
Students' Views in Gamifying English Assessments for 11th Graders: Quizizz's Fun Twist at SMAN 3 Semarang

Dimitria Rahayu^{1)*}, M Rikza Chamami²⁾, Awwalia Fitrotin Izza³⁾

¹⁾ English Teaching Department, Education and Teaching Faculty, Islamic State of Walisongo Semarang University

²⁾ Management of Islamic Education Lecturer, Education and Teaching Faculty, Islamic State of Walisongo Semarang University

³⁾ English Teaching Department Lecturer, Education and Teaching Faculty, Islamic State of Walisongo Semarang University

*Corresponding Author

Email : dimitria.shadika@gmail.com
rikza@walisongo.ac.id
awwalia.f@walisongo.ac.id

Abstract

In the modern digital education landscape, traditional English language assessments, especially in the 11th grade, fail to engage students. This research aims to explore the perceptions of 11th-grade students at SMAN 3 Semarang regarding the gamification of English assessments through Quizizz, with a focus on its effectiveness in motivating students, alleviating anxiety, and improving learning outcomes. The research performed a qualitative investigation by conducting semi-structured interviews with six purposely selected students from the 11th grade who had experienced English assessments using Quizizz. Transcribed responses were analyzed thematically for patterns in learning, engagement, challenges, and preferences. The research discovered that through elements of gamification, such as instant feedback and points, Quizizz enhances the engagement of students by motivating them and making the assessments significantly more enjoyable than traditional tests. Quizizz also quickly reinforces vocabulary and grammar, though it can manifest some challenges, such as technical difficulties, anxiety over competition, and a limited ability to assess more advanced skills. The present educational game Quizizz serves as a motivated formative assessment tool, though a blended approach, integrating traditional assessments for summative evaluations, is necessary for equity and validity. The research underscores the need for pedagogical modifications to improve the use of gamification in English assessments.

Keywords: Students' view, Quizizz Gamification, Assessment Tool, Senior High School

INTRODUCTION

The rapid advancement of digital technology has fundamentally transformed the educational landscape, making information more accessible and fostering a shift towards new pedagogical methods. Today's students, the "digital generation," are highly connected and familiar with sophisticated devices. This familiarity has made the integration of mobile devices and digital applications a necessity in the classroom. This context has led educational institutions to increasingly utilize applications as dynamic learning mediums, eliminating the geographical and temporal obstacles that previously restricted access to learning (Owoseje Fiyinfoluwa, 2025).

In response to this evolution, gamification has emerged as a transformative approach to foster student engagement and improve learning outcomes, particularly in language subjects like English. By incorporating features of games into the evaluation process, educators can foster motivation, reduce anxiety, and promote active participation, thereby addressing the challenges of traditional testing methods that often fail to capture students' full potential. At its core, gamification is the process of applying elements and principles from game design into non-gaming contexts, such as educational activities, to solve problems, increase motivation, and boost engagement (Christopoulos & Mystakidis, 2023). Evidence from research shows that effectively structured gamified experiences can promote a variety of cognitive and emotional gains, like stronger problem-solving capabilities, better teamwork, and greater perseverance when dealing with obstacles (Serice, 2023).

