

# Investigating The Impact of ZEP Quiz Gamified Assessment on Students' Reading Comprehension and Perceptions

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## A B S T R A C T

Reading comprehension plays an important role in English language learning, yet students frequently experience difficulties due to limited engagement during assessment activities. While previous studies have investigated various gamified platforms, the implementation of ZEP Quiz in English education remains limited. This study examined the impact of ZEP Quiz on students' reading comprehension and explored their perceptions toward its use. Employing a mixed-method sequential explanatory design, the study involved 32 students in each of the experimental and control groups at SMPN 1 Mantup. Data were collected through reading tests, questionnaires, and semi-structured interviews. The results showed that the experimental group's mean score increased from 72.25 to 83.38. In addition, students demonstrated positive perceptions toward ZEP Quiz. The findings indicate that ZEP Quiz effectively enhances students' reading comprehension and creates a more engaging and meaningful learning experience in English language learning.

**Keywords:** *Gamified Assessment, ZEP Quiz, Reading Comprehension, Student Perception, Self-Determination Theory*

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## INTRODUCTION

Reading comprehension is a fundamental skill in English language learning. It is characterized as a complex cognitive process that requires students' active engagement in to analyze ideas, connect information, and draw conclusions from a text (Imsa-ard, 2022). Therefore, students who fail to comprehend texts face serious disadvantages, as their inability to understand may hinder them from learning and retaining information, which can negatively affect various aspects of their future lives (Javharova & Javharova, 2020). At the junior high school level, students' reading comprehension skills are at a critical stage in their literacy development because, at this stage, students are expected to understand, analyze, and interpret various pieces of information from texts in greater depth as a foundation for academic success in subsequent levels of education. However, statistical data reveal alarming results regarding the low level of English reading comprehension among junior high school students in Indonesia (Zatalini, 2019).

The factors causing students' difficulties in understanding English reading materials can be categorized into two groups: internal and external factors. Internal factors stem from within the students themselves, such as a lack of motivation to learn and a reluctance to improve their skills (Wicaksono & Ariyanti, 2022). Meanwhile, external factors relate to the learning environment and the use of conventional teaching and assessment methods, which tend to be monotonous and lack interactivity (Elatri Parni et al., 2022). As a result, students often view reading as a boring activity, leading to low levels of engagement in the learning process. However, English language instruction requires students' active engagement in the

learning process such as dedicating time, effort, energy, and attention to learning activities rather than merely being physically present in the classroom (Kong et al., 2024).

The integration of technology in education has encouraged learning innovation, one of which is the implementation of gamified assessment that incorporates game elements such as points, badges, rankings, and immediate feedback into learning activities. Gamified assessment is able to transform learning environments that were previously passive and less engaging into more enjoyable, interactive, and meaningful experiences, thereby increasing students' motivation and active engagement in the learning process (Irhad et al., 2023). Gamified platforms have been proven to positively affect students' motivation, participation, and learning outcomes in English language learning (Fatimah, 2025). Technology-integrated language learning has also demonstrated positive outcomes, particularly in improving students' learning achievement through flexible pacing, immediate feedback, and collaborative interaction, as these features simultaneously support autonomy, competence, and relatedness (Vega & Rahayu, 2023).

Along with the increasing use of gamified assessment in English language learning, students' perceptions of their learning experiences have also become an important aspect to consider. Perception refers to how students interpret and evaluate their learning experiences (Fauzi & Muljanto, 2021). Positive perceptions are associated with increased motivation, engagement, and enjoyment in learning, whereas negative perceptions are related to less effective and less enjoyable learning experiences that may reduce students' participation in classroom activities (Kong et al., 2024). Therefore, investigating students' perceptions is essential in evaluating the effectiveness of gamified assessment in English language learning.

Previous studies have shown that gamified assessment platforms such as Kahoot! Socrative, and Quizizz positively affect students' motivation, engagement, and learning outcomes. A study conducted by Şad & Özer (2019) found that Kahoot! effectively enhanced students' motivation, learning retention, engagement, and academic achievement through gamified formative assessment. Meanwhile, a study by Kolisnyk et al. (2022) revealed that Socrative improved engagement, motivation, and immediate feedback in ESP learning, particularly during distance learning. In addition, Fatimah (2025) demonstrated that Quizizz significantly improved junior high school students' reading comprehension through more interactive and enjoyable learning activities.

