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Analysing the Negative Impact of Game-Based Online Quizzes Toward Students' Learning Motivation in Digital Era

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ABSTRACT

Technology-enhanced learning has accelerated the adoption of game-based online quizzes in higher education, yet evidence on their psychological side effects remains limited. This qualitative study investigated the motivational mechanisms and unintended psychological impacts of Quizizz among university students. Employing a phenomenological approach, this research conducted semi-structured interviews with 20 respondents selected from four different study programs across academic years 2021-2023. The findings revealed a dominant impression among students that Quizizz is an enjoyable evaluation platform for learning, effectively strengthen teaching material, serves as a flexible learning medium, and provides immediate feedback during evaluations. However, the data also surfaced a pattern of risks: premature satisfaction that attenuates deeper processing, leads to inefficient teaching time due to internet connectivity issues, encourages guessing answers rather than understanding questions, decreases narrative and written communication skills if overused in evaluations, opens opportunities for digital cheating, and potentially demotivates students due to psychological factors such as feelings of embarrassment from publicized failures. This could result in self-labelling with internalized failure. This study explained a typology of psychological and pedagogical risks with design guidelines to mitigate them such as minimizing publicity ranking, coupling Quizizz with written tasks, and ensuring the feedback from teachers. These findings inform instructors to seek harness engagement benefits without compromising deeper learning or student well-being.

Keywords: ***Game-Based Online Quizzes, Learning Motivation, Negative Impact, Quizizz, Digital Era***

INTRODUCTION

Education today is undergoing significant transformation, particularly in teaching methods that increasingly integrate technology. The use of technology-based teaching media, such as online quizzes, has become a trend, especially among students at various educational levels from

elementary to higher education. A report by the Central Statistics Agency of Indonesia (BPS) shows a dramatic increase in internet access among students, with the proportion of users reaching 95.3% at the higher education level (Jayani, 2020). This indicates a shift from traditional teaching methods to a more dynamic hybrid approach.

This highlights the importance of selecting appropriate teaching methods due to the ever-changing dynamics of education. Along with these changes, technology plays a significant role in creating innovative learning approaches in today's digital era (Marshall et al., 2022). One of the most popular innovations is the use of game-based online quizzes in classroom teaching.

Online game-based quizzes like Kahoot! and Quizizz have proven to be effective in increasing student engagement and motivation. Research has shown that this method not only made the learning process more engaging but also enhanced evaluation and classroom management (Rahmah et al., 2019; D. Sari et al., 2022; Smith Sockbeson, 2022). However, there is still a lack of research exploring its negative impacts, particularly concerning students' motivation when using quizzes in a live quiz format. Previous findings have explicitly highlighted that Kahoot! and Quizizz can boost learners' interest in class due to their visually appealing features, the challenging competitive atmosphere, and the more progressive involvement of learners (Antonio España-Delgado, 2023; Cameron & Bizo, 2019; Pitoyo, 2019; Yong & Rudolph, 2022). Nevertheless, what is often overlooked is that education is not a competition.

Since its inception, Indonesia has adhered neo-liberal education system, which has grown extremely over time. This is marked by a ranking system that forces students to compete against each other (Brown et al., 2024; Muhajir, 2020). In relation to platforms like Kahoot! and Quizizz, this gamification approach can have potential detrimental effects, especially when viewed from the psychological perspective of students who get the lowest score. Their scores are often displayed in front of the class and witnessed by all participants. In other words, the students are potentially being humiliated in front of their classmates. This could lead students with lower motivation to lose even more confidence in a particular subject, as they receive negative affirmation in the form of feeling ostracized and perceived as less capable based on the game-based quiz results displayed in front of the class at that moment (Melissa et al., 2022). This concern is not an overstatement, considering the varying mental conditions of students.

Preliminary observations in this study indicated that such game-based quizzes have indeed shown positive outcomes in terms of increasing students' enthusiasm and facilitating researchers in analyzing and providing feedback on the quiz results. High-ranking scores often motivate students further. However, some students in the lower-ranking categories displayed different emotions and expressions, indicating they did not enjoy the game as much.

On the other, game-based quizzes indicated different outcomes. While the competitive elements can fuel intrinsic motivation, the public display of results can inadvertently lead to demotivation and disengagement for some learners (MY et al., 2024). This phenomenon raises critical questions about the psychological implications of gamified learning environments, particularly concerning self-esteem and sustained engagement among diverse students' populations (Covrig et al., 2023). Specifically, the emphasis on competition, often manifested through leaderboards and score displays, may create an environment where lower-performing students experience increased stress and demotivation, potentially hindering collaborative learning and fostering a defensive attitude (Cascella et al., 2023; Dečman et al., 2022). Moreover, while these platforms are lauded for their ability to provide instant feedback and foster a dynamic learning atmosphere, the long-term pedagogical effects of gamification, especially in terms of significant learning, remain a subject of ongoing debate and require further investigation (Carrillo et al., 2019; Vázquez-Cano et al., 2023).