Quizizz stands out as a widely adopted online learning platform suitable for beginners ranging from elementary school to college level, leveraging this gamification trend. Integrating interactive learning platforms like Quizizz can substantially boost student interest and academic success in higher education settings (Zulkhaeriyah et al., 2024). This shift eliminates the constant reliance on books and paper for instruction, relieving both students and educators from the challenges associated with traditional learning materials. Quizizz offers multiplayer features that foster more engaging and enjoyable classroom exercises, and its main features are timely access to content, the ability to track quiz completion, and an integrated study segment (Rokhaniyah et al., 2025). Unlike Wordwall, which focuses primarily on static visual aids, Quizizz emphasizes real-time interactivity and gamification (Misfa'atin et al., 2024). Furthermore, Razali et al. (2020) describe Quizizz as a web-based tool designed to create interactive quiz games, incorporating gamification elements like points, leaderboards, and themes to increase both intrinsic and extrinsic student motivation. Quizizz is designed as an interactive quiz platform primarily because it incorporates gamification elements that transform traditional assessments into dynamic, real-time experiences, allowing students to participate actively rather than passively receiving information. As Alfred Alfred Yong & Jürgen Rudolph (2022) describe, Quizizz is a student response system that uses gamification and allows teachers to create interactive quizzes with features like memes, themes, and leaderboards, making learning more engaging and fun for students. Additionally, Anggoro & Pratiwi (2023) note that Quizizz AI fosters self-assessment in English learning by providing generative AI-powered feedback, which enhances student engagement and motivation through personalized, interactive experiences.

Assessment plays a pivotal role in the educational landscape, serving as a cornerstone for evaluating student progress, informing instructional strategies, and fostering continuous improvement. In the context of English language learning for 11th graders, assessments are essential for measuring linguistic competencies such as vocabulary acquisition, grammatical accuracy, and communicative proficiency. Assessments are largely categorized as either formative or summative (Hanus & Fox, 2015). In the realm of English education, alternative assessments such as gamified tools—exemplified by platforms like Quizizz—offer interactive, engaging alternatives to conventional methods, potentially increasing student participation and reducing test anxiety. Gamification demonstrates the potential to enhance student engagement and motivation in learning activities, particularly in assessment contexts, by making them more interactive and enjoyable (Zainuddin et al., 2020). Quizizz facilitates formative assessment by allowing teachers to monitor student progress in real-time through interactive quizzes, providing immediate feedback (Moreira & Lara Freire, 2024). The results can be used to assess learning follow-up (Handayani et al., 2024). Moreover, Pitoyo et al. (2020) highlight that the gamification-based assessment in Quizizz creates a positive washback effect on students' learning in higher education, encouraging active participation and retention. Several studies have confirmed the effectiveness of Quizizz in enhancing student engagement, motivation, and academic outcomes. Munawir & Hasbi (2021) found that the use of Quizizz positively affects EFL students' engagement and learning outcomes by providing an interactive and gamified environment. Masterjon et al. (2024) indicated that the Quizizz effectively met the criteria for engaging and effective multimedia learning, and Heriyanto et al. (2024) observed that using Quizizz is highly effective in improving learners' motivation and engagement in learning.

While most previous research on Quizizz has centered on its effectiveness as a tool for game-based learning, the number of investigations specifically examining Quizizz as a gamified assessment instrument remains limited. This gap is notable, as assessments play a critical role in evaluating student progress and informing instructional strategies in competitive environments like SMAN 3 Semarang, especially in 11th grade. This study addresses this limitation by focusing on the implementation of Quizizz as a gamified assessment tool for English evaluations among 11th graders. Consequently, this research aims to uncover students' perspectives on using Quizizz for English assessments, exploring how its "fun twist" influences engagement, learning

effectiveness, and overall perceptions in an EFL classroom. By delving into these subjective views, the study contributes to understanding the practical implications of gamification in high school English education.

RESEARCH METHODS

The methodological foundation of this study is rooted in a qualitative research design focused on exploring the subjective experiences of 11th-grade students at SMAN 3 Semarang. The initial phase involved extensive literature review, ethical clearance, and the development of a semi-structured interview guide. The semi-structured interview is a qualitative research technique that merges a core list of open-ended questions with the flexibility for the interviewer to pursue emerging themes or interesting responses in greater detail (Kallio et al., 2016). This instrument was pilot-tested to ensure clarity in eliciting responses regarding the fun, engagement, and learning efficacy of using Quizizz for English assessments.