However, previous studies have primarily focused on platforms such as Kahoot! Socrative, and Quizizz, whereas the implementation of ZEP Quiz in the context of EFL reading comprehension, particularly at the junior high school level, remains very limited. Besides with ZEP Quiz teachers can create quizzes with various game modes and add image, audio, and video hints to each quiz. In addition, previous research has mainly emphasized cognitive outcomes and students' achievement improvement, while students' perceptions toward the use of ZEP Quiz in English language learning have not been widely explored.

Therefore, this study aims to investigate the effect of ZEP Quiz as a gamified assessment tool on students' reading comprehension and to explore students' perceptions toward its implementation in English language learning at SMPN 1 Mantup. This study employed an explanatory sequential mixed-methods approach that combined quantitative and qualitative methods (Creswell & Creswell, 2023). Quantitative data were collected and analyzed using a quasi-experimental non-equivalent control group design involving an experimental group and a control group. Class VII E, consisting of 32 students, was assigned as the experimental group receiving treatment using ZEP Quiz, while Class VII G, consisting of 32 students, was assigned as the control group without treatment. Subsequently, qualitative data were collected to explain and strengthen the quantitative findings, particularly regarding students' perceptions toward the use of ZEP Quiz in learning activities.

## METHOD

This study employed an explanatory sequential mixed-methods approach that combined quantitative and qualitative methods to obtain a more comprehensive

understanding of the research problem (Creswell & Creswell, 2023). In the first stage, quantitative data were collected and analyzed using a quasi-experimental non-equivalent control group design involving an experimental group and a control group. Both groups were administered a pre-test to measure students' initial reading ability. The treatment was conducted over three learning sessions focusing on descriptive texts. The population of this study consisted of all seventh-grade students at SMPN 1 Mantup in the 2025/2026 academic year, totaling 224 students divided into seven classes. The sample was selected using purposive sampling. Class VII E was assigned as the experimental group and Class VII G as the control group, with each group consisting of 32 students.

Both groups received the same learning materials on descriptive texts, and each session lasted forty minutes. The learning activities included identifying adjectives and action verbs, analyzing text structure and language features, and identifying explicit and implicit information in texts. However, the assessment activities differed between the two groups. The experimental group completed assessments using ZEP Quiz as a gamified assessment platform that integrated interactive games, points, rankings, and immediate feedback, while the control group used conventional worksheet-based assessment (LKPD) without gamification elements. After the treatment, both groups completed a post-test to identify differences in learning outcomes. The second stage continued with the collection of qualitative data through questionnaires and semi-structured interviews to explore students' perceptions toward the use of ZEP Quiz in learning activities.

The research instruments consisted of a reading comprehension test, questionnaires, and semi-structured interviews. The test materials were adapted from the seventh-grade teacher's syllabus based on the applicable curriculum, focusing on students' ability to comprehend descriptive texts. The reading comprehension test was in the form of multiple-choice questions designed in accordance with KEMENDIKDASMEN Number 046/H/KR/2025 for Phase D. Therefore, the test covered literal comprehension (main ideas and specific information), inferential comprehension (inference and identifying objective), and vocabulary in context. The instrument was pilot-tested to ensure its validity and reliability before being administered as the pre-test and post-test. Validity testing was conducted through expert judgment and Pearson product-moment correlation analysis using SPSS. Items that did not meet the validity criteria were removed to ensure that the instrument accurately measured the research constructs. The questionnaire was adapted from the Basic Psychological Need Satisfaction and Frustration Scale developed by Phuoc (2020), focusing on the aspects of autonomy, competence, and relatedness. Semi-structured interviews were conducted to obtain more in-depth information regarding students' perceptions toward the use of ZEP Quiz.

## FINDINGS AND DISCUSSION

The findings were obtained through the analysis of quantitative data from the pre-test, post-test, and questionnaires using SPSS version 26 and were further strengthened by interview results to provide a deeper understanding of students' perceptions during the implementation of ZEP Quiz. To identify the general overview of students' improvement in reading comprehension after the treatment, the pre-test and post-test data were analyzed using descriptive statistics. The experimental group used ZEP Quiz as a gamified assessment, while the control group used conventional worksheet-based assessment (LKPD). The results are presented in table 1.