This study aims to delve deeper into the psychological impacts of using online game-based quizzes on students' learning motivation at Institut Parahikma Indonesia. By focusing on the negative aspects of this method, the study seeks to provide a more comprehensive understanding and useful recommendations for the development of online game-based education.

This study aims to:

1. Investigate students' experiences in using game-based online quizzes in the context of learning in the digital era.
2. Analyze the negative impacts of using game-based online quizzes in the context of learning in the digital era.

Fundamentally, the initial study of this research is based on motivational and psychological education theories. From behaviorist perspective, Quizizz works as a positive reinforcement tool based on immediate feedback, points, and leaderboards as external stimuli that shape learning behavior (Skinner, 1958). However, it has risk for superficial learning where students may focus on "winning" rather than understanding (Deci & Ryan, 1985). Moreover, it could gain social comparison stress, especially when performance is publicly displayed. Even though Quizizz has vibrant interface, timers, and music that can help to maintain attention (Csikszentmihalyi, 1988; Sweller, 1988), they can also become distractors. Quizizz could increase individual value if they win the competition; however, it could emphasize students' inability in the same time if they lose in the competition (Wigfield, 1994). Overall, the psychological and motivational impact of Quizizz is dual-sided. The tool excels at energizing learners and providing instant feedback, but it also risks promoting performance over comprehension. Its success as an assessment instrument depends

not on its design alone but also on pedagogical orchestration, ensuring that digital engagement transforms into cognitive growth.

Over the past five years, numerous studies have highlighted the advantages of online game-based quizzes, particularly Quizizz and Kahoot!. (Martín-Sómer et al., 2021) described the success of these quizzes in addressing the issue of declining student interest in learning during the transition from face-to-face to online learning during the COVID-19 pandemic. Indeed, these platforms have been widely adopted and suited for their potential to enhance engagement and motivation in various educational contexts (Maraza-Quispe et al., 2024; Zainuddin, 2023). For instance, research indicates that Quizizz fosters active engagement and provides immediate feedback, thereby enhancing students' learning experiences through timely guidance and reinforcement of learning objectives (MY et al., 2024). In line with this, (Mohamad et al., 2020) provided further explanations about the increased levels of student participation when using Kahoot! or Quizizz.

However, while some studies laud the competitive aspects of gamified platforms using Quizizz for stimulating intrinsic motivation and drive (MY et al., 2024), other research suggest that such competitive elements, particularly those involving public score displays, can negatively impact student motivation, satisfaction, and academic performance, especially for those who consistently perform lower (Covrig et al., 2023).

This disparity in research findings underscores the complec interplay between gamification, motivation, and learning outcomes, highlighting a significant gap in understanding the nuanced psychological effects of competitive online quizzes on diverse student populations. Consequently, understanding the differential impacts of gamification, particularly regarding competitive features and public performance displays, becomes imperative for developing inclusive and effective pedagogical strategies (Liang, 2024). Certain aspects of Quizizz, for instance, have been reported to make students feel distracted, pressured, and less confident (Melissa et al., 2022). Additionally, several previous studies have focused on technical and accessibility issues when discussing the negative impacts of online game-based quizzes, such as internet connectivity problems, physical devices required for quiz implementation, and the technological literacy of both educators and students (Rajabpour, 2021). However, a notable gap exists in the literature regarding the deeper psychological ramifications of these platforms, particularly concerning students' emotional well-being and sustained intrinsic motivation beyond immediate engagement (Abdul Rahim & Chuah, 2024; Yates et al., 2021). Therefore, a comprehensive investigation into the psychological impacts of competitive game-based learning environments on various student demographics is crucial to inform the design of more equitable and pedagogically sound digital learning tools. This study will

explore the psychological impact, specifically on the learning motivation of students who score the lowest in these online game-based quizzes.

RESEARCH METHOD

This research employed a qualitative approach with a phenomenological study design. Fundamentally, this approach focuses on individuals' experiences and perspectives in addressing a phenomenon (Wright, 2019). The study explores aspects of student motivation in classroom learning after using Kahoot! or Quizizz. The process began with assumptions, a general perspective, the use of theoretical frameworks, and observations of social or human issues (Creswell & Creswell, 2018).

The study involved 20 respondents, consisting of 5 students from four different study programs: English Education, Islamic Education Management, Islamic Education, and Islamic Economics, across three academic years (2021, 2022, 2023). The selection of four study programs from three academic years aimed to gather richer data, perspectives, and arguments that could either reinforce or challenge the initial observations.

The research object focused on exploring the perspectives of students who frequently ranked low on Quizizz or Kahoot! leaderboards concerning their learning motivation in the classroom. Data were collected from respondents' experiences through semi-structured interviews, which were recorded and documented.

