Roblox as an Interactive Platform to Enhance Student Motivation

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ABSTRACT

This study investigates the use of Roblox as an interactive digital platform to enhance student motivation in higher education. The study explores engagement, persistence, and self-regulation among learners who utilized Roblox as part of academic activities. Using a quantitative descriptive design, data were collected using a questionnaire adapted from Self-Determination Theory and the Motivated Strategies for Learning Questionnaire. Findings indicate that Roblox-supported learning fosters enthusiasm, engagement, persistence, and reflective thinking, although challenges were found in distraction management and responses to failure. Overall, the study highlights the potential of game-based learning environments in supporting student-centered and motivating academic practices.

KEYWORDS: Roblox, motivation, game-based learning, engagement, higher education

1.0 INTRODUCTION

In today's digital era, media and technology have become an inseparable part of students' daily lives. Social media platforms, online games, and virtual environments dominate how young people spend their time, often surpassing their motivation to study. Many students find more excitement in social media engagement or gaming than in traditional learning activities. To address this challenge, educators are now exploring how to use popular digital platforms to re-engage students' motivation, one of which is Roblox, an interactive online platform that allows users to learn through play, creativity, and collaboration. By integrating Roblox into education, learning can be made more enjoyable and relatable to students' digital culture, potentially reigniting their interest and motivation to learn.

In education, technology plays a crucial role in shaping how students interact with knowledge. Various studies have shown that digital tools can significantly affect students' learning motivation. For instance, Deci and Ryan's Self-Determination Theory (2000) emphasizes that motivation grows when students experience autonomy, competence, and relatedness, all of which can be supported through interactive digital platforms. Similarly, Tømte & Olsen (2020) found that technology-based learning increases students' engagement and satisfaction when used appropriately. However, other studies, such as Hassan et al. (2022), noted that excessive or unstructured use of digital media may lead to distractions and decreased academic focus. These findings show that while technology has great potential to enhance motivation, its impact depends on how it is integrated into the learning environment.

During the COVID-19 pandemic, technology became the backbone of education, enabling continuity through online and hybrid learning models. Yet, even with these innovations, many students reported struggling with motivation, discipline, and focus when learning online. This suggests that technology alone is not enough. It needs to be designed in ways that genuinely

connect with students' interests and habits. Integrating educational experiences into platforms they already love, such as Roblox, could be an effective way to bridge that gap and transform passive technology use into meaningful learning engagement.

Despite the widespread integration of technology in education, uncertainty remains regarding its real impact on students' motivation. Previous studies often focused on academic performance, such as test results or learning outcomes rather than on the motivational dimensions that drive consistent engagement. Moreover, while many researchers agree that technology can improve learning efficiency, fewer have explored how it can be used to sustain motivation and prevent disengagement, particularly in interactive and gamified platforms like Roblox.

Most existing research has been conducted in Western contexts, leaving limited exploration in developing countries such as Indonesia, where cultural values, infrastructure, and digital literacy levels differ. Furthermore, there is a noticeable research gap concerning how motivation interacts with technology-based learning environmentsespecially when such environments are embedded within popular media platforms. It remains unclear whether these tools enhance intrinsic motivation or simply provide short-term extern simulation.

This study aims to investigate the influence of using Roblox as a digital learning medium on students' learning motivation in higher education. Specifically, the objectives are:

1. To examine how learning through Roblox affects students' engagement in academic activities.
2. To analyze how game-based learning in Roblox influences students' persistence and task completion.
3. To explore the relationship between technology integration in Roblox and students' self-regulation in managing their learning.

Through these objectives, this research seeks to offer a balanced view of how digital game-based platforms can both enhance and challenge motivation in educational settings.

This study is important because it connects technological innovation with psychological understanding of motivation. By focusing on Roblox, a platform already familiar to many students, this research highlights how educators can leverage popular digital environments to foster engagement, persistence, and self-discipline.

The findings will provide valuable insights for teachers, curriculum designers, and policymakers in creating more student-centered, motivating, and interactive digital learning environments. It also contributes to the growing literature on technology and motivation by providing a contextual perspective from Indonesia, helping future researchers understand how local educational settings respond to global digital trends.

