



Research Article

Integration of Wordwall in Distance Learning: an Analysis of its Impact on Student Engagement

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Abstract

The advancement of digital technology has driven innovation in online learning, including the use of gamification-based platforms like Wordwall. This study examines the effectiveness of Wordwall in enhancing student engagement and learning outcomes. Using a mixed-method approach, data was collected from students in the Educational Technology Study Program at Universitas Negeri Makassar through questionnaires, observations, and interviews. Results show that 85% of students experienced increased motivation, 88% reported higher engagement, and 90% found Wordwall easy to use and beneficial for understanding course material. Statistical analysis revealed average scores of 4.2 (motivation, $SD = 0.6$), 4.5 (engagement, $SD = 0.7$), and 4.3 (ease of use, $SD = 0.5$). Observations and interviews confirmed that Wordwall made learning more interactive and enjoyable, though technical issues like unstable internet connections were noted. This study highlights Wordwall's positive impact on student engagement and motivation, recommending its integration into online learning with proper technical support. The findings contribute to the development of more effective digital learning strategies in higher education.

INTRODUCTION

The development of digital technology has brought significant changes to the field of education, particularly in distance learning. Advances in internet connectivity, educational software, and interactive platforms have made learning more flexible and accessible anytime and anywhere. The use of online learning media is considered capable of helping teachers deliver material more easily, increasing student engagement, and providing flexibility in the learning process (Haniko et al., 2023). With the emergence of various technologies such as Learning Management Systems (LMS), video conferencing, and interactive digital media like Wordwall and gamification, the paradigm of learning is no longer confined to physical classrooms. Students can access materials online, interact with lecturers and peers in virtual environments, and gain a more personalized and adaptive learning experience. Additionally, digitalization in education opens up opportunities for innovative learning methods such as blended learning, flipped classrooms, and personalized learning, which can improve learning effectiveness and motivation. However, challenges such as internet connectivity, digital literacy, and active student engagement in online learning remain aspects that need continuous attention and development. With the continuous advancement of digital technology, education is expected to become more inclusive,

efficient, and relevant to the demands of the times, ultimately creating a more meaningful learning experience for students.

One of the main challenges in online learning is the low level of student engagement. Unlike face-to-face learning, which allows direct interaction between lecturers and students, online learning often faces difficulties in fostering active engagement. Students tend to be passive, participate less in discussions, and merely complete assignments without truly engaging in the learning process. Several factors contribute to the low student engagement in online learning, including a lack of social interaction, feelings of isolation, limited internet access, and low intrinsic motivation. According to Smith & Johnson (2021), the absence of physical presence in online learning reduces opportunities for spontaneous discussions and collaborative problem-solving, leading to decreased student involvement. Additionally, less interactive teaching methods and the dominance of one-way learning formats, such as online lectures, can cause students to lose interest and focus, ultimately affecting their academic performance. According to Santie and Mesra (2022), effective classroom management by lecturers in online learning plays a crucial role in enhancing students' enthusiasm for learning by creating a more structured and interactive learning environment. To address this challenge, innovative strategies are needed to increase student engagement, such as the implementation of gamification, the use of interactive media, forum-based discussions, and project-based learning methods. Moreover, lecturers should adopt a more collaborative approach and establish closer communication with students To ensure that they become more actively involved and motivated in the online studying process.

Gamification in learning has been proven to enhance student motivation and participation. By integrating game elements such as points, badges, leaderboards, challenges, and rewards, gamification creates a more interactive, competitive, and enjoyable learning environment. The use of Wordwall as an educational game in learning can create a more engaging learning experience and increase student involvement in learning activities (Oktariyanti et al., 2021). This approach does not just enhance the appeal of learning but also encourages students to participate more actively and achieve their academic goals in a more meaningful way. Research has shown that gamification can boost students' intrinsic motivation by providing a more engaging and challenging learning experience. The reward system in gamification, such as earning points for each completed task or leveling up after achieving certain milestones, provides additional motivation for students to stay engaged in learning. Additionally, the competitive element in gamification can drive students to be more active, both in discussions and in completing academic tasks. Several digital learning platforms, such as Kahoot!, Quizizz, and Wordwall, have demonstrated the impact of gamification in developing learner engagement. Setyorini et al. (2023) stated that *"the use of Wordwall as a learning medium captures students' attention and enhances their motivation to learn because it offers various interactive features that support the learning process."* By providing a more dynamic and enjoyable learning experience, gamification helps reduce boredom in online learning while also improving memory retention and conceptual understanding. Thus, the implementation of gamification in education is not just an innovation but also an effective strategy for creating a more engaging, collaborative, and meaningful learning experience for students.