Data were collected through interviews with a manageable group of six participants selected via purposive sampling. The selection criteria required participants to be 11th-graders at SMAN 3 Semarang during the 2025/2026 academic year, have prior experience with Quizizz in English assessments, participate voluntarily, and be able to communicate clearly in English or Bahasa Indonesia. This sample size was deemed optimal for gathering rich, in-depth narratives while maintaining thematic consistency across interviews. All sessions were audio-recorded and meticulously transcribed to create a robust dataset, allowing the researcher to pursue emergent topics unique to each participant within a standardized framework.

The verbatim transcripts were analyzed using Thematic Analysis in **Figure 1** to identify and report patterns that capture the students' core experiences. This followed a rigorous six-step process: data familiarization, generating initial codes, clustering codes into potential themes, reviewing themes against the dataset, defining and naming themes, and finally producing an analytical narrative. This systematic method ensured that the findings remained authentically grounded in the students' voices, providing detailed insights into their perceptions of the effectiveness and enjoyment of utilizing Quizizz's "fun twist" for their English evaluations.

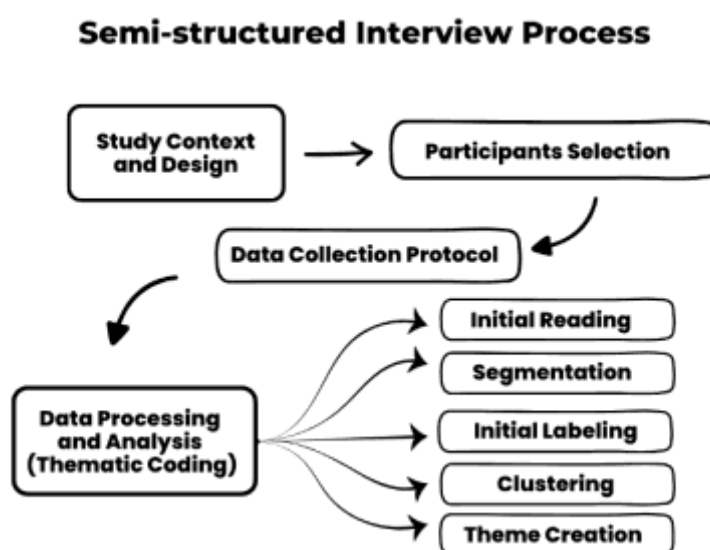


Figure 1

RESULTS AND DISCUSSION

This section details the key findings derived from semi-structured interviews conducted with six eleventh-grade students at SMAN 3 Semarang who participated in Quizizz-based English assessments. The interview data underwent transcription and was subsequently subjected to thematic analysis, utilizing an inductive coding approach that centered on the six core research questions. Responses were grouped into recurring themes such as engagement, learning benefits, competitive dynamics, challenges, preferences, and overall opinions. Participant anonymity was maintained, with responses paraphrased or quoted directly where illustrative. Overall, students expressed a mix of enthusiasm for the gamified format and concerns about its limitations, particularly in high-stakes assessment contexts. The analysis is based on the actual interview results, which include transcribed responses from the 6 participants.

1. Enhanced Engagement and Motivation (The "Fun Twist")

A significant majority of participants (five out of six) reported remarkably higher engagement and motivation with Quizizz in contrast with conventional paper-and-pencil assessments. The gamification elements are the primary driver of this shift, reframing the assessment from a tedious necessity to an appealing challenge.

"Quizizz is far more engaging. A paper test is boring; you just stare at the bubbles. With Quizizz, the music, the countdown, and the points make me want to start right away. It feels less like a mandatory test and more like a challenge. My motivation goes up because I don't want to just finish; I want to win or at least get a high score." (Participant 1)

"My engagement is through the roof! It's like a mini e-sport for studying. The gamification directly links my performance to an achievement (the high rank), which is a stronger motivator..." (Participant 3)

"It's not just more engaging; it respects the way we consume information on screens, and the time efficiency and the instant gratification of seeing the points are the main drivers of my engagement." (Participant 4)

