

Technology-Driven Motivation: Quizizz for Reading Comprehension in Vocational School

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Abstract: The lack of student motivation in understanding English reading texts at vocational schools remains a major challenge for effective learning. This issue is exacerbated by traditional teaching methods that provide limited active student participation. This study aims to analyze the effect of using Quizizz on students' reading comprehension motivation among eleventh graders at SMKN 2 Depok, Sleman, Yogyakarta. Employing a quantitative approach with an ex post facto design, the research involved 71 students who had used Quizizz in English reading activities. Data were collected through validated and reliable questionnaires, then analyzed using descriptive statistics, prerequisite tests (normality and linearity), simple regression, and a one-sample t-test. Results revealed an average score of 4.03 for Quizizz use and 3.99 for reading motivation. Normality ($p = 0.200$) and linearity tests ($p = 0.000$; $p = 0.602$) confirmed the data suitability. Regression analysis indicated that Quizizz significantly influenced student motivation ($p < 0.000$, $R^2 = 0.53$). One-sample t-tests further showed both variables scored higher than the moderate value ($t = 16.571$; $t = 14.012$; $p < 0.000$). These findings highlight that Quizizz effectively enhances motivation, fosters engagement, and creates an interactive and enjoyable learning experience, thereby supporting technology-based learning.

Keywords: Quizizz, learning motivation, reading comprehension, educational technology, vocational schools.

Motivasi Berbasis Teknologi: Quizizz untuk Pemahaman Membaca di Sekolah Kejuruan

Abstrak: Kurangnya motivasi siswa dalam memahami bacaan bahasa Inggris di sekolah kejuruan menjadi tantangan dalam pembelajaran yang efektif. Hal ini diperparah dengan metode tradisional yang kurang melibatkan partisipasi aktif siswa. Penelitian ini bertujuan menganalisis pengaruh aplikasi Quizizz terhadap motivasi belajar membaca pemahaman siswa kelas XI SMKN 2 Depok, Sleman, Yogyakarta. Menggunakan pendekatan kuantitatif dengan metode ex post facto, penelitian melibatkan 71 siswa yang telah menggunakan Quizizz. Data diperoleh melalui kuesioner yang telah diuji validitas dan reliabilitasnya, kemudian dianalisis dengan statistik deskriptif, uji prasyarat (normalitas dan linearitas), regresi sederhana, serta uji t satu sampel. Hasil menunjukkan skor rata-rata penggunaan Quizizz 4,03 dan motivasi membaca 3,99. Uji normalitas ($p = 0,200$) dan linearitas ($p = 0,000$; $p = 0,602$) menyatakan data layak dianalisis. Regresi sederhana menunjukkan penggunaan Quizizz berpengaruh signifikan terhadap motivasi siswa ($p < 0,000$, $R^2 = 0,53$). Uji t membuktikan skor keduanya lebih tinggi dari nilai moderat ($t = 16,571$; $t = 14,012$; $p < 0,000$). Temuan ini menegaskan Quizizz mampu meningkatkan motivasi, keterlibatan, serta menghadirkan pengalaman belajar interaktif dan menyenangkan sehingga mendukung pembelajaran berbasis teknologi.

Kata kunci: Quizizz, motivasi belajar, pemahaman membaca, teknologi pendidikan, sekolah kejuruan.

1. Introduction

Technological advancements have transformed education, with platforms like Quizizz playing a key role by integrating gaming elements with educational content to boost student motivation and engagement. In Indonesia's vocational high schools (SMKs), Quizizz has emerged as a promising tool to

enhance students' motivation in learning English, especially in reading comprehension. Research has shown that Quizizz fosters repeated learning and deeper comprehension of texts through interactive quizzes (Jaramillo-Mediavilla et al., 2024).

While Quizizz has proven successful in various educational settings, research on its

impact in Indonesian vocational schools remains limited. Vocational students, who often prioritize practical skills, tend to exhibit lower motivation for academic subjects like English, particularly in reading comprehension (Widodo, 2020; Akram et al., 2023). This study seeks to investigate how Quizizz can improve motivation and reading comprehension at SMKN 2 Depok Sleman, Yogyakarta. By offering personalized and engaging content, Quizizz has the potential to address common challenges in vocational education and contribute to the development of more interactive teaching strategies (Nurfaisah & Said, 2022; Nurhaya & Abduh, 2023). The findings could provide valuable insights into enhancing learning outcomes in vocational schools.