The research was carried out in several steps. The first step was formulating research questions that aligned with the purpose of the phenomenological study. These questions centered on students' experiences regarding the impact of using online game-based quizzes on their learning motivation (open-ended). The next stage involved selecting participants, specifically those who often received unsatisfactory results while participating in such online game-based quizzes. Data collection was then conducted through semi-structured interviews to explore participants' experiences in detail and understand the meanings associated with them while ensuring flexibility and comfort for the respondents.

After completing the interviews, the results were transcribed completely and accurately. In phenomenological analysis, the researcher repeatedly reads and analyzes the transcribed texts, seeking themes, patterns, and meanings that emerge from the participants' experiences. The analysis was conducted inductively, where new findings and meanings were developed from the data itself. Following this, the researcher aimed to understand the phenomenon from the participants' perspectives and describe it deeply and coherently through the interpretation phase. This phase involved personal reflection and dialogue with the data.

The final step was compiling the research report to accurately reflect the participants' experiences, clearly and coherently describe the findings, and offer meaningful interpretations by considering the theoretical and practical implications of the results.

The interview data were transcribed using artificial intelligence assistance (*auris.io*) to save time and enhance efficiency during the transcription process. Subsequently, the transcribed data were processed using qualitative data analysis software, NVivo, to facilitate the coding process and data visualization.

RESULTS AND DISCUSSION

Students' Perspective Investigation in Using Game-Based Online Quizzes

Based on interviews with 20 respondents, students' experiences using Quizizz were broadly classified into 10 (ten) discussion points using Nvivo. To make it easier to understand, the findings of students' experiences, based on the decoded data, are visualized in the following graph.



Figure 1. *Students' perspective visualization about the usage of game-based online quizzes*

a. Flexible Plarform

In the context of this study, the respondents stated that instructors often give quizzes that can be completed not only directly in the classroom but also from home or other locations, as long as they can access Quizizz. This platform allows students to access quizzes from various devices, such as laptops or smartphones, making it easier to access anytime and anywhere (Abdullah et al., 2019; Prasetya Wibawa et al., 2019).

"Quizizz ini bisa dipakai tidak hanya di kelas, Bisa juga di rumah. Karena seperti pengalaman kemarin Sir."

"Dan bisa juga dilakukan dengan fleksibel waktu dan tempatnya Sehingga seorang siswa mudah untuk melakukan pembelajaran"

This provides flexibility for students, where quizzes are not only required to be completed directly in class (synchronous), but also can be done according to a time and place that is comfortable for them (asynchronous) (Smith Sockbeson, 2024). Instructors can also set deadlines or offer additional flexibility (Huei et al., 2021), allowing quizzes to be better adjusted to students' situations.

b. Strengthen learning material

In this study, respondents explained that the use of Quizizz can serve as a tool to reinforce the teaching material after the instructor has delivered the lessons. The repetition and game features in Quizizz allow students to access questions repeatedly, which can strengthen their understanding of the material (Azman et al., 2022). Each time students take the quiz, they are reintroduced to key concepts that are expanded through repeated questions (Harahap & Kembaren, 2023), reinforcing their memory and understanding of the material taught in class (Munawir & Hasbi, 2021). Furthermore, reinforcing the material with Quizizz can improve learning outcomes and minimize student boredom (Sinambela & others, 2022).

c. Not Recommended to use as an assessment and evaluation tool

In this study, respondents mentioned Quizizz as a platform that is not recommended for summative assessment of students' academic abilities. This is quite reasonable because, being game-based, Quizizz is often more suitable for formative assessment or quick feedback rather than summative assessment. Students can guess the answers or just follow patterns to get high scores, making game-based quizzes less appropriate for evaluating in-depth academic abilities, which require essay-type questions or deeper analysis that are difficult to implement in this format. Furthermore, one of the respondents stated that;

"Jika untuk seru-seruan, Quizizz sangat baik dan menarik untuk digunakan. Namun, kurang baik jika digunakan sebagai media evaluasi untuk mengukur kemampuan akademik peserta didik. Hal tersebut dikarenakan adanya fitur untuk menjatuhkan nilai lawan dan segala fitur yang lebih dominan pada kompetisi yang saling menjatuhkan, dibandingkan peningkatan hasil belajar."

There is a feature within the platform that can be used to sabotage opponents, which, if not properly regulated by the instructor, can affect the final results of both performative and summative evaluations of the students. Moreover, students can open new tabs to search for

answers through shortcuts (Hastuti, 2021), which clearly reinforces the idea that Quizizz cannot be relied upon as a summative assessment tool.