"It is more engaging than paper, sure, but my motivation is actually lower. I get too stressed by the time limit and the rush." (Participant 2)

It can be inferred that gamification serves as a powerful psychological mechanism for boosting extrinsic motivation and engagement in English assessments, with the vast majority of students viewing the platform as a successful "fun twist" (Participant 1, 3, 4). This positive reception, driven by the immediate gratification of points and the excitement of competition, aligns with research confirming that digital game-based learning tools enhance student interest and motivation in EFL contexts (Fahada & Asrul, 2024; Hayati et al., 2025). However, the experience of Participant 2 is a crucial caveat, revealing that the high-speed, competitive nature of Quizizz can introduce an affective filter (anxiety) that may counteract the motivational benefits for certain individuals, thereby compromising the universal effectiveness of the gamified approach (Zhang & Crawford, 2024). Therefore, while Quizizz effectively increases engagement for the majority, its default competitive settings require pedagogical discretion to prevent performance-impairing stress.

2. Learning Effectiveness and Feedback Utility

The students primarily valued Quizizz for its immediate feedback and its ability to facilitate quick knowledge retrieval, while noting that the format had limitations for deep conceptual learning. The most cited benefit across multiple participants was the instant provision of the correct answer, which served as an effective correction and reinforcement mechanism.

"The immediate feedback is the biggest help. When I get a question wrong, I see the correct answer right away, and that fact sticks in my memory better than waiting a week to get a paper back." (Participant 1)

"I don't have to guess for long about why my answer was wrong. This immediate closure is a much more effective way to prevent the wrong idea from solidifying in my mind than waiting for manual grading." (Participant 6)

"The short, focused format also helps me recall vocabulary and grammar rules faster... It's great for instant recall practice." (Participant 3)

Two participants noted that the platform itself does not necessarily drive deep understanding:

"The game format doesn't help me learn deeply... The review session after the game where the teacher goes over the hardest questions. That is where the real learning happens, not during the assessment itself." (Participant 2)

Participant 1 noted the format's simplicity was useful for "vocabulary and grammar rules", implying a limitation for more complex tasks.

It strongly establishes Quizizz's effectiveness as a formative assessment tool, which students largely attribute to its feature of immediate feedback. As participants noted, this timely correction prevents the "wrong idea from solidifying" (Participant 6) and significantly aids memory retention (Participant 1), a mechanism that is highly efficient for diagnostic checks and reinforcing discrete language elements such as vocabulary (Trisna et al., 2024). This aligns with literature suggesting that gamified tools provide an effective platform for self-assessment and rapid reinforcement (Maraza-Quispe, 2024). However, the students' own perspective reveals a critical distinction: while the tool is excellent for knowledge retrieval, they perceptively noted that the deeper conceptual learning and analysis still rely on the teacher-led review session (Participant 2), suggesting that Quizizz functions best as a supplementary evaluation tool rather than a primary mechanism for driving complex understanding.

3. Competition, Pressure, and Focus

The competitive aspect of Quizizz, primarily driven by the visible leaderboard and speed-based scoring, elicited the most polarized responses among the students. For some, it was a source of intense focus; for others, a major distraction.

Three participants found the competition beneficial, viewing the pressure as a positive force:

"The leaderboard is stressful, but it's a good kind of stress—it's exciting. It makes me focus intensely for those few minutes... the competition pushes me to try harder." (Participant 3)

"The competition pushes me to try harder. It is only distracting if I'm already struggling with the material; otherwise, it makes me focus intensely." (Participant 1)

"It makes me focus to try and beat my friends, but it's not mean. It's a healthy competitive spirit that makes the whole class energized." (Participant 5)

One participant reported a significant negative effect on their focus and emotional state:

"I view the competitive aspect simply as a way to motivate speed. I don't get too stressed, but I am conscious that speed is part of the grading, which makes me focus hard. I find it neither helpful nor overly distracting—it's just a condition of the assessment." (Participant 6)

