

# Overcoming Learning Boredom through Digital Game-Based Learning

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**Abstract.** This study investigates the implementation of Digital Game-Based Learning (DGBL) as a creative solution to reduce learning boredom at Yos Sudarso Metro High School. It explored the impact of game-based tools on student engagement, motivation, and understanding during the learning process. This research employed a qualitative method, with data collected through classroom observations and Google Forms questionnaires. The data were analyzed using Qualitative Thematic Analysis to identify recurring patterns in students' experiences. The findings indicated three main themes, namely increased student engagement, perceived effectiveness of digital game platforms, and challenges in implementation. Platforms such as Quizizz and Wordwall encourage interactive and enjoyable learning, leading to improved comprehension, particularly in English subjects. This qualitative study involved 32 eleventh-grade students selected through purposive sampling, with data collected through classroom observations and a structured questionnaire. However, limitations such as unequal access to technology and inconsistency in tool effectiveness remain obstacles. The study concludes that DGBL is a promising approach to minimize learning boredom and fostering a more dynamic, student-centered learning environment. These results suggest that integrating game-based tools into classroom instruction can enhance participation and learning outcomes, provided that implementation challenges are addressed with proper planning and resources.

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## **INTRODUCTION**

The expansion of digital technology has profoundly reshaped the educational landscape by transforming how knowledge is delivered, accessed, and constructed within

formal learning environments (Tan et al., 2021). Digital platforms, learning management systems, and computer-based applications have enabled more flexible and student-centered pedagogical approaches that emphasize collaboration, learner autonomy, and personalized learning pathways (Lagos-Castillo et al., 2025). Empirical research consistently demonstrates that technology integration can enhance learning outcomes when it is grounded in sound pedagogical design rather than employed as a supplementary or superficial addition (Ma et al., 2024). Furthermore, digital tools support multimodal learning through the integration of text, audio, video, and interactive elements, which can facilitate deeper conceptual understanding and accommodate diverse learning preferences (Al-Muttairi & Al-Alusi, 2025). Consequently, technology-mediated instruction is increasingly conceptualized as a driver of pedagogical innovation rather than merely an alternative mode of content delivery. This body of evidence suggests that the educational value of technology lies not in its presence but in its pedagogically informed integration, highlighting the shift from technology as a tool of convenience to technology as a transformative learning catalyst. In classroom practice, teachers increasingly leverage digital technologies to design learning experiences that are interactive, relevant, and engaging, particularly for students who have been exposed to digital tools from an early age. Studies indicate that learners demonstrate higher levels of motivation, engagement, and participation when instructional activities incorporate digital media, gamification, and collaborative online tasks (Rajput et al., 2022). Moreover, technology-supported environments enable teachers to deliver timely feedback, monitor learner progress, and adapt instructional strategies based on real-time data (Mhlongo et al., 2023). Nevertheless, the effectiveness of such digital interventions remains highly contingent upon teachers' digital competence and their ability to integrate technology meaningfully into curriculum planning and assessment practices (Tondeur et al., 2021). These findings underscore that teacher agency and pedagogical expertise serve as critical mediating factors in technology-enhanced learning, reinforcing the need for continuous professional development to ensure that digital tools support deep learning rather than surface-level engagement.

A growing body of research further indicates that technology-enhanced learning can improve student participation, strengthen conceptual understanding, and promote learner autonomy. One instructional approach that exemplifies this potential is Digital Game-Based Learning (DGBL), which adapts digital games to support explicit learning objectives beyond entertainment purposes. DGBL, often referred to as serious games, is intentionally designed to facilitate knowledge acquisition, cognitive skill development, and behavioral change (Esteban, 2024). Game-Based Learning (GBL) integrates elements such as challenges, rewards, scoring systems, and progression levels to create immersive and motivating learning environments (Nadolny et al., 2020). According to Lee (2020), this approach allows learners to explore ideas, experiment with concepts, and learn from mistakes within a low-risk, supportive setting. Supported by digital platforms, GBL fosters participatory and student-centered learning experiences that contrast sharply with traditional teacher-centered instruction. Tools such as Quizizz, Wordwall, and Google Forms further enhance this approach by enabling gamified assessments, automated feedback, and real-time interaction (Fatimah, 2025). This literature suggests that DGBL aligns closely with constructivist learning principles, positioning learners as active knowledge constructors while reducing anxiety and increasing intrinsic motivation.