Learning motivation is a crucial concept in educational psychology, driving students to engage in and persist with academic tasks. Defined as the inner drive or external influence that propels individuals toward their learning goals, motivation is shaped by both intrinsic factors, like interest and curiosity, and extrinsic factors, such as rewards or recognition. Gagné (1985) highlights motivation as the internal states energizing behavior and directing attention toward academic success, while Hull's Drive Reduction Theory (1943) links motivation to the desire to alleviate discomfort. McClelland's Need for Achievement Theory (1961) emphasizes the role of success and recognition, whereas Atkinson's Expectancy-Value Theory (1964) ties motivation to task value and perceived success.

Lastly, Deci and Ryan's Self-Determination Theory (2000) stresses autonomy, competence, and relatedness as key components of motivation. Intrinsic motivation arises from personal satisfaction and interest, fostering deeper learning and persistence, as illustrated by Csikszentmihalyi's (1990) concept of "flow." On the other hand, extrinsic motivation, shaped by rewards or consequences, can engage students initially but may not sustain deep learning, as noted by Skinner's Reinforcement Theory (1953) and Vroom's Expectancy Theory (1964). Both forms of motivation interact, with extrinsic rewards potentially enhancing or undermining intrinsic motivation based on how they are applied (Deci & Ryan, 2000). Ultimately, understanding and balancing intrinsic and extrinsic motivation is vital for fostering sustained academic engagement and success.

In educational research, prior studies provide a critical foundation for understanding the potential impacts of interventions such as gamification and digital learning tools. Numerous

studies demonstrate that gamified platforms can enhance motivation and learning outcomes, particularly in reading comprehension and language learning. Research by Polakova & Klimova (2022) found that digital applications improve vocabulary retention and student engagement through immediate feedback, while Anane (2022) showed that gamified learning enhances student autonomy and performance.

At SMKN 2 Depok, many students demonstrated low engagement and motivation during English reading lessons prior to the integration of Quizizz. Teachers observed that students often appeared passive, disengaged, and reluctant to complete reading tasks. This lack of motivation was especially evident in their limited participation, low comprehension test scores, and minimal enthusiasm for reading activities. These challenges highlighted the need for innovative and interactive learning strategies that could re-engage students in the reading process. Shen et al. (2024) emphasized that gamification elements such as points and badges strengthen both intrinsic and extrinsic motivation, and Almelhes (2024) highlighted the importance of instructional design in sustaining motivation. Other studies, such as those by Eger et al. (2024) and Nur Hismarliza & Rasyid (2024), support Quizizz's role in improving reading comprehension through interactive features that encourage active participation. Research, including reviews by Zhang & Hasim (2023) and Zlotnik et al. (2023), underscores the importance of gamification attributes such as rewards and competition in fostering engagement and learning outcomes. Thus, the use of Quizizz in this study is supported by theoretical and empirical findings, demonstrating its potential to enhance student motivation and improve English reading comprehension.

Based on the issues observed at SMKN 2 Depok where students often exhibit low motivation in English reading comprehension, this study seeks to explore whether the integration of Quizizz can enhance student motivation. The research focuses on examining the relationship between the use of Quizizz and students' reading motivation, especially in a vocational school context where engagement with academic subjects is generally low. The purpose of this study is to determine the extent to which the Quizizz application influences students' motivation to engage in reading comprehension activities. The findings are expected to contribute valuable insights for educators and policymakers on the effectiveness of gamified digital tools in improving student

motivation, particularly in English language learning within vocational education environments.

2. Research Methods

This study employs a quantitative research approach with an ex post facto design to systematically examine the relationship between the use of the Quizizz application and students' motivation in reading comprehension. The ex post facto design is ideal for this context as it investigates the effects of Quizizz after its implementation, without manipulating any variables. The study focuses on eleventh-grade students at SMKN 2 Depok, Yogyakarta, aiming to determine whether a significant causal relationship exists between Quizizz usage and students' motivation to learn reading comprehension. This design is particularly suited for educational settings where manipulating classroom conditions is not feasible or ethical, offering a comprehensive understanding of the independent variable (Quizizz usage) and its impact on the dependent variable (students' motivation).