	N	Minimum	Maximum	Mean	Std. Deviation
pretest experiment	32	60	84	72.25	6.005
posttest experiment	32	72	96	83.37	5.667
pretest control	32	56	84	71.88	6.220
posttest control	32	68	92	79.75	5.370
Valid N (listwise)	32				

Figure 1. Test of Descriptive Statistic

Based on the table above, both groups showed improvement in post-test scores. In the experimental group, the mean score increased from 72.25 on the pre-test to 83.38 on the post-test, with an improvement of 11.13 points. Meanwhile, the control group's mean score increased from 71.88 to 79.75, with an improvement of 7.87 points. Furthermore, to determine whether the score improvement in each group was statistically significant, a paired sample t-test was conducted. To determine whether this improvement was statistically significant, a paired-sample t-test was conducted. This test was used to examine the difference in scores before and after the intervention within each group. The decision criterion was that if the significance level (Sig.) was  $< 0.05$ , the improvement was deemed significant (Creswell & Creswell, 2023). The results are presented in Figure 2.

		Paired Differences				t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower Upper			
Pair 1	pretest experiment - posttest experiment	-11.125	3.626	.641	-12.432 -9.818	-17.358	31	.000
Pair 2	pretest control - posttest control	-7.875	3.590	.635	-9.169 -6.581	-12.409	31	.000

Figure 2. Paired Sample t-test

Based on the table above, shows that both groups experienced significant improvement because the significance value in each group was 0.000 ( $p < 0.05$ ). The experimental group obtained a mean difference of -11.125, while the control group obtained a mean difference of -7.875. These findings indicate that the improvement in reading comprehension in the experimental group was greater than that of the control group. Furthermore, an independent sample t-test was conducted to determine whether there was a significant difference between the experimental and control groups after the treatment. A Sig (2-tailed) value of  $< 0.05$  indicates that H1 is accepted and H0 is rejected, while a value of  $> 0.05$  indicates that H0 is accepted and H1 is rejected (Creswell & Creswell, 2023). The results are presented in figure 3.

		Levene's Test for Equality of Variances		t-test for Equality of Means					
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference Lower Upper
Result	Equal variances assumed	.256	.615	2.627	62	.011	3.625	1.380	.866 6.384
	Equal variances not assumed			2.627	61.822	.011	3.625	1.380	.866 6.384

Figure 3. Independent Sample t-test

Based on the table above, the results of the independent sample t-test show a Sig. (2-tailed) value of 0.011 ( $< 0.05$ ), indicating a significant difference between the experimental and control groups. These findings demonstrate that the use of ZEP Quiz as a gamified assessment was more effective in improving students' reading comprehension compared to conventional assessment. The improvement in students' reading comprehension was also aligned with the improvement in their learning outcomes. These findings indicate that the implementation of ZEP Quiz as a gamified assessment had an effect on students' reading comprehension compared to conventional assessment methods.

Furthermore, students' perceptions of the use of ZEP Quiz were analysed using a questionnaire based on Self-Determination Theory, which encompasses three main aspects: autonomy, competence, and relatedness in terms of both satisfaction and frustration, adapted from the BPNSFS developed by Phuoc (2020)

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
AS_1	32	3	5	4.41	.560
AS_2	32	3	5	4.56	.564
AS_3	32	4	5	4.59	.499
AS_4	32	2	5	4.50	.672
AF_5	32	1	3	1.62	.554
AF_6	32	1	2	1.59	.499
AF_7	32	1	2	1.50	.508
CS_8	32	2	5	4.19	.896
CS_9	32	3	5	4.44	.619
CS_10	32	3	5	4.38	.751
CS_11	32	2	5	4.31	.821
CF_12	32	1	3	1.62	.554
CF_13	32	1	3	1.56	.564
CF_14	32	1	2	1.53	.507
RS_15	32	2	5	4.34	.787
RS_16	32	3	5	4.44	.619
RS_17	32	3	5	4.44	.619
RS_18	32	3	5	4.53	.621
RF_19	32	1	3	1.62	.554
RF_20	32	1	3	1.56	.564
RF_21	32	1	3	1.56	.564
Valid N (listwise)	32				