This finding is in stark contrast to several studies that suggest Quizizz is not only good for performative evaluation but also for summative evaluation (Suryadi, 2024), while reviewing students' mistakes without negative emotions (Maraza-Quispe et al., 2024). Nevertheless, the responses in this study are still considered as field opinions, which differentiate it from previous studies that tend to discuss the positive implications of using Quizizz.

d. Challenging academic ability

Although not ideal for in-depth evaluation, Quizizz can be used to test basic skills or initial understanding of students. For example, to determine whether they have mastered terminology, basic concepts, or fundamental aspects of a subject (Pitoyo & Asib, 2020; Prasetya Wibawa et al., 2019; Suhartatik, 2020). Therefore, the use of Quizizz remains a choice for creating an educational atmosphere in the classroom, but not as a media for in-depth evaluation of students' academic abilities.

e. Feature to defeat friends

According to the respondents, Quizizz has game elements that encourage competition, such as a leaderboard that shows the ranking of students' scores, as well as the strike and shield feature, which is the latest addition to the platform, and can lower learning motivation. Strike and shield can be used to attack or reduce the opponent's score, and also to protect one's own score, thus making the competitive atmosphere more apparent (Deeksha, 2024).



Figure 2. *Strike and Shield feature in Quizizz*

This feature makes the learning experience more interactive and competitive, but on the other hand, it can shift the focus from learning to unhealthy competition. Some students may feel stressed or burdened if they do not enjoy competition, which could reduce their comfort in learning. Furthermore, learners may experience a decline in motivation in the class. However, this feature remains an interesting aspect to implement if teachers can use the strike and shield wisely.

f. Not for long-term use

Although enjoyable at first, excessive use of Quizizz can lead to boredom among students. Repetitive formats and features without new variations can cause them to lose interest over time, as this game-based approach may feel monotonous after frequent use. Therefore, it is important for instructors to balance the use of Quizizz with other teaching methods. What the respondents have stated in this study serves as an answer to research that calls for further investigation into the long-term use of Quizizz (Indriani et al., 2024).

g. Make teaching easier for teacher

For educators, Quizizz is a highly efficient tool for creating and distributing quizzes quickly. The automation system in grading and providing immediate feedback makes it easier for teachers to manage time and assess student learning outcomes without having to check each answer individually, as well as utilize analytic data to assess the overall understanding of the class (Al Munawaroh, 2021; Putra, 2023).

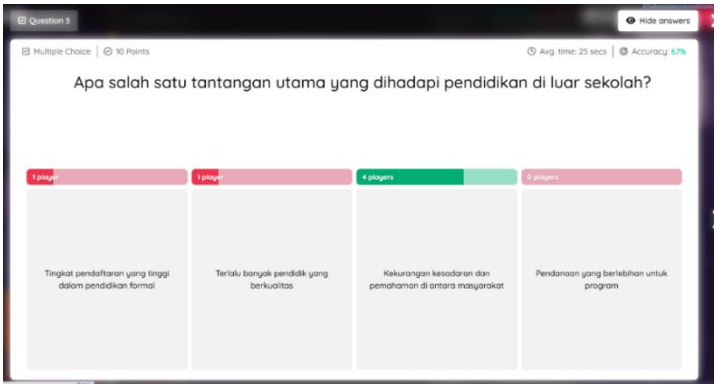


Figure 3. *Reviewing Questions by using Quizizz*

In addition to being an assessment media, Quizizz can also be an engaging tool for discussing each question as part of the evaluation and monitoring process of students' understanding (Rulyansah, 2022), so that students are not only completing quizzes but also learning from the discussion of correct and incorrect answers for each question (Suhartatik, 2020). In this regard, Quizizz is not only useful as a media for conducting quizzes with questions, but also as an evaluation and contemplation tool for students to introspect on their mistakes.

h. Direct Scoring

Quizizz allows for immediate assessment through the leaderboard feature, which provides instant results to students. This helps them quickly identify their mistakes and understanding of the material, enabling them to make improvements in future attempts. This direct feedback is a positive aspect that encourages learning among students (Handoko et al., 2021).

Speaking of the leaderboard, in addition to displaying immediate assessment results, it also fosters a competitive atmosphere in the classroom. This is due to the ranking of the highest and lowest scores being shown, motivating students to strive to be the best (Mohamad et al., 2020; Munawir & Hasbi, 2021). However, the data from the respondents in this study revealed a different opinion. The leaderboard often becomes a tool that corners students in the classroom if they are unable to compete with others.



Figure 4. *Direct scoring in Quizizz*

i. Not Interesting

For some respondents, this game-based quiz approach is not engaging enough or does not match their learning style. Students who prefer conventional teaching methods or view games as distractions may be less interested in Quizizz and might feel that it is not an effective way to learn seriously. It cannot be denied that not all learners enjoy game-based online assessments. In fact, a study revealed that the participation rate in computer-based evaluation quizzes is still superior compared to online game-based evaluations (Lin et al., 2023). However, this research is still trying to identify the scientific reasons behind this and requires further in-depth analysis with subjects from different universities to gather diverse data.

j. Interesting and Exciting

On the other hand, most students who are interested in technology and learning through play feel that Quizizz is an engaging and fun way to learn. Game features such as scores, time challenges, and colorful graphics create an atmosphere that supports student engagement, making them more motivated to learn (Jannah et al., 2020; Salsabila et al., 2020; Yunus & Hua, 2021).