The analysis confirms that the competitive dynamics of Quizizz, primarily the leaderboard and bonus points for speed, act as a double-edged sword with significant washback effects on the students' affective domain. The feature functions as a powerful extrinsic motivator for competitive students (Participant 3), successfully driving focus and effort, consistent with findings that gamified tools enhance the learning experience in the ESL classroom (Callista Anak Yunus & Kim Hua, 2021). However, the highly salient and real-time nature of the competition introduces a significant affective filter for stress-sensitive students, leading to distractions, anxiety, and a higher propensity for "careless errors" (Participant 2). This critical divide suggests that for a vulnerable group, the competitive pressure compromises the validity and fairness of the English assessment by measuring an individual's stress tolerance rather than their true mastery of the material. Therefore, while beneficial for engagement, the competitive feature necessitates teacher discretion (e.g., turning off the leaderboard or timer) to ensure equitable assessment.

4. Challenges and Preference for Assessment Format

Students identified two major categories of difficulties: technical instabilities that compromise fairness, and, more critically, the format limitations that threaten the validity of the assessment for high-level English content.

Technical problems were seen as an extraneous variable that unfairly penalized students:

"Sometimes, the challenge is purely technical. If the school Wi-Fi lags, or my phone freezes, I lose valuable time and points, and that feels unfair." (Participant 1)

The primary drawback was the simple multiple-choice/short-answer format's inability to assess higher-order thinking:

"My key difficulty is that hortatory exposition texts require analyzing arguments and identifying persuasive language. If Quizizz only asks 'What is the thesis?' it misses the whole point. The platform can't measure the quality of my reasoning." (Participant 6)

"The biggest issue is that the format limits the types of questions that can be asked... The simple MCQ format can't fully capture deep comprehension." (Participant 4)

"The pressure for speed also means you don't read the question or the text carefully, which is a major drawback for English reading comprehension texts." (Participant 2)

The challenges identified by students fall into two critical areas: reliability (technical issues) and construct validity (format limitations). The technical problems, such as Wi-Fi lag (Participant 1), introduce an extraneous variable that unfairly penalizes students based on factors unrelated to their knowledge, thereby compromising the reliability of the score. More significantly, students perceptively identified that the format is "too simple" (Participant 4) to assess complex English skills. This confirms existing research on formative assessment tools, which are noted for efficiency but often struggle to capture higher-order thinking. The inability of Quizizz to measure skills like evaluating arguments in "hortatory exposition texts" (Participant

6) means that the tool lacks construct validity for complex, summative evaluations, a challenge frequently acknowledged in studies on gamified EFL assessments (Bindiya & Fediyanto, 2023; Maruanaya et al., 2024). In essence, while the platform is excellent for quick, objective knowledge checks, students recognize that limiting assessment to this format does not accurately measure the breadth and depth of the 11th-grade English curriculum, especially where complex reasoning is required.

CONCLUSION

The result of the study concludes that the implementation of Quizizz as a gamified assessment tool at SMAN 3 Semarang is a double-edged sword, providing significant motivational and diagnostic benefits while simultaneously introducing crucial validity and fairness challenges that necessitate a hybrid pedagogical approach. Quizizz successfully leverages gamification to reframe assessment as a desired challenge, dramatically increasing student engagement and providing efficient immediate feedback, which makes it an excellent formative tool for rapid knowledge checks. However, the tool's competitive elements (such as the leaderboard and speed) compromise the assessment's fairness by causing performance anxiety for some students, and its simple multiple-choice format lacks the construct validity needed to measure essential higher-order cognitive skills in the 11th-grade English curriculum. Consequently, the optimal strategy, as suggested by the students, is a hybrid model: use Quizizz for frequent, low-stakes checks and a minimal portion of the final grade, while reserving traditional, rigorous methods for summative evaluations, often with the timer and leaderboard turned off to mitigate stress and ensure equitable measurement of deep knowledge.