Prior studies consistently report the positive effects of Game-Based Learning across diverse educational contexts. Serious games have been shown to create engaging digital learning environments that resonate with the learning preferences of contemporary students (Sikora et al., 2024). Esteban (2024) distinguishes GBL from gamification by emphasizing that GBL embeds instructional content directly into gameplay mechanics, thereby fostering more immersive and meaningful learning experiences. Recent research further demonstrates that students respond more positively to game-based instruction when it is closely aligned with curriculum objectives and designed with inclusivity in mind (Coleman & Money, 2020). Despite these benefits, several challenges continue to hinder effective implementation, including unequal access to technology, limited teacher preparedness, and inconsistent quality of educational games (Kaimara et al., 2021). These challenges indicate that while GBL holds substantial pedagogical promise, its success depends on systemic support, careful instructional design, and equitable access to digital resources.

At Yos Sudarso Metro High School, learning boredom remains a persistent issue that adversely affects student motivation and academic performance, particularly in English language learning. Conventional instructional practices in this context are often dominated by text-based materials and teacher-centered delivery, which may contribute to monotonous learning experiences and reduced student engagement. Although Digital Game-Based Learning is widely perceived as a promising approach to addressing these challenges, empirical studies examining its implementation within this specific educational context remain limited. This gap highlights the need for context-sensitive research to determine whether the theoretical advantages of DGBL can be effectively realized in local school settings with distinct pedagogical and infrastructural characteristics.

Therefore, this study aims to explore the implementation of Digital Game-Based Learning as an alternative instructional strategy to reduce learning boredom at Yos Sudarso Metro High School. Specifically, it investigates the extent to which digital game-based tools enhance student engagement, motivation, and learning outcomes in English language instruction. By focusing on both affective and academic dimensions of learning, this study seeks to contribute empirical evidence that informs the practical integration of DGBL in secondary education, particularly within underrepresented educational contexts. To address this, the study is guided by the following research question: How does the implementation of Digital Game-Based Learning (DGBL) influence student engagement, motivation, and learning outcomes in reducing boredom during English lessons at Yos Sudarso Metro High School, and what challenges emerge in this process?

## **METHODS**

This study employed a qualitative descriptive approach to explore the implementation of Digital Game-Based Learning (DGBL) and its role in reducing learning boredom at Yos Sudarso Metro High School. The participants consisted of 32 eleventh-grade students who were directly involved in classroom activities where digital games were used as part of the learning process. The participants were selected using purposive sampling, as they had direct experience with Digital Game-Based Learning through platforms, including Quizizz and Wordwall during classroom instruction. The sampling technique was considered

appropriate because the study aimed to obtain in-depth insights from students who were actively involved in the implementation of DGBL rather than to generalize findings to a larger population. The research was conducted in the natural classroom setting to ensure that the data reflected real learning conditions.

Data were collected through two main techniques, namely classroom observations and a structured questionnaire distributed via Google Forms. During the observation process, the researchers recorded student behaviors, classroom interactions, and responses to digital game-based activities. These observations provided contextual and authentic information about students' engagement, motivation, and classroom dynamics. In addition, the Google Forms questionnaire was used to obtain students' perspectives on the effectiveness of DGBL in supporting their learning. The questionnaire included 16 items related to motivation, interest, enjoyment, and perceived improvement in understanding the lesson. Responses were measured using a five-point Likert scale, ranging from strongly disagree to strongly agree. The questionnaire was administered after the implementation of DGBL to allow students to reflect on their learning experiences.

Data analysis was conducted using Qualitative Thematic Analysis. The process began with data familiarization, where researchers carefully reviewed observation notes and questionnaire responses. Relevant statements were then coded to capture meaningful information related to student engagement, motivation, and the use of game-based tools. These codes were grouped into broader themes, which were continually reviewed and refined to ensure consistency with the data and research objectives. The finalized themes formed the basis for interpreting how DGBL contributes to overcoming learning boredom and enhancing student participation in the classroom.