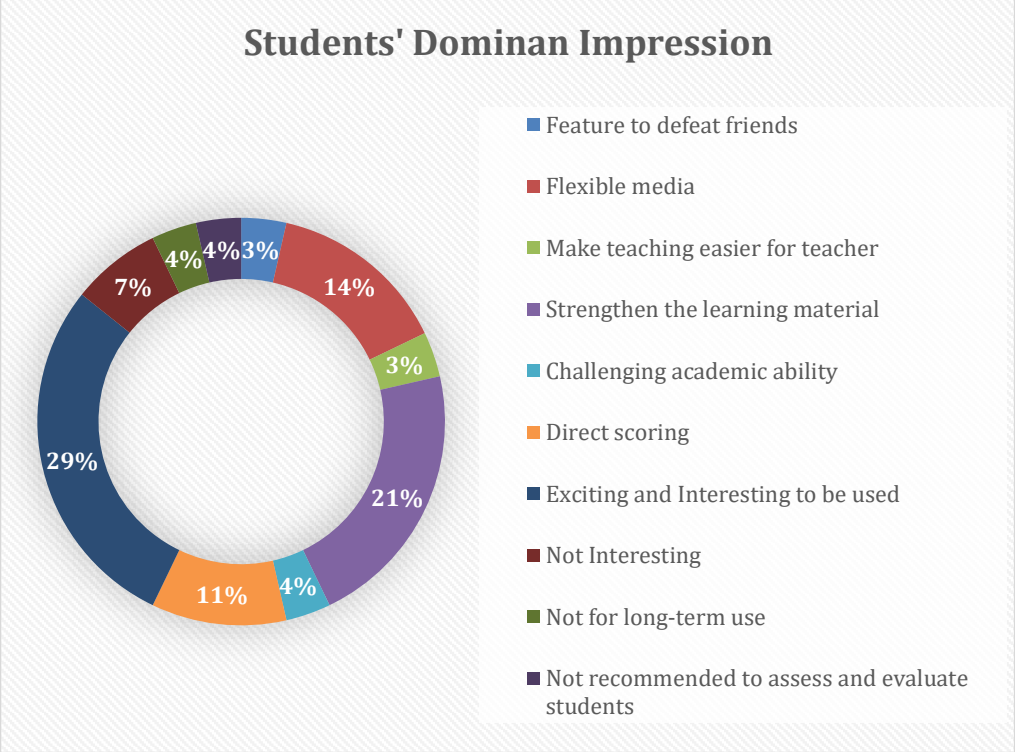


Figure 5. *Students' impression percentage (NVIVO Axial coding)*

The percentage of impressions and experiences of students in using game-based online quizzes is dominated by the view that Quizizz is still enjoyable to implement in the classroom (29%), can reinforce teaching material (21%), is a flexible medium (14%), and provides immediate feedback (11%). These experiences were gathered from the varying frequencies of Quizizz usage among the respondents. Below is the frequency distribution of Quizizz usage from each respondent:

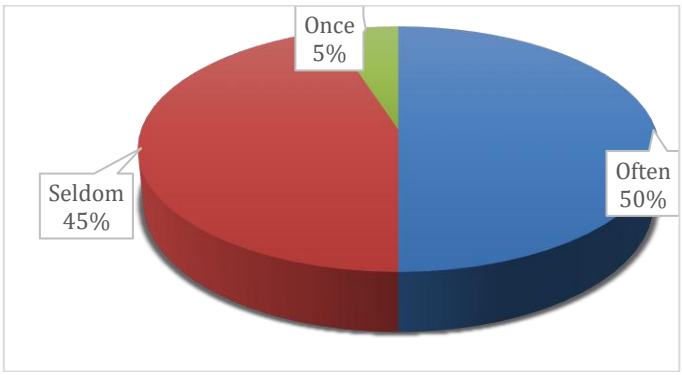


Figure 6. *Quizizz Usage Frequency*

Negative Impact in Using Game-Based Online Quizzes in Institut Parahikma Indonesia

In these findings, the respondents' statements generally encompass nine analytical themes regarding the negative impacts of using Quizizz, which are visualized in the following graph.