REFERENCES

- Alfred Yong, & Jürgen Rudolph. (2022). A review of Quizizz – a gamified student response system. *Journal of Applied Learning & Teaching*, 5(1). <https://doi.org/10.37074/jalt.2022.5.1.18>
- Anggoro, K. J., & Pratiwi, D. I. (2023). Fostering Self-Assessment in English Learning with a Generative AI Platform: A Case of Quizizz AI. *Studies in Self-Access Learning Journal*, 14(4), 489–501. <https://doi.org/10.37237/140406>
- Bindiya, A., & Fediyanto, N. (2023). EFL students' perceptions towards Quizizz usage in English subject formative assessment. *Journal of Research on English and Language Learning (J-REaLL)*, 4(2), 167–182. <https://doi.org/10.33474/j-reall.v4i2.20309>
- Callista Anak Yunus, C., & Kim Hua, T. (2021). Exploring a Gamified Learning Tool in the ESL Classroom: The Case of Quizizz. *Journal of Education and E-Learning Research*, 8(1), 103–108. <https://doi.org/10.20448/journal.509.2021.81.103.108>
- Christopoulos, A., & Mystakidis, S. (2023). Gamification in Education. *Encyclopedia*, 3(4), 1223–1243. <https://doi.org/10.3390/encyclopedia3040089>
- Fahada, N., & Asrul, N. (2024). Students Perception of Gamified Learning in EFL Class : Online Quizizz for Engagement and Motivation. *Journal Of Education And Teaching Learning (JETL)*, 6(2), 13–22. <https://doi.org/10.51178/jetl.v6i2.1828>
- Handayani, F., Intes, A., Wibowo, G. A., Cahyono, D., & Mardikawati, B. (2024). Quizizz! As A Tool For Innovative Educational Gamification In Higher Education. *Journal Neosantara Hybrid Learning*, 2(1), 358–378. <https://doi.org/10.55849/jnhl.v2i1.922>
- Hanus, M. D., & Fox, J. (2015). Assessing the effects of gamification in the classroom: A longitudinal study on intrinsic motivation, social comparison, satisfaction, effort, and academic performance. *Computers & Education*, 80, 152–161. <https://doi.org/10.1016/j.compedu.2014.08.019>