The research was conducted at SMKN 2 Depok, Sleman, Yogyakarta, a location chosen for its integration of technology-based learning tools, including Quizizz, in English classes. The study took place from October 3 to October 20, 2024, with data collection activities structured to align with the academic calendar, ensuring minimal disruption to students' learning while allowing thorough observation of their engagement with the application.

The population consisted of all 70 eleventh-grade students from the DPIB (Building Information and Modeling Design) Department at SMKN 2 Depok, divided equally into two classes. Given the manageable population size, a census approach was employed, including all students to minimize sampling bias and enhance the reliability of the findings. This comprehensive inclusion allows for a more accurate representation of how the Quizizz application affects students' motivation in reading comprehension.

The study identifies two main variables: the independent variable (X) is the use of the Quizizz application, while the dependent variable (Y) is students' motivation to learn reading comprehension. Clearly defining these variables is crucial for hypothesis testing and data analysis, enabling a better understanding of the causal dynamics within the educational context.

Data collection employed structured questionnaires to gather information on the use

of the Quizizz application and students' motivation in reading comprehension. The questionnaire included closed-ended and Likert-scale questions to quantify motivation levels, providing a standardized method for capturing data. The instrument was developed based on established theoretical frameworks, including Self-Determination Theory, Gamification Theory, and the Technology Acceptance Model, ensuring a comprehensive analysis of how the Quizizz application influences student engagement and motivation in learning.

3. Research & Discussion

This section presents descriptive statistics regarding students' use of the Quizizz app, derived from questionnaire responses, which offer insights into the frequency and effectiveness of its use in the learning process. Key statistical measures, including mean, standard deviation, and frequency distribution, summarize trends and variability in student engagement with the platform. The analysis reveals high mean scores for Engagement and Attention (mean = 4.0679) and Perceived Usefulness (mean = 4.1643), indicating that Quizizz effectively maintains student engagement and is viewed as a valuable learning tool. These findings align with previous research emphasizing the motivational advantages of gamified learning platforms (Jong & Tacoh, 2024).

Additionally, the mean score for External Reward Motivation (4.0286) suggests that gamified elements, such as points and rankings, significantly enhance student motivation, supporting the notion that external incentives positively influence engagement (Deci & Ryan, 2000). Furthermore, high mean scores for Ease of Use (4.0750) and Perceived Competence (4.0250) indicate that students find the platform user-friendly and feel confident in utilizing it, which is essential for promoting participation in educational technologies (Davis, 1989). This descriptive analysis lays the groundwork for understanding the relationship between Quizizz usage and students' motivation in reading comprehension, as explored in the subsequent section.

The use of the Quizizz application received a generally positive response from students, with no participants rating their experience as Very Low or Low. The majority (54.3%) categorized their experience as High, and 37.1% rated it as Very High, indicating significant engagement and motivation. A smaller portion (8.6%) rated their experience as Medium, ensuring that 100% of students had at least a moderate level of

motivation. Despite its strengths in fostering individual engagement, the slightly lower score for social interaction (mean: 4.0000) suggests limited facilitation of collaborative learning, likely due to the individualistic nature of reading tasks or the platform's design. Overall, the findings highlight Quizizz's effectiveness as a gamified learning tool, aligning with existing research on its ability to enhance motivation and create interactive learning environments. Future studies could explore ways to optimize its potential for promoting social collaboration.

Table 1. Descriptive Statistics of Use the Quizizz Application

No.	Aspects	Min	Max	Mean	Std. Deviation
1	Engagement Drive	3.00	5.00	3.8143	0.62654
2	External Reward Motivation	3.00	5.00	4.0286	0.60275
3	Perceived Competence	3.00	5.00	4.0250	0.60065
4	Engagement and Attention	3.00	5.00	4.0679	0.59879
5	Perceived Usefulness	3.00	5.00	4.1643	0.58341
6	Ease of Use	3.00	5.00	4.0750	0.59641
7	Social Interaction	3.00	5.00	4.0000	0.69505
Total	Use of the Quizizz Application	3.04	5.00	4.0259	0.51799

Source: Descriptive Test Results

Table 2. Frequency Distribution of Use the Quizizz Application

No.	Categorized	Frequency	Percent	Cumulative Percent
1	Very Low	0	0.0	0.0
2	Low	0	0.0	0.0
3	Medium	6	8.6	8.6
4	High	38	54.3	62.9
5	Very High	26	37.1	100.0

