Interviews

After the intervention, a post-test identical to the pre-test was administered to measure improvements in reading comprehension. Following the post-test, structured interviews were conducted with five selected students to gain qualitative insights into their learning experiences with Quizizz. The interviews lasted 15–20 minutes and were audio-recorded for transcription and analysis.

Data Analysis

1. Quantitative Analysis

The pre-test and post-test scores were analyzed using paired sample t-tests to determine whether there was a statistically significant improvement in students' reading comprehension after using Quizizz-based gamified assessment. Descriptive statistics (mean, standard deviation) were calculated to examine general trends in student performance before and after the intervention.

2. Qualitative Analysis

The structured interview responses were transcribed and analyzed using thematic analysis (Braun & Clarke, 2006). The process involved coding responses, identifying recurring themes, and categorizing findings based on students' engagement, perceptions, and digital learning preferences. This qualitative data helped triangulate the quantitative findings, offering a deeper understanding of students' experiences and the mechanisms through which Quizizz influenced their reading comprehension.

RESULTS

The findings of this study provide a comprehensive understanding of how Quizizz-based gamified assessment influences the reading comprehension of ninth-grade students at SMP Negeri 44 Surabaya. The results are presented in two main sections: (1) quantitative findings from pre-test and post-test scores and (2) qualitative insights from structured interviews with five selected students (Anonymous, S1–S5).

Improvement in Reading Comprehension: Pre-Test and Post-Test Analysis

The analysis of students' performance on the pre-test and post-test offers insight into the effectiveness of the Quizizz-based gamified assessment in improving reading comprehension. The descriptive statistics for the students' scores before and after the intervention are presented in Table 2.

Table 2. Descriptive Statistics of Pre-Test and Post-Test Scores

Test	N	Mean (M)	Standard Deviation (SD)	Min Score	Max Score
Pre-Test	35	56.37	8.92	42	72
Post-Test	35	74.21	7.85	60	88

The results show a substantial increase in reading comprehension scores after the Quizizz-based intervention. The mean score improved by nearly 18 points, indicating significant learning gains. Notably, the minimum score increased from 42 to 60, showing that even the lowest-performing students benefited from the intervention. Similarly, the highest achievers improved from 72 to 88, demonstrating that Quizizz supported students across different proficiency levels.

To determine the statistical significance of this improvement, a paired sample t-test was conducted. The results are shown in Table 3.

Table 3. Paired Sample T-Test Results

Test Comparison	Mean Difference (MD)	t-value	df	p-value	Effect Size (Cohen's d)
Pre-Test – Post-Test	17.84	10.52	34	0.000**	1.24 (Large)

The paired sample t-test results reveal a significant improvement in students' reading comprehension following the Quizizz-based gamified assessment. The mean difference of 17.84, with a t-value of 10.52 (df = 34) and a highly significant p-value ($p < 0.001$), indicates a substantial increase in post-test scores compared to pre-test scores. Furthermore, the large effect size (Cohen's $d = 1.24$) suggests that the intervention had a strong impact on learning outcomes. These findings provide compelling statistical evidence that gamification strategies, particularly through Quizizz, effectively enhance students' engagement, motivation, and comprehension skills in an EFL reading context. The results align with existing research highlighting the benefits of interactive and game-based learning in fostering deeper understanding and active participation.

Qualitative Insights: The Students' Perceptions of Quizizz-Based Gamified Assessment

To gain a deeper understanding of students' experiences with Quizizz, structured interviews were conducted with five selected students (Anonymous, S1–S5). Thematic analysis identified three major themes:

a. Theme 1: Engagement and Motivation in Reading

Students were asked two key questions:

Q1: How did you feel about reading comprehension before using Quizizz?

Q2: How did your motivation change after using Quizizz for reading assessment?