Ethical considerations were addressed throughout the research. Students were informed about the purpose of the study, and their participation was voluntary. Consent was obtained, and all responses were kept confidential and used only for academic purposes. This method is expected to provide a comprehensive understanding of how DGBL influences learning behavior and offers practical insights for improving teaching strategies at Yos Sudarso Metro High School and similar educational contexts.

## **FINDINGS**

Data obtained from classroom observations and Google Forms questionnaires revealed three major findings regarding the use of Digital Game-Based Learning (DGBL) at Yos Sudarso Metro High School: increased student engagement, improved learning perception, and implementation challenges.

First, DGBL was found to significantly enhance student engagement. Most students reported that digital platforms such as Quizizz and Wordwall made lessons more enjoyable, interactive, and less monotonous. These tools encouraged active participation and increased enthusiasm during class activities. Observational data supported this, showing that students were more attentive, eager to respond, and collaborative during game-based sessions compared to teacher-centered instruction.

Second, students perceived DGBL as supportive of their learning. Many indicated that digital games helped them better understand lesson materials, especially in English topics such as grammar and descriptive texts. Game-based quizzes allowed students to review

content in manageable formats and receive immediate feedback. Despite this, a small number of students noted that the effectiveness of these tools varied depending on content complexity or subject matter.

Third, several challenges emerged during implementation. Some students experienced difficulties related to internet connectivity, limited device availability, or unfamiliarity with the platforms. A few students also struggled to adjust to the transition from traditional learning routines to technology-based activities. These obstacles suggest the need for adequate resources, clear instructions, and gradual adaptation for both teachers and students.