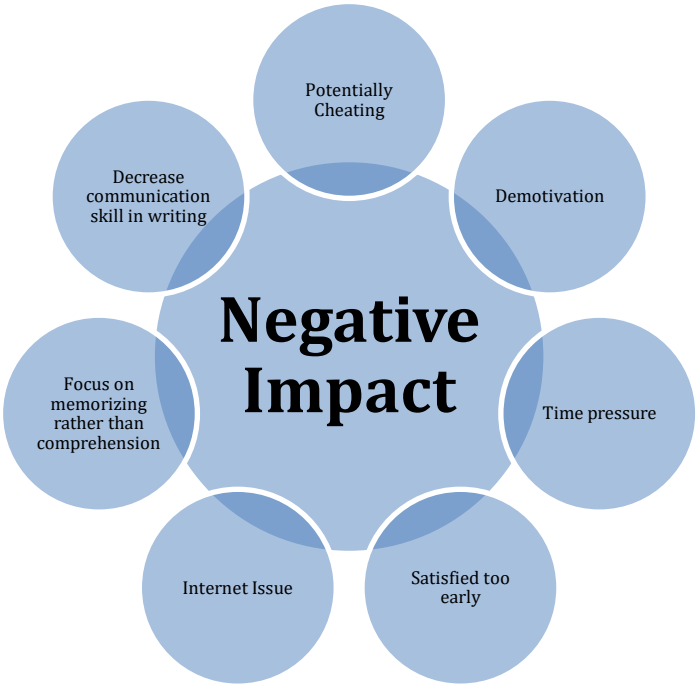


Figure 7. *Negative Impact Key-Points*

Each respondent's statement will be linked to previous research that can support the informant's claims.

1. Easily Satisfied with Grades and Abilities

The Quizizz platform is considered enjoyable by respondents; however, it can foster a sense of complacency that has the potential to make students less motivated to explore learning further. This leads students to focus on the understanding phase and not progress to the level of critical idea formulation, as outlined in Bloom's taxonomy.

Although no research has directly indicated that using Quizizz psychologically induces laziness in exploring materials, some studies have shown that Quizizz can encourage learners to repeat quizzes and deepen their understanding of each question (Rahman et al., 2020) and enhance students' reading enthusiasm (Pradnyadewi & Kristiani, 2021). However, one downside of Quizizz lies in its use of distracting background music (Dzikrullah & Syafi'i, 2021). Additionally, the implementation of Quizizz is not a determinant of learners' motivation, as motivation depends on the learners themselves. Teachers must also understand that each student has a different learning style (Ramdani Putra et al., 2024).

2. Issues with Internet Packages and Network Connectivity

Internet connectivity issues are a major challenge for students with limited economic resources in utilizing platforms like Quizizz. Students often face obstacles in participating in game-based online assessments due to a lack of access to data packages, coupled with a reluctance to ask

for help from peers. Platforms like Quizizz require a stable internet connection, and its full features often come with additional costs.

Previous studies indicate that poor internet connectivity in developing countries like Indonesia leads to stress, rushed responses, and indifference toward answering questions (Handayani & Wulandari, 2021; Ilhami et al., 2022; Januar, 2023; D. P. Sari & Elah, 2022). From the teachers' perspective, these challenges disrupt the allocation of learning time. Moreover, Quizizz has yet to reach students in rural areas with inadequate internet access (Haddar & Juliano, 2021).

3. Students Tend to Memorize Rather Than Understand Concepts

Respondents perceive that the use of Quizizz encourages students to focus more on memorizing answers than understanding concepts. Memorization tends to be easily forgotten, whereas understanding concepts leaves a more lasting impression. Additionally, other respondents stated a preference for the game element over the learning material.

This respondent's statement aligns with findings from several studies. The implementation of Quizizz in multiple-choice formats leads participants to guess answers rather than demonstrate their true abilities (Widya Saputri, 2022). These findings align with observations from respondents at Institut Parahikma Indonesia. Whether guessing answers or memorizing, both approaches fail to deepen students' understanding of learning concepts. However, Quizizz can be used to provide more in-depth feedback to students (Yong & Rudolph, 2022). Feedback using Quizizz can be highly engaging in the classroom, particularly for digital-native students.

4. Decline in Writing or Communication Skills

Respondents highlighted that the overuse of Quizizz tends to make students reliant on selecting pre-provided answers rather than articulating their ideas. Similarly, a study found that Quizizz features tend to stimulate recall and selection of provided answers rather than idea creation, with students often guessing answers instead of thinking critically (Widya Saputri, 2022).

Furthermore, educational influencer Maudy Ayunda shared a similar opinion, stating that the frequent use of multiple-choice questions in Indonesia's education system should be replaced with open-ended (essay) questions to encourage critical and analytical thinking instead of mere memorization and answer selection (Aditia, 2023). This change is particularly important at the tertiary education level (Asyari et al., 2023).

5. Potential for Cheating When Using Quizizz

Respondents believe that during quizzes using Quizizz, it is still possible to search for answers through a new tab in the browser. Additionally, Quizizz has a feature to freeze the activities of other participants in the game, preventing them from moving. Furthermore, some smartphones can split the screen into two, one for Quizizz and the other for cheating. Quizizz also has a double point feature that can be used to double the score or even exchange scores with other participants, which could potentially be higher.