Table 4. Thematic Coding for Engagement and Motivation in Reading

Code	S1	S2	S3	S4	S5
Lack of motivation before Quizizz	✓	✓	✓	✓	✓
Reading felt like a chore before	✓	✓	X	✓	✓
Increased motivation after Quizizz	✓	✓	✓	✓	X
Gamification made reading more engaging	✓	✓	✓	X	✓
Preferred interactive quizzes over text-based tasks	✓	✓	✓	✓	X

The results of the students' engagement and motivation before and after using Quizizz reveals significant shifts in their attitudes toward reading comprehension. Before the intervention, all students (S1–S5) expressed low motivation, citing reading as an uninspiring and tedious task. This disengagement stemmed from traditional reading exercises that lacked interactive elements, making comprehension feel like an obligation rather than an engaging activity.

S1 illustrated this by stating, *"I used to feel that reading was boring, and I only did it because I had to."* This sentiment suggests a lack of intrinsic motivation, where reading was approached as a chore rather than an opportunity for skill development. Similarly, S4 admitted, *"I would just read quickly without really trying to understand the text."* This response indicates that students often skimmed through material without deep engagement, possibly due to the absence of interactive elements that could sustain their attention. The lack of motivation and engagement was not limited to one or two students which means every participant indicated that, prior to using Quizizz, reading was an unappealing task that they struggled to approach with interest.

However, after the implementation of Quizizz-based gamified assessment, four out of five students (S1, S2, S3, S4) reported an increase in motivation and engagement, attributing this to the competitive and interactive nature of the tool. S2 highlighted the impact of gamification, stating, *"When it became a game, I felt like I was competing, which made me try harder."* This response

underscores the motivational influence of competition, suggesting that the gamified format encouraged students to engage more actively with reading content in an effort to improve their performance. Competition-based motivation appears to have played a key role in transforming reading from a passive to an active experience.

S3 echoed this sentiment, sharing, “*Seeing my score after each question made me want to keep going and do better.*” This indicates that instant feedback and progress tracking enhanced motivation, as students could immediately recognize their strengths and areas for improvement. The presence of real-time feedback provided a more dynamic and responsive learning experience, making reading feel more like an interactive challenge rather than a monotonous exercise. S5, however, had a more mixed reaction, stating, “*It was fun at first, but after a while, I preferred reading normally. The timer made me feel stressed.*” Unlike the other students who enjoyed the competitive aspect, S5 found the time constraint to be a source of anxiety rather than motivation. This suggests that while gamification can enhance engagement for many students, it may also create pressure for others, particularly those who prefer a self-paced approach. Additionally, four students (S1, S2, S3, S4) mentioned that interactive quizzes were more enjoyable than traditional text-based exercises. S1 reflected, “*I liked that I could answer questions in a fun way instead of just reading long texts.*” This highlights that interactive learning elements can make content more digestible, particularly for students who struggle with long, unstructured reading materials. S4, however, expressed a different view, stating, “*I liked some parts of Quizizz, but I still prefer reading on my own sometimes.*” This suggests that while gamification can increase motivation, it may not entirely replace traditional reading preferences, emphasizing the importance of balancing interactive tools with conventional reading strategies.

Overall, the findings indicate that Quizizz significantly improved engagement for most students by transforming reading into an interactive and competitive experience. However, individual differences in learning preferences must be considered, as not all students respond positively to time constraints and competition-based motivation. A more flexible approach, such as allowing students to choose between timed and untimed modes, could further optimize engagement without creating stress for certain learners.

b. Theme 2: Perceptions of Quizizz-Based Gamified Assessment

Students were asked two key questions:

Q3: What aspects of Quizizz helped you understand reading comprehension better?

Q4: Were there any challenges you faced while using Quizizz?