Source: Descriptive Test Results

The findings highlight that both intrinsic and extrinsic motivation significantly influence students' engagement in reading comprehension tasks, with Intrinsic Motivation (mean = 4.0171) slightly higher than Extrinsic Motivation (mean = 3.9486). Perceived Competence (mean = 3.9214) and Engagement (mean = 3.9357) indicate that students generally feel capable and focused, though variability suggests some may need additional support. High scores for Social Interaction (mean = 4.0143 and 4.0607) underscore the value of collaborative learning, while Ease of Use (mean = 4.0686) confirms the accessibility of tools and resources. Overall, 81.4% of students exhibit High or Very High motivation, demonstrating the effectiveness of current strategies in fostering engagement and improving outcomes.

The results indicate that all students exhibited at least a moderate level of motivation in reading comprehension tasks, with 81.4% rating their motivation as High or Very High.

Specifically, 18.6% reported a Medium level of motivation, 44.3% rated theirs as High, and 37.1% as Very High, highlighting strong overall engagement. The cumulative analysis shows 100% of students fell within these three motivation levels, suggesting the effectiveness of the instructional strategies employed. These findings underscore the importance of leveraging intrinsic and extrinsic motivators and fostering collaborative learning environments to enhance students' motivation and success in reading comprehension tasks.

Table 3. Descriptive Statistics of Motivation in Reading Comprehension

No.	Aspects	Min	Max	Mean	Std. Deviation
1	Intrinsic Motivation	2.80	5.00	4.0171	0.64762
2	Extrinsic Motivation	2.60	5.00	3.9486	0.67475
3	Perceived Competence	2.50	5.00	3.9214	0.71163
4	Engagement and Attention	3.00	5.00	3.9357	0.61780
5	Social Interaction	2.25	5.00	4.0143	0.63258
6	Ease of Use	2.20	5.00	4.0686	0.67664
7	Social Interaction	2.25	5.00	4.0607	0.67491
Total	Motivation in Reading Comprehension	2.61	5.00	3.9968	0.59519

Source: Descriptive Test Results

Table 4. Frequency Distribution of Motivation in Reading Comprehension

No.	Categorized	Frequency	Percent	Cumulative Percent
1	Very Low	0	0.0	0.0
2	Low	0	0.0	0.0
3	Medium	13	18.6	18.6
4	High	31	44.3	62.9
5	Very High	26	37.1	100.0

Source: Descriptive Test Results

The normality test was conducted using the Kolmogorov-Smirnov test to ensure the data met the normality assumption required for regression analysis. The results showed that the Kolmogorov-Smirnov coefficients for the Use of the Quizizz Application (0.091, $p = 0.200$) and Motivation in Reading Comprehension (0.061, $p = 0.200$) both had p -values greater than 0.05, indicating that the data for both variables followed a normal distribution. These findings confirm the appropriateness of the data for further parametric statistical tests, including regression analysis.

Table 5. Kolmogorov-Smirnov Test

No	Variable	Kolmogorov-Smirnov Coefficient	p-value
1	Use of the Quizizz Application	0.091	0.200
2	Motivation in Reading Comprehension	0.061	0.200

Source: Kolmogorov-Smirnov Test Results

The linearity test is essential in regression analysis to determine whether a linear relationship exists between the independent variable (use of the Quizizz application) and the dependent variable (motivation in reading comprehension). Using ANOVA for linearity, the test results show a p-value of 0.602, which is greater than the significance level of 0.05. This indicates no significant deviation from linearity, confirming that the relationship between the variables is linear and suitable for further analysis using linear regression.

Table 6. Linearity Test

Sumber	F _{value}	p-value
Deviation from Linearity	0.918	0.602

Source: Anova Test Results

The ANOVA test for Deviation from Linearity yields a p-value of 0.602, exceeding the significance level of 0.05. This indicates no significant deviation from linearity, confirming that the relationship between the use of the Quizizz application and motivation in reading comprehension is linear, making it appropriate for further analysis with linear regression.