In terms of the potential for cheating during the quiz, several scientific studies support this, one of which concerns the opening of a new tab for cheating. A study mentions that in the implementation of Quizizz, participants are highly likely to open a new tab to search for answers to each question (Aditiyawarman et al., 2022). This can happen given that the devices used are smartphones or laptops that can multitask simultaneously.

In addition to the potential for cheating by opening a new tab in the browser, the time management aspect—where there is limited time for each question—can affect participants' enthusiasm, as it may lower their ranking on the Quizizz leaderboard even if they answer correctly (D. Sari & Elah, 2022). In this case, technological devices still provide opportunities for students to cheat during assessments. It is important to note that in teaching involving Quizizz, it only touches on cognitive and psychomotor aspects, but less on the affective domain (Le Thi Ngoc, 2024; Munawir & Hasbi, 2021).

6. Time Pressure

Respondents expressed frustration with the time calculation, which affects the ranking on the leaderboard. Even though they answered all the questions correctly, those who answered more slowly still ended up with lower scores compared to other participants. In reality, participants are indeed required to answer quickly and accurately to achieve higher scores.

This issue has been explained in a study which states that students who were once in the top ranks could experience a drop in their position due to poor time management for each question, especially if they joined the quiz late (Salsabila et al., 2020). This can affect participants' focus and understanding, especially in the context of Quizizz, where duration can influence their score on the leaderboard, adding pressure while answering questions on the platform.

7. Potential Demotivation

The majority of respondents stated that using Quizizz in the classroom, when participants are at the top of the leaderboard, certainly brings feelings of joy and pride. However, the instructor

focuses on the top positions. On the other hand, what about participants who are at the bottom? And why should this be displayed in front of the class? They believe that this could actually harm their mental state. Students tend not to like comparisons between the lowest and highest positions in front of the class. This makes them feel uncomfortable, especially if they are at the bottom of the rankings. According to them, the leaderboard in front of the class tends to disrupt the quiz-taking process. This issue has become a complaint from respondents in the Islamic Economics program.

According to the respondents, instructors who use Quizizz often focus more on the achievements of students at the highest positions on the leaderboard but overlook the impact on participants who receive low scores, which are displayed in front of the class. In this case, the low scores displayed are believed by students to cause negative self-assessments and affirmations regarding their academic abilities, even though they know that Quizizz is fun to use. This is related to several theories that are linked and visualized in the following graph.

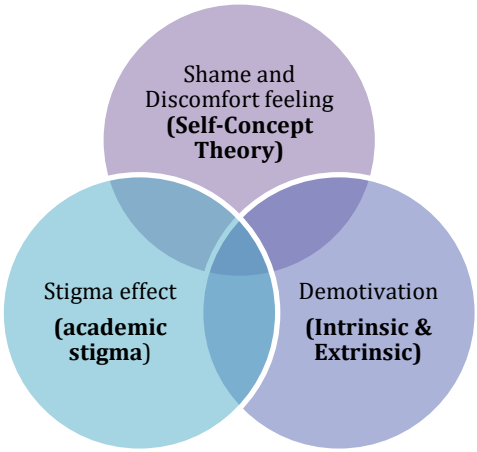


Figure 8. *The reason why some participants of Quizizz unpleasant while leaderboard is visible in front of the class*

1. Shame and Discomfort Self-Concept Theory

This theory explains that individuals have an internal view of themselves, known as self-concept (Rogers, 1951). When experiences or input from the environment (such as a low score on the leaderboard) do not align with their positive self-concept, it can lead to discomfort, anxiety, or shame. Publicly displayed low results can damage self-esteem because students feel they have "failed" in the eyes of others. Criticism or public display of failure tends to push students towards a fixed mindset, reinforcing feelings of shame and incapacity, which ultimately leads to a tendency to compare themselves to others.

2. Effects of Stigma and Labeling

Academic Stigma

Stigma occurs when someone is perceived as having negative attributes that discredit them in the eyes of society (Goffman, 1963). In the context of education, students with low scores displayed on a leaderboard may feel stigmatized as "less intelligent," which reinforces feelings of low self-confidence and is highly relevant to the experiences of the respondents in this study. This can lead students to label themselves as individuals with poor abilities in a particular exam, especially when their low scores are visible to everyone. Such a label can negatively impact their motivation and academic development.

3. Impact on Intrinsic and Extrinsic Motivation

Ryan & Deci, (2020) differentiate between intrinsic motivation (the internal drive to achieve personal satisfaction) and extrinsic motivation (the drive to gain rewards or avoid punishment). The display of leaderboards in front of the class often triggers extrinsic motivation because students become more focused on achieving rankings than understanding the material. This can reduce the quality of their learning.