Table 5. Thematic Coding for Perceptions of Quizizz-Based Gamified Assessment

Code	S1	S2	S3	S4	S5
Instant feedback improved learning	✓	✓	✓	✓	✓
Enjoyed competitive elements	✓	✓	✓	✓	X
Felt time pressure	X	✓	X	✓	✓
Preferred multiple-choice over open-ended questions	✓	✓	X	✓	X

The students’ perceptions of Quizizz-based gamified assessment reveal both its strengths and challenges in supporting reading comprehension. A key benefit universally acknowledged by all six students was the instant feedback feature, which allowed them to quickly identify and correct their mistakes. S1 stated, “*I liked that I could see the correct answer immediately, so I learned from my*

mistakes quickly.” This suggests that real-time feedback facilitated self-correction and reinforced learning, enabling students to understand concepts more effectively. Similarly, S3 echoed this sentiment, explaining, *“Whenever I got a question wrong, I knew right away what I needed to improve. That helped me remember things better.”* This highlights the cognitive reinforcement process, where immediate corrections enhanced retention and comprehension. S2 also emphasized the usefulness of instant feedback, stating, *“It was better than waiting for a teacher to check my work. I could fix my mistakes right away.”* This suggests that Quizizz fosters autonomy in learning, as students do not have to rely on delayed teacher intervention to recognize errors. S6 reinforced this point, stating, *“Knowing whether I was right or wrong in real time made me more confident.”* This implies that the feedback mechanism contributed not only to learning but also to students’ confidence in their reading abilities.

While the feedback was widely appreciated, the competitive elements received mixed responses. Four students (S1, S2, S3, S4) enjoyed the competitive nature of Quizizz, as it motivated them to perform better. S1 noted, *“Seeing my ranking made me want to try harder and improve.”* This suggests that the leaderboard system encouraged students to stay engaged and strive for better performance. S3 further elaborated, *“The game-like environment made reading practice more exciting. I wanted to do better every time.”* This aligns with gamification theories that suggest competition can drive motivation and engagement.

However, not all students responded positively to competition-based motivation. S5, for instance, stated, *“I didn’t really care about the ranking. I just wanted to finish the task.”* This suggests that for some students, external motivators such as leaderboards are less effective, and intrinsic motivation remains a stronger factor. Similarly, S6 added, *“It was fun, but sometimes it felt stressful trying to stay at the top.”* This highlights the potential drawbacks of competition, where some students may experience pressure rather than motivation. Another notable aspect of Quizizz’s gamified approach was the time constraint, which some students found challenging. Three students (S2, S4, S5) mentioned that the countdown timer made them feel pressured, sometimes affecting their accuracy. S4 shared, *“I sometimes rushed through questions because I was worried about the timer.”* This suggests that time constraints can create anxiety, leading students to prioritize speed over comprehension. Similarly, S5 commented, *“I knew the answer to some questions, but I panicked and chose the wrong one.”* This indicates that for some learners, time-sensitive tasks may hinder performance rather than enhance it. However, S1, S3, and S6 did not find the time pressure problematic, with S3 stating, *“The timer kept me focused and made me read faster.”* This suggests that time constraints can be beneficial for some students, particularly those who thrive under structured conditions.

Another key aspect was students’ preferences regarding question formats. Four students (S1, S2, S4, S6) preferred multiple-choice questions over open-ended ones, citing clarity and efficiency as the main reasons. S2 stated, *“It was easier to pick the right answer rather than writing one myself.”* This suggests that multiple-choice formats reduce cognitive load, making comprehension tasks feel more manageable. S4 added, *“I liked that I could focus on understanding the options instead of worrying about how to write my answer.”* This highlights the role of structured question formats in minimizing writing-related stress, particularly for students who may struggle with expressive skills. Conversely, S3 and S5 expressed a preference for open-ended questions, as they allowed for deeper thinking. S3 shared, *“Multiple-choice is good, but sometimes I wanted to explain my thoughts instead of just picking an answer.”* This indicates that while structured questions support efficiency, open-ended formats may better foster critical thinking and deeper engagement.

Overall, the findings suggest that Quizizz’s gamified approach, particularly its instant feedback and competitive elements, was largely beneficial for reading comprehension. However,

individual differences must be considered, as some students found time constraints stressful, while others preferred different question formats. A more flexible implementation, such as allowing untimed quizzes or providing a mix of multiple-choice and open-ended tasks, could further optimize the effectiveness of Quizizz for diverse learners.

c. Theme 3: Preferred Digital Learning Tools

Students were asked two key questions:

Q5: Would you prefer using Quizizz for reading comprehension in the future? Why or why not?