- Hayati, S. N., Achmad, D., & Djalal, Y. (2025). Enhancing Grade VIII Students' Motivation and Interest in Learning Procedure Text Using Quizizz at SMPN 8 Banda Aceh. *English Education Journal*, 16(2), 88–97. <https://doi.org/10.24815/eej.v16i2.45061>
- Heriyanto, H., Cahyadi, A., & Suroso, J. S. (2024). The Effectiveness of Using Quizizz in Improving Learners' Motivation and Engagement in Learning. *Sebatik*, 28(2). <https://doi.org/10.46984/sebatik.v28i2.2526>
- Kallio, H., Pietilä, A., Johnson, M., & Kangasniemi, M. (2016). Systematic methodological review: developing a framework for a qualitative semi-structured interview guide. *Journal of Advanced Nursing*, 72(12), 2954–2965. <https://doi.org/10.1111/jan.13031>
- Maraza-Quispe, B. (2024). Impact of the Use of Gamified Online Tools: A Study with Kahoot and Quizizz in the Educational Context. *International Journal of Information and Education Technology*, 14(1), 132–140. <https://doi.org/10.18178/ijiet.2024.14.1.2033>
- Maruanaya, J., Maruanaya, H., & Lekawael, R. (2024). TEACHERS' PERCEPTION OF USING QUIZIZZ AS A FORMATIVE ASSESSMENT TOOL AT SMA NEGERI 2 AMBON. *Pattimura Excellence Journal of Language and Culture*, 4(2), 87–96. <https://doi.org/10.30598/PEJLaC.v4.i2.pp87-96>
- Masterjon, Suwarni, Hermawansayah, Dwi Rulismi, Supama, Azharuddin Sahil, & Zulkarnain Dali. (2024). Effectiveness of the Use of Quizizz Media on Students' Learning Interest. *Futurity Education*, 245–262. <https://doi.org/10.57125/FED.2024.06.25.13>
- Misfa'atin, M., Daristin, P. E., & Maisaroh, U. (2024). Comparing the Functionalities of Quizizz and Wordwall for Interactive Learning. *Bilingua*, 2(1), 22–30. <https://doi.org/10.33752/bilingua.v2i1.8942>
- Moreira, H., & Lara Freire, M. L. (2024). Promoting Formative Assessment with Quizizz: A Classroom Action Research Study. *Ciencia Latina Revista Científica Multidisciplinar*, 8(2), 590–604. https://doi.org/10.37811/cl_rcm.v8i2.10511
- Munawir, A., & Hasbi, N. P. (2021). THE EFFECT OF USING QUIZIZZ TO EFL STUDENTS' ENGAGEMENT AND LEARNING OUTCOME. *English Review: Journal of English Education*, 10(1), 297–308. <https://doi.org/10.25134/erjee.v10i1.5412>
- Owoseje Fiyinfoluwa. (2025). Impact of Technology on Education, Analysis, Implications, and Solutions. *International Journal of Applied Research in Social Sciences*, 7(4), 321–331. <https://doi.org/10.51594/ijarss.v7i4.1898>
- Pitoyo, M. D., Sumardi, S., & Asib, A. (2020). Gamification-Based Assessment: The Washback Effect of Quizizz on Students' Learning in Higher Education. *International Journal of Language Education*, 1–10. <https://doi.org/10.26858/ijole.v4i2.8188>
- Razali, N., Nasir, N. A., Ismail, M. E., Sari, N. M., & Salleh, K. M. (2020). Gamification Elements in Quizizz Applications: Evaluating the Impact on Intrinsic and Extrinsic Student's Motivation. *IOP Conference Series: Materials Science and Engineering*, 917(1), 012024. <https://doi.org/10.1088/1757-899X/917/1/012024>
- Rokhaniyah, H., Ardiyanti, D., & Hidayat, N. (2025). Quizizz-online gamification on learning engagement and outcomes in English lecturing process. *International Journal of Evaluation and Research in Education (IJERE)*, 14(2), 1408. <https://doi.org/10.11591/ijere.v14i2.29992>
- Serice, L. (2023). Prisms of Neuroscience: Frameworks for Thinking About Educational Gamification. *AI, Computer Science and Robotics Technology*, 2. <https://doi.org/10.5772/acrt.13>
- Trisna, Angelina, S. E., Rosmawati, E., Agustian, L., Aini, N., & Asyraf, M. (2024). Use of Quizizz for Learning Evaluation Class IV Primary School. *ICEETE Conference Series*, 2(1), 340–345. <https://doi.org/10.36728/iceete.v2i1.210>
- Zainuddin, Z., Shujahat, M., Haruna, H., & Chu, S. K. W. (2020). The role of gamified e-quizzes on student learning and engagement: An interactive gamification solution for a formative assessment system. *Computers & Education*, 145, 103729. <https://doi.org/10.1016/j.compedu.2019.103729>
- Zhang, Z., & Crawford, J. (2024). EFL learners' motivation in a gamified formative assessment: The case of Quizizz. *Education and Information Technologies*, 29(5), 6217–6239. <https://doi.org/10.1007/s10639-023-12034-7>

Zul Khaeriyah, Pujiati, T., ZA, D. R., Ningsih, S., Imam Romadlani, M. M., & Nurafrianto Widiartono Putra, S. (2024). Evaluating the Impact of Interactive Learning Platforms on Student Engagement and Performance: A Case Study of Quizizz in Higher Education. *2024 3rd International Conference on Creative Communication and Innovative Technology (ICCIT)*, 1–6. <https://doi.org/10.1109/ICCIT62134.2024.10701141>