This type of motivation was also experienced by the respondents in this study. In reality, most respondents were more motivated to win in the game than to understand the lessons, which sometimes led to the learning objectives not being fully achieved. There are significant consequences when students frequently find themselves at the bottom ranks in games where rankings are publicly displayed. This can result in the phenomenon of Learned Helplessness.

Learned Helplessness Phenomenon

Learned helplessness is a condition where individuals feel that their efforts will not change the outcome, causing them to stop trying (Maier & Seligman, 1976). In the context of leaderboards, students who remain in low positions may feel hopeless and lose motivation to learn. An overly competitive environment can reduce students' intrinsic motivation (Deci & Ryan, 2000). This is closely related to the term "insecure," which inhibits self-confidence and self-actualization, a key aspect of motivation according to Maslow (1942).

In addition to older theories, a study in 2022 also found that despite the competitive nature, some students become frustrated if they don't win in Quizizz (Pham, 2023). To address this, a more sensitive approach to students' emotional and social needs is needed, such as providing individualized feedback or creating an environment that supports intrinsic motivation.

CONCLUSION

Empirically, there are positive impressions, with some feeling that Quizizz is a fun and flexible evaluation tool, reinforces teaching material, suitable for testing academic abilities, makes evaluation easier for instructors, features a competitive element to outplay opponents, and provides immediate feedback. However, there are also opposite impressions, with some believing that Quizizz is not suitable for testing academic abilities, is not enjoyable for long-term use, and even feels unappealing because it does not align with their preferred learning style.

The negative impacts of using Quizizz, according to the respondents' impressions, are quite varied. These include overconfidence in grades and abilities, frequent internet connectivity issues that disrupt teaching and time allocation, a tendency to guess answers rather than understand questions, a decrease in narrative and written communication skills if Quizizz is always used for evaluation, the potential for cheating during evaluations, improper time management, and a potential decline in motivation to learn. The decline in motivation is mainly caused by students being placed at the bottom of the leaderboard and displayed in front of the class. As a result, feelings of shame, failure, low self-esteem, strong negative stigma, and self-labeling arise, leading to a decrease in the quality of learning. Furthermore, "self-labeling" due to failure can lead to learned helplessness, an internalized sense of powerlessness that hinders the learning process. Additionally, the gamification feature that multiplies points can create an unfair competition, which increases stress levels among participants.

The results reinforce self-determination theory (Deci & Ryan, 2000) and social comparison (Festinger, 1954), showing how extrinsic motivators like rankings and scores can stimulate short-term participation but weaken intrinsic motivation over time. Likewise, Self-Concept Theory (Roger, 1951) and Learned Helplessness theory (Maier & Seligman, 1976) explain how repeated low performance and public ranking may harm students' confidence and self-esteem.

Practically, instructors should design Quizizz-based assessments with balanced pedagogical intent by using leaderboards privately, integrating reflective tasks, and offering supportive feedback to reduce emotional pressure. Institutions are encouraged to blend gamified and traditional assessments to sustain engagement without compromising depth of learning. In addition, future studies should examine the long-term and cross-cultural psychological impacts of gamified assessment, comparing various platforms and design futures. Ultimately, the study emphasizes that the value of gamified tools like Quizizz lies not in competition but in how they are orchestrated to support meaningful, equitable, and psychologically healthy learning experiences.

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ETHICAL STATEMENT

This research was conducted in strict accordance with ethical standards for academic research as outlined by the Directorate of Research, Technology, and Community Service Republic of Indonesia. All procedures involving human participants were carried out following the principles of voluntary participation, confidentially, and informed consent.

The participants at Institut Parahikma Indonesia were fully informed about the purpose and nature of the study, and their participation was entirely voluntary. No personal data were disclosed, and all responses were treated with the highest degree of confidentially and anonymity. I affirm that no part of the study involved any form of coercion, deception, or harm participants and that all data were collected, analyzed, and reported with integrity and transparency.

CRediT AUTHORSHIP CONTRIBUTION STATEMENT

Patur Rahman: Conceptualization, Methodology, Investigation, Formal analysis, Writing, Supervision, Funding acquisition.

CONFLICT OF INTEREST

I declare that there is no conflict of interest regarding to the publication of this research. The study was conducted without any influence from external parties that could bias the result or interpretation of the findings. All financial support received from the Ministry of Religious Affairs Republic of Indonesia. In addition, I confirm that there are no personal, financial, or professional relationships that could be perceived conflicts of interest in relation to this work.

DATA AVAILABILITY

All data generated or analyzed during this study are included in this published article or are available from the corresponding author upon reasonable request. To protect participants' confidentiality and institutional privacy, raw datasets containing identifiable information are not publicly shared. The anonymized data and research instruments (e.g., questionnaire items and coding framework) can be accessed upon request for academic and non-commercial purposes by contacting the corresponding author.

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