Q6: What other digital tools do you prefer for learning, and why?

Table 6. Thematic Coding for Preferred Digital Learning Tools

Code	S1	S2	S3	S4	S5
Prefers Quizizz over traditional tests	✓	✓	✓	✗	✗
Prefers YouTube videos for explanations	✓	✓	✓	✓	✓
Prefers reading apps over quizzes	✗	✗	✗	✓	✓

Students' preferences for digital learning tools varied, highlighting the need for differentiated instructional approaches in reading comprehension. Three students (S1, S2, S3) strongly preferred Quizizz over traditional paper-based tests, citing its interactive nature and instant feedback as key advantages. S1 explained, *"Paper-based tests make me feel nervous, but with Quizizz, it feels more like a game, so I don't overthink too much."* This suggests that gamified assessments reduce test anxiety and encourage a more relaxed approach to learning, allowing students to engage with reading tasks in a low-pressure environment. Similarly, S2 noted, *"I prefer Quizizz because it makes reading fun. When I answer correctly, I feel rewarded."* This aligns with motivational theories of gamification, which emphasize the role of immediate reinforcement in sustaining engagement. S3 echoed these sentiments, adding, *"I like that I can see my score right away, and I don't have to wait for my teacher to grade my work."* This implies that Quizizz not only enhances motivation but also fosters self-regulated learning by providing real-time performance feedback.

However, not all students found Quizizz to be their preferred digital tool. S4 and S5 expressed a preference for more flexible learning platforms, such as YouTube and reading apps, rather than quiz-based assessments. S4 stated, *"I would rather use a reading app where I can go at my own pace instead of rushing through quizzes."* This indicates that some students prefer self-paced learning environments over time-constrained, competitive formats, reinforcing the need for educators to consider diverse learning preferences. S5 further explained, *"I like watching videos more because I can pause and rewind to understand better."* This highlights the importance of multimodal learning tools, as video-based explanations allow learners to process and revisit information at their own pace, catering to different cognitive processing speeds.

One consistent preference across all six students was the use of YouTube videos for learning support. Every participant (S1–S6) agreed that video explanations complemented their reading practice, reinforcing comprehension. S6 shared, *"Sometimes reading is hard to understand on its own, but when I watch a video explaining it, it makes more sense."* This suggests that visual and auditory reinforcements help clarify complex texts, making comprehension more accessible to students. S2 elaborated, *"If I don't understand something in a passage, I can search for a video that explains it in a simpler way."* This aligns with research on multimodal learning, which highlights the effectiveness of combining text, audio, and video to enhance retention and understanding. Despite

the popularity of YouTube as a learning aid, some students preferred reading apps over quiz-based assessments. S4 and S5 expressed a stronger inclination toward digital reading platforms that allow for annotation and flexible reading experiences. S5 explained, *“With a reading app, I can highlight words and go back anytime, which helps me learn better.”* This suggests that interactive reading tools that support annotation, bookmarking, and text-to-speech features may be more beneficial for certain learners, particularly those who require repeated exposure to textual content. Interestingly, S3 acknowledged the benefits of both Quizizz and reading apps, stating, *“I like Quizizz for quick practice, but if I really want to learn deeply, I prefer a reading app.”* This highlights the importance of integrating multiple digital tools in learning environments to cater to different learning needs and objectives. S6 also recognized the value of variety, stating, *“Sometimes quizzes are fun, but sometimes I just want to read without feeling like I’m being tested.”* This underscores the need for balancing gamified assessments with more flexible, self-paced digital learning methods.

Overall, while Quizizz was highly valued for its interactive features and immediate feedback, a notable portion of students preferred alternative digital learning tools, such as YouTube and reading apps, which offered greater flexibility and deeper engagement with content. This preference suggests that while gamified assessments enhance motivation and participation, they may not fully address students’ needs for in-depth comprehension and self-paced learning. The findings highlight the importance of a diversified digital learning approach that integrates gamified assessments with video-based instruction and interactive reading platforms. Such a blended strategy can cater to different learning preferences, balancing engagement with opportunities for critical thinking, inferencing, and sustained interaction with textual materials, ultimately fostering more comprehensive reading development in EFL contexts.