Ultimately, this study emphasizes that technology should not only deliver content but also inspire students to learn. Through creative use of platforms like Roblox, learning can evolve from something obligatory into something genuinely enjoyable and meaningful.

2.0 LITERATURE REVIEW

Previous studies on digital learning environments highlight mixed findings. Some researchers have emphasized the benefits of interactive learning, such as increased engagement and motivation. Tømte & Olsen (2020) found that technology-based learning increases students' satisfaction when implemented appropriately. Meanwhile, other studies argue that excessive exposure to digital media without guidance may decrease focus.

Game-Based Learning (GBL) theory suggests that games improve learners' engagement through challenge-based tasks and interactive environments. Roblox, as a customizable and socially interactive platform, aligns with these principles. Additionally, Self-Determination Theory supports the idea that digital platforms offering autonomy, mastery, and collaboration can enhance intrinsic motivation.

However, most studies focusing on game-based learning originate from Western contexts.

Research in Indonesia remains limited, particularly on the motivational dimensions associated with digital platforms like Roblox.

3.0 METHODOLOGY

3.1 RESEARCH DESIGN

This study employs a quantitative descriptive design to examine the influence of using Roblox as a digital learning medium on students' motivation in higher education. The quantitative approach is used to collect measurable data that can describe the relationship between technology-based learning and motivational aspects such as engagement, persistence, and self-regulation. A descriptive design is chosen to provide a clear picture of students' perceptions and experiences when learning through Roblox.

3.2 PARTICIPANTS

The participants of this study will consist of university students who have experience using Roblox as part of a learning activity or project. A total of 60–80 respondents are expected to participate, selected through purposive sampling. This method ensures that only students who have actually interacted with Roblox in an academic context are included. Participants will come from several faculties to represent a variety of learning experiences and technology familiarity levels.

3.3 RESEARCH INSTRUMENTS

The main data collection instrument will be a questionnaire designed to measure students' motivation levels when using Roblox for learning. The questionnaire will adopt items from established motivational frameworks, particularly based on Self-Determination Theory (Deci & Ryan, 2000) and Motivated Strategies for Learning Questionnaire (MSLQ) developed by Pintrich et al. (1991), with adjustments to fit the digital and gamified learning context.

The instrument will be divided into three main components:

1. Engagement, measuring students' attention, interest, and participation when learning through Roblox.
2. Persistence, assessing students' effort and consistency in completing academic tasks within Roblox-based activities.
3. Self-Regulation, evaluating how students manage their time, goals, and focus during game-based learning sessions.

Each item will be rated using a 5-point Likert scale ranging from Strongly Disagree (1) to Strongly Agree (5).

3.4 DATA COLLECTION PROCEDURES

Data will be collected through an online survey distributed via Google Forms or other online platforms. Before filling out the questionnaire, participants will receive an explanation of the study's purpose, along with an informed consent form to ensure voluntary participation and data confidentiality.

To support the quantitative data, brief interviews or open-ended questions may also be included to gain qualitative insights into students' learning experiences with Roblox. These responses will provide additional context for interpreting motivational patterns found in the survey results.

3.5 DATA ANALYSIS

Quantitative data will be analyzed using descriptive and inferential statistics. Descriptive analysis (mean, standard deviation, and frequency) will summarize overall motivational trends, while inferential tests such as Pearson correlation or linear regression will be used to examine the relationships between technology integration and motivational components (engagement, persistence, self-regulation).

If qualitative data are included, thematic analysis will be conducted to identify recurring themes or insights that complement the statistical findings.

3.6 ETHICAL CONSIDERATIONS

This study ensures that all participants' identities remain confidential and that participation is entirely voluntary. No personal data will be disclosed. All collected information will be used solely for academic research purposes.