Table 7. Kolmogorov-Smirnov Test

No	Variable	Kolmogorov-Smirnov Coefficient	p-value
1	Use of the Quizizz Application	0.091	0.200
2	Motivation in Reading Comprehension	0.061	0.200

Source: Kolmogorov-Smirnov Test Results

A One-Sample t-Test was performed to determine if the mean scores for the use of the Quizizz application and motivation in reading comprehension were significantly higher than the hypothetical moderate level (test value = 3). This analysis addresses the first hypothesis, assessing whether students' motivation and Quizizz usage exceed moderate levels.

Table 8. One Sample t Test Results

Variable	Mean	sd	SE	t	p
Use of the Quizizz Application	4.026	0.518	0.062	16.571	.000
Motivation in Reading Comprehension	3.997	0.595	0.071	14.012	.000

Source: One Sample t Test Results

The study reveals a strong and positive relationship ($R = 0.752$) between the use of the Quizizz application and students' motivation to learn reading comprehension, with 56.6% of the variance in motivation explained by Quizizz usage ($R^2 = 0.566$). The F-test ($F = 88.718$, $p = 0.000$) confirms the overall significance of the regression model, indicating that the Quizizz application significantly influences students' motivation. Additionally, the regression equation ($Y = 16.004 + 0.993X$) suggests that for every

one-unit increase in Quizizz usage, motivation increases by 0.993 units. The t-test results ($t = 9.419$, $p = 0.000$) further validate the significant impact of Quizizz on motivation. These findings demonstrate that the Quizizz application is an effective tool for enhancing students' engagement and motivation in reading comprehension tasks.

Table 9. Summary of Regression Test Results

Variable	β	t-value	p
Constant	16.004	1.386	.170
Use of Quizizz Application	0.993	9.419	.000
Correlation (R)	0.752		
Determination (R^2)	0.566		
F-value (p)	88.718 ($P < 0.0001$)		

Source: Regression Test Results

The results of this study provide substantial evidence that the Quizizz application significantly enhances students' motivation to learn reading comprehension in English. Previous research highlights that motivation plays a critical role in improving reading comprehension, which is often hindered by traditional, non-interactive teaching methods (Zhang, 2021). By integrating gamified features such as immediate feedback, competition, and rewards, Quizizz creates an engaging learning environment that fosters both intrinsic and extrinsic motivation (Ryan & Deci, 2020; Gómez & Rodríguez, 2022). The study's regression analysis shows a strong positive correlation ($R = 0.752$, $p < 0.000$), with 56.6% of the variance in motivation attributed to the application's features. These findings align with the Self-Determination Theory (SDT) by Deci and Ryan (2000), which emphasizes autonomy, competence, and relatedness as key factors in boosting motivation. Moreover, the interactive and adaptive nature of Quizizz supports personalized learning, catering to diverse student needs and promoting cognitive engagement (Lin & Wang, 2020). While the results are promising, future research should explore the long-term effects of gamification on reading comprehension skills and compare Quizizz with other teaching methods for a broader understanding of its impact.

4. Conclusion & Suggestion

Based on the research findings regarding the influence of the Quizizz application on the motivation to learn reading comprehension among Grade XI students of SMKN 2 Depok, the following conclusions can be drawn descriptive analysis indicates that the students' motivation for reading comprehension in English is categorized as moderate to high. This suggests

that most students are moderately engaged with reading English texts, driven by both intrinsic motivation (enjoyment of learning) and extrinsic motivation (rewards such as grades or recognition). However, there is still potential for improvement, particularly in fostering deeper and more consistent engagement in reading activities.

The results from the simple regression analysis demonstrate that the use of the Quizizz application has a positive and significant effect on students' motivation. The regression coefficient reveals that increased use of Quizizz correlates with an increase in students' motivation for reading comprehension. The gamified features of Quizizz, such as instant feedback, leaderboards, and rewards, effectively enhance student engagement.

Future research is encouraged to examine the long-term effects of gamified learning applications like Quizizz on students' reading comprehension performance, not only on motivation. Comparative studies involving other digital platforms or different language skills such as listening or writing, may also offer broader insights into the pedagogical value of gamification in English language teaching. Furthermore, researchers could explore the impact of Quizizz in various educational contexts, such as general high schools or rural schools, to assess its effectiveness across different student demographics and learning environments. This suggests that Quizizz not only creates a fun and interactive learning environment but also motivates students to actively engage in reading tasks and strive to improve their comprehension skills.

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