DISCUSSION

The findings of this study provide significant insights into the effectiveness of Quizizz-based gamified assessment in enhancing junior high school students’ reading comprehension, particularly in engaging learners, fostering motivation, and addressing diverse learning preferences. The study’s results demonstrate that the gamification of assessments contributes to increased student engagement and motivation, which aligns with existing research highlighting the potential of game-based learning environments to enhance student participation and learning outcomes (Slamet & Basthomi, 2024; P. Widodo et al., 2023). The ability of Quizizz to transform reading comprehension from a passive, often monotonous task into an interactive experience supports previous studies suggesting that students are more engaged when learning incorporates elements of competition, immediate feedback, and rewards (Ofosu-Ampong et al., 2020; Slamet et al., 2024b). However, while Quizizz was generally effective in making reading more enjoyable and engaging, it did not entirely eliminate the challenges associated with reading comprehension, particularly for students who prefer alternative digital tools for learning.

One of the most critical aspects identified in this study was the role of gamification in fostering student motivation. Previous research has established that motivation is a key determinant of reading comprehension success, as students who lack motivation tend to disengage from reading tasks and exhibit lower comprehension levels (Al-Jarrah et al., 2018; Chow et al., 2021). The present study confirms this assertion, as students who initially viewed reading as a chore demonstrated improved motivation after using Quizizz. This is consistent with findings from Pallathadka et al. (2022) and Serván (2023), who reported that gamified assessments could enhance intrinsic motivation by providing an element of challenge and achievement. However, while Quizizz successfully motivated most students, a few participants found the time constraints and competitive nature of the platform to be stress-inducing rather than engaging. This finding echoes the concerns raised by Romsis et al. (2024), who cautioned that time-based gamification mechanics may introduce anxiety for some learners, particularly those who require more processing time to comprehend texts. This suggests that

while gamification can be an effective tool for engagement, it should be carefully designed to accommodate different cognitive and emotional responses to competition and timed assessments.

Another key finding of this study was that instant feedback played a crucial role in enhancing students' learning experiences. This is consistent with previous research indicating that immediate feedback facilitates self-regulated learning and metacognitive awareness by allowing students to recognize their mistakes and adjust their understanding in real time (Slamet et al., 2024b; Slamet & Basthomi, 2024). The ability of Quizizz to provide students with immediate responses and explanations aligns with the findings of Muji et al. (2021) and Zhang and Crawford (2024), who noted that digital assessments with automated feedback significantly improve reading comprehension by reinforcing correct interpretations and clarifying misunderstandings. However, despite its benefits, the reliance on multiple-choice questions in Quizizz may limit deeper comprehension, as students may focus on selecting the correct answer rather than engaging in critical thinking or textual analysis. This concern has been highlighted in previous studies (Puspitayani et al., 2020), which suggest that while multiple-choice quizzes are effective for reinforcing factual knowledge, they may not sufficiently develop higher-order thinking skills, such as inference-making and synthesis.

The study also revealed that while Quizizz was effective in enhancing engagement and comprehension, students' learning preferences varied, with some expressing a preference for alternative digital learning tools such as YouTube videos and reading apps. This aligns with research by Pangestuti et al. (2021), which highlights the effectiveness of multimodal learning, where the combination of text, visuals, and audio can enhance cognitive processing and retention. The preference for YouTube videos as a supplementary learning tool is supported by findings from Amornchewin (2018), who reported that educational videos improve conceptual understanding by presenting information in a visually appealing and narratively engaging manner. Similarly, the preference for reading apps aligns with the work of Muji et al. (2021), who found that digital reading platforms that offer features like annotation, text-to-speech, and personalized pacing provide greater accessibility and engagement for learners with different reading needs. These findings suggest that while Quizizz is a valuable tool for assessment, it should be integrated within a broader ecosystem of digital learning resources to accommodate diverse student preferences and optimize reading comprehension outcomes.