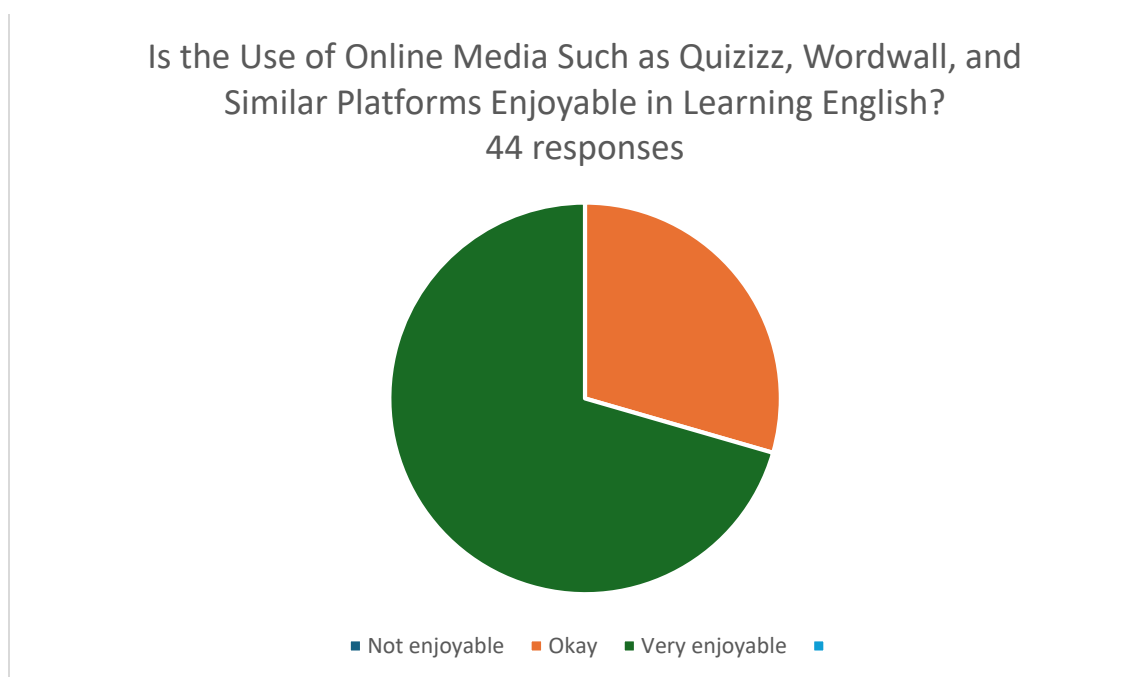


Figure 1. Survey of the online media uses

## DISCUSSION

The findings indicate that Digital Game-Based Learning (DGBL) plays a meaningful role in reducing learning boredom and fostering student engagement. The integration of game elements such as points, rewards, competition, and interactivity appears to create a more stimulating learning environment, encouraging students to participate actively rather than remain passive recipients of instruction. This outcome aligns with prior studies emphasizing that well-designed game mechanics can enhance learners' intrinsic motivation and positively influence classroom dynamics (Park & Kim, 2021). The increased student participation observed in this study further supports research highlighting the capacity of game-based platforms to transform traditional teacher-centered instruction into active, learner-centered engagement. They suggest that DGBL is particularly effective in addressing affective dimensions of learning—such as motivation and attention—which are often

overlooked in conventional pedagogical approaches. By reducing boredom, DGBL can create favorable conditions for deeper cognitive processing and sustained participation.

Furthermore, the positive perception of DGBL in enhancing students' understanding supports the view that digital games can function as effective instructional aids, especially when they are well aligned with curriculum objectives and learning outcomes. Digital tools such as Quizizz and Wordwall offer features including instant feedback, repeated exposure to content, and engaging task formats, all of which contribute to knowledge reinforcement and conceptual clarity (Segaran & Hashim, 2022). These features allow learners to identify errors promptly and adjust their understanding through iterative practice. However, the variation in perceived usefulness across different subject areas indicates that not all content is equally suited to game-based formats. This variation underscores the importance of pedagogical alignment, suggesting that DGBL should not be treated as a universal solution but rather as a strategic tool whose effectiveness depends on the nature of the subject matter, learning objectives, and instructional design.

The challenges identified in this study—such as limited technological infrastructure and varying levels of digital literacy among teachers and students—reflect common concerns reported in the educational technology literature. These obstacles demonstrate that the effectiveness of DGBL is not determined solely by the availability of digital games but also by contextual and systemic factors, including access to devices, internet connectivity, and teachers' competence in integrating technology into pedagogy (Dashtestani, 2022). Without adequate preparation and support, even well-designed DGBL initiatives may fail to achieve their intended outcomes. This finding highlights the need for institutional commitment in the form of professional development, infrastructure investment, and inclusive implementation strategies, emphasizing that sustainable DGBL adoption requires a holistic approach rather than isolated classroom-level innovations.

Overall, the study reinforces the potential of DGBL as an innovative instructional approach capable of making learning more engaging, meaningful, and relevant to contemporary learners. While its effectiveness depends on careful planning and equitable access, the positive responses from students indicate that DGBL can contribute to improved motivation and learning outcomes. Future research could examine long-term impacts, cross-subject applications, and strategies to address technological limitations.

## **CONCLUSIONS**

This study explored the use of Digital Game-Based Learning (DGBL) at Yos Sudarso Metro High School and demonstrated that it has considerable potential to reduce learning boredom and improve student participation. The results showed that students were more enthusiastic, attentive, and actively involved when digital games were incorporated into lessons. DGBL also helped students better grasp the material, especially in English classes, where interactive platforms such as Quizizz and Wordwall supported understanding and retention.

However, the application of DGBL is still challenged by several factors, including limited internet access, unequal availability of devices, and differences in teacher readiness to use technology-based learning. Therefore, effective implementation requires adequate

infrastructure, teacher competency development, and careful lesson planning that integrates DGBL with learning objectives.

In summary, DGBL can serve as an innovative and student-centered learning approach that enhances classroom dynamics. Future studies are recommended to investigate its long-term effects, evaluate its use in other subjects and educational levels, and explore practical strategies to address technological and instructional limitations. With proper support and adaptation, DGBL has the potential to become a transformative model in modern education.

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