Figure 4. Questionnaire Result

Based on the table above, the questionnaire results showed that autonomy satisfaction was categorized as high, with mean scores ranging from 4.41–4.59, while autonomy frustration was categorized as low, with mean scores ranging from 1.50–1.62. This suggests that most students felt they had freedom in completing tasks, did not experience pressure, and were actively engaged in the learning process. In terms of competence, competence satisfaction showed mean scores ranging from 4.19–4.44, while competence frustration ranged from 1.53–1.62. These findings indicate that students felt more capable of understanding the material, more confident, and more supported in completing the tasks. In addition, relatedness satisfaction showed mean scores ranging from 4.34–4.53, whereas relatedness frustration ranged from 1.56–1.62. This indicates that students felt comfortable, connected with their classmates, and experienced positive social interactions during the use of ZEP Quiz.

The semi-structured interview results also strengthened the questionnaire findings by showing that students had positive perceptions toward the use of ZEP Quiz. Most students stated that the learning activities became more interesting, enjoyable, interactive, and less monotonous compared to conventional assessment. Students also mentioned that the feedback

features, hints, and point systems helped them recognize their mistakes and increased their motivation during the learning process.

The findings of this study showed that the use of ZEP Quiz as a gamified assessment had a significant effect on improving students' reading comprehension. The improvement in scores achieved by the experimental group was higher than that of the control group, indicating that the implementation of gamification in assessment can support students' active engagement in comprehending English texts. This finding is consistent with the study conducted by Fatimah (2025), which stated that gamified assessment can enhance students' motivation, focus, and participation in English language learning. Gamification features such as game-based quiz interfaces, point systems, leaderboards, immediate feedback, and hints helped students become more active in reading, understanding text content, and reflecting on their mistakes during the learning process.

Based on Self-Determination Theory Deci & Ryan (2002), the findings of this study also indicate the fulfillment of students' three basic psychological needs, namely autonomy, competence, and relatedness. In terms of autonomy, students felt that they had freedom and control in completing tasks through interactive gamified activities. When students' need for autonomy is fulfilled, they begin to perceive tasks as personally meaningful and enjoyable, which encourages them to engage more deeply in understanding the tasks without feeling pressured (Zhang et al., 2025). In terms of competence, features such as immediate feedback, hints, and scoring systems helped students recognize their mistakes and increased their confidence in completing reading tasks. When students' need for competence is fulfilled, they tend to feel more satisfied and motivated to achieve success in learning (Zhang et al., 2025). Meanwhile, in terms of relatedness, interaction and competition during the use of ZEP Quiz made students feel more connected to their classmates and more involved in the learning process. When students' need for relatedness is fulfilled, they are more likely to participate actively, stay focused, and persist through difficulties because they perceive the tasks as learning experiences supported by positive social interaction and healthy competition in the classroom (Zhang et al., 2025).

The interview results also revealed that students perceived ZEP Quiz as a more enjoyable and less stressful assessment compared to conventional assessment. This finding supports the argument proposed by Shen (2024), who stated that traditional assessment is often considered monotonous and stressful, whereas gamification can create more meaningful learning experiences and improve students' quality of understanding. Therefore, ZEP Quiz functions not only as an assessment tool but also as a medium that supports students' engagement, motivation, and more positive learning experiences.

## CONCLUSIONS

Based on the findings of this study, it can be concluded that the use of ZEP Quiz as a gamified assessment contributes positively to students' reading comprehension in English language learning. The use of interactive features such as game-based quizzes, immediate feedback, hints, and point systems helps create a more engaging and meaningful assessment process for students. In addition, students also demonstrated positive perceptions toward the use of ZEP Quiz because the learning process was perceived as more interactive, enjoyable, and less stressful compared to conventional assessment. The findings of this study imply that teachers can integrate gamified assessment into classroom activities to enhance students' engagement and motivation, particularly in reading comprehension activities. Furthermore, curriculum developers may consider incorporating technology-based assessment to create more interactive and student-centered learning environments. However, this study has several limitations. The research was conducted only at one grade level with a limited number of participants and a relatively short duration of treatment. Therefore, future studies are recommended to involve larger sample sizes, longer treatment periods, and explore the implementation of gamified assessment at different educational levels and in other English language skills.

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