4.0 RESULTS AND DISCUSSION

The analysis of the questionnaire responses from 10 participants shows that Roblox-based learning produced generally high levels of motivation across indicators of engagement, persistence, and self-regulation. Using a 5-point Likert scale, students reported strong enthusiasm toward the learning activities conducted through Roblox. The average score for enthusiasm was 4.2, indicating that learners felt excited and attracted to the content presented in the game-based environment. Similarly, the perception that Roblox made learning materials more interesting and helped sustain focus obtained a mean score of 4.1, suggesting that the platform was successful in increasing students' interest in the learning process.

To support these findings, the following table summarizes the mean scores of all motivational indicators measured in the study.

Table 1. Descriptive Statistics of Motivation Indicators

Indicator	Mean Score	Interpretation
Enthusiasm	4.2	High
Interest & Focus	4.1	High
Persistence	4.0	High
Response to Failure	4.3	Very High
Ability to Ignore Distractions	3.4	Moderate
Reflection	4.1	High

The persistence indicator also demonstrated a high level of motivation, with an average score of 4.0. This shows that students generally continued to attempt tasks even when they encountered obstacles in the game. Among all indicators, the response to failure had the highest mean score at 4.3. This finding suggests that students tended to interpret failure not as discouragement but as an opportunity to retry and improve, which is consistent with a growth mindset and aligns with game-based learning principles.

Self-regulation was also relatively high. The reflection indicator received a mean score of 4.1, indicating that students tended to evaluate their performance after completing learning activities and could identify what they had done well and what needed improvement.

Despite these positive findings, one area that scored noticeably lower was the ability to ignore distractions. With a mean of 3.4, this indicator reflects that students faced moderate difficulty maintaining focus while engaging in Roblox-based learning. The nature of digital environments, which often include multiple sensory stimuli, may contribute to this challenge.

Overall, these results align with existing literature on Game-Based Learning, which suggests that interactive platforms enhance engagement by offering autonomy, immediate feedback, and challenging tasks (Gee, 2003; Hamari et al., 2016). The high scores on enthusiasm, persistence, and reflection support the idea that Roblox promotes active involvement and meaningful learning. Furthermore, the strong response to failure indicates that the platform encourages students to develop resilience and a willingness to retry, which are essential elements of intrinsic motivation according to Self-Determination Theory (Deci & Ryan, 2000).

However, the moderate difficulty in ignoring distractions highlights a potential drawback of using game environments for learning. While they offer engaging experiences, they may also present competing stimuli that can reduce concentration. This suggests that educators should provide clear guidelines, structured tasks, or controlled game settings to minimize distractions

during learning activities.

In summary, the findings indicate that Roblox has significant potential to enhance motivation in learning, particularly in aspects related to enthusiasm, persistence, and reflective learning. Despite some challenges in maintaining focus, the overall results demonstrate that Roblox can serve as an effective and motivating platform when used with thoughtful instructional design.

5.0 CONCLUSION

This study examined the motivational impact of using Roblox as an interactive learning platform and found that the majority of students demonstrated high levels of engagement, persistence, and self-regulation when participating in Roblox-based learning activities. The descriptive results showed that students felt enthusiastic, found the learning materials more interesting, and were willing to continue trying even when faced with challenges. The strongest indicator was their positive response to failure, suggesting that Roblox encourages a growth-oriented mindset where learners view mistakes as opportunities for improvement rather than setbacks.

Reflection also emerged as a strong aspect of motivation, indicating that learners were able to evaluate their progress and identify areas for improvement after completing activities. These findings support theories of Game-Based Learning and Self-Determination Theory, which emphasize autonomy, challenge, and competence as key drivers of intrinsic motivation.

However, the study also found that students experienced moderate difficulty in ignoring distractions during learning, which highlights a limitation of using game-based environments. This suggests that while Roblox is effective in enhancing motivation, structured guidance and well-designed learning tasks are essential to help students maintain focus.

Overall, the study concludes that Roblox holds significant potential as a motivating and student-centered learning tool. When integrated intentionally, Roblox can foster enthusiasm, persistence, and reflective learning. Future research should involve larger sample sizes and explore additional variables such as learning outcomes, collaboration, and long-term motivation to deepen the understanding of how game-based platforms influence educational experiences.

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