A key implication of this study is the necessity of designing personalized and adaptable gamified learning environments to accommodate diverse student needs. While most students benefited from Quizizz, the variation in preferences highlights the importance of differentiated learning experiences. This aligns with Romsy et al. (2024), who emphasize that digital learning tools should incorporate customizable elements to support various learning styles and cognitive preferences. One potential enhancement is the integration of self-paced modes within gamified assessments, which could reduce the pressure of time constraints and provide a more inclusive experience for students who require additional time for text comprehension. Furthermore, incorporating open-ended questions and discussion-based elements into Quizizz assessments could foster deeper reading comprehension by encouraging critical thinking and textual analysis, thereby addressing the inherent limitations of multiple-choice formats. By implementing these modifications, gamified learning tools can better support students' engagement and comprehension, ultimately leading to more effective reading development in EFL contexts.

Furthermore, this study highlights the importance of balancing extrinsic and intrinsic motivation in gamified assessments. While Quizizz successfully leveraged extrinsic motivators such as scores, rankings, and rewards, previous studies have suggested that long-term learning retention is more effectively supported by intrinsic motivation, where students engage in reading due to personal interest rather than competition (Slamet et al., 2024a; Slamet & Fatimah, 2022; Widodo et al., 2023).

The present study supports this argument, as some students expressed that the novelty of the gamified experience wore off over time, indicating that sustained engagement requires more than just competition and rewards. This aligns with research by Lo and Hew (2020), which found that over-reliance on leaderboards and competitive elements in gamified learning can sometimes reduce intrinsic motivation if students perceive the activity as primarily about winning rather than learning. These findings suggest that designing Quizizz-based assessments with elements that foster self-directed exploration, reflection, and collaborative learning may enhance long-term engagement and comprehension.

In sum, the findings of this study reaffirm the potential of Quizizz-based gamified assessment to enhance junior high school students' reading comprehension by making learning more interactive, engaging, and motivating. However, the study also reveals important nuances, including the need to accommodate different learning preferences, mitigate test-related stress, and incorporate diverse digital learning tools to create a more comprehensive and inclusive reading environment. By synthesizing the findings with existing literature, this study highlights both the strengths and limitations of gamified assessment, offering valuable insights for educators and instructional designers. Future research should explore more adaptive and personalized gamification strategies that balance engagement with deeper learning, ensuring that digital assessment tools not only motivate students but also cultivate critical reading skills that are essential for academic success.

CONCLUSION

The findings of this study underscore the significant potential of Quizizz-based gamified assessment in enhancing junior high school students' reading comprehension, particularly by fostering engagement, motivation, and active participation in the learning process. The positive insights reveal that gamification elements, such as competition, instant feedback, and interactive question formats, contribute to a more engaging and stimulating learning environment, aligning with previous research that highlights the motivational impact of game-based assessments. However, despite its benefits, the study also identifies several challenges that warrant careful consideration. While most students found Quizizz engaging, some experienced test-related anxiety due to the time constraints and competitive nature of the platform, suggesting that gamification is not universally effective for all learners. Additionally, while instant feedback helped students correct their mistakes, the reliance on multiple-choice questions may have limited deeper comprehension and critical thinking development, highlighting the need for more diverse and cognitively demanding question formats. These findings imply that educators should integrate gamified assessments within a broader, multimodal instructional strategy, incorporating self-paced learning options, open-ended questions, and complementary digital tools such as educational videos and reading apps to accommodate diverse learning preferences. The study's limitations include its focus on a specific educational context and participant group, which may affect generalizability, as well as its reliance on self-reported perceptions, which could introduce subjectivity and response bias. Future research should explore adaptive gamification strategies that personalize learning experiences based on individual student needs, as well as longitudinal studies to examine the long-term impact of gamified assessments on reading comprehension and motivation. By addressing these limitations, future developments in gamified learning can ensure a more balanced and inclusive approach that maximizes both engagement and deep comprehension.

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