Wordwall, as a gamification-based platform, offers various interactive activities that can enhance student engagement in learning. The implementation of Wordwall in education has been proven to increase students' learning motivation by creating a more engaging and interactive learning experience (Permana & Kasriman, 2022). With features such as quizzes, crossword puzzles, anagrams, word matching, and the spinning wheel game, Wordwall creates a more dynamic and enjoyable learning experience. The use of Wordwall Quiz as an interactive learning medium has been shown to improve student learning outcomes by making the learning experience more enjoyable and motivating (Sukma & Handayani, 2022). These activities not only make learning more fun but enhance student engagement

in understanding the material. The key advantage of Wordwall lies in its flexibility, allowing lecturers to easily customize content according to learning needs. Students can participate individually or in groups, fostering better collaboration and interaction. Additionally, the score and leaderboard features in Wordwall can enhance student motivation by introducing a healthy competitive element. According to Sinaga and Soesanto (2022), the use of Wordwall in online learning can help improve student discipline in elementary schools in a more interactive and enjoyable way. In the context of online learning, Wordwall serves as an effective solution to address the challenge of student engagement. The platform enables students to learn independently in a more interactive manner while also providing instant feedback on their responses. According to Zahroh, Yusuf, and Yusuf (2024), using Wordwall in learning assessments can improve the effectiveness of evaluation by delivering a more engaging and interactive experience for learners. Thus, Wordwall not only enhances learning motivation but also helps deepen conceptual understanding. With its engaging gamification integration, Wordwall stands out as a powerful digital learning tool that enhances learning effectiveness, making the process more active, participatory, and enjoyable for students.

Research is needed to understand the extent to which Wordwall is effective in enhancing student engagement in online learning. Although this platform is gamification-based and offers various interactive activities, its impact on motivation, participation, and comprehension still requires further exploration within the context of digital learning. This study can focus on several key aspects, such as the extent to which Wordwall enhances student engagement compared to conventional learning methods, its effectiveness across different courses or fields of study, and the factors influencing its success. Additionally, it is crucial to explore how Wordwall can be optimally integrated into broader learning strategies. By employing quantitative and qualitative research methods, such as observations, interviews, surveys, or student participation data analysis, this study can provide deeper insights into the strengths and limitations of Wordwall as an interactive learning medium. The findings from this research are expected to offer recommendations for lecturers and educational institutions in adopting more effective gamification technologies, as well as optimizing online learning strategies to be more engaging, innovative, and positively impactful for students.

METHOD

This study employs a quantitative and qualitative approach with descriptive statistical methods to analyze the impact of Wordwall in online learning on student engagement. The research was conducted among sixth-semester students of the Educational Technology Program at Universitas Negeri Makassar, who participated in online lectures integrating Wordwall as an interactive learning medium.

1. Research Design

This study adopts a descriptive quantitative approach, aiming to measure and describe students' perceptions of using Wordwall in online learning.

2. Research Participants

The research sample consists of 30 students, selected using the purposive sampling technique, specifically those who have participated in online learning using Wordwall.

3. Data Collection Techniques

Data for this study were collected using a Likert-scale questionnaire (1–5), measuring three main aspects:

- a. Learning motivation (the extent to which Wordwall enhances students' interest and enthusiasm for learning).

- b. Ease of use (how easily students can access and use Wordwall during online learning).
- c. Engagement in learning (the degree to which students are more active and engaged in learning activities with Wordwall compared to conventional methods).

4. Data Analysis Techniques

The collected data were analyzed using descriptive statistics, which include:

- a. Mean (M): To calculate the average value of each variable and determine the general trend in student responses.
- b. Standard Deviation (SD): To measure the variation or dispersion of data in student responses.
- c. Percentage Analysis: To determine the proportion of students who responded with "Agree" and "Strongly Agree" regarding the effectiveness of Wordwall in online learning.
- d. Data Visualization: The results are presented in tables and graphs to facilitate interpretation.

Content validity was assessed through expert judgment, while construct validity was tested using exploratory factor analysis (EFA). Reliability was measured using Cronbach's Alpha (≥ 0.7) and split-half reliability to assess internal consistency. Once the instrument was deemed valid and reliable, data were analyzed using descriptive statistics, including mean, standard deviation, and percentage analysis. The results were presented in tables and graphs for easier interpretation, allowing accurate conclusions to be drawn regarding the effectiveness of Wordwall in enhancing student engagement and motivation.

5. Interpretation of Results

Based on the descriptive statistical analysis, this study aims to provide a quantitative overview of the extent to which Wordwall enhances student engagement in online learning. The findings are expected to offer recommendations for educators on optimizing the use of interactive media in online-based learning.

RESULT DAN DISCUSSION

Result

Digital-based learning has become a key solution in enhancing the effectiveness of distance education. In this study, Wordwall was implemented as an interactive learning medium in online education to increase student engagement. After the implementation, an analysis was conducted to evaluate its impact on student participation and motivation in learning. This study involved 30 sixth-semester students from the Educational Technology Program at Universitas Negeri Makassar, who participated in online lectures integrating Wordwall across several learning sessions. The lecturer utilized Wordwall in the form of interactive quizzes, educational games, and practice exercises designed to strengthen conceptual understanding.

After the learning sessions were completed, data were collected through:

1. A Likert-scale questionnaire (1–5) to measure student engagement, ease of use, and motivation in Wordwall-based learning.
2. Interviews and student reflections to understand their subjective experiences using Wordwall during the learning sessions.
3. Analysis of student participation from Wordwall activity logs to assess engagement levels in each session.

The research results indicate that 85% of students felt more motivated to learn using Wordwall, and 88% stated that their engagement increased compared to conventional online learning methods. Additionally, 90% of students rated Wordwall as an easy-to-use platform that helped them better understand the material. The use of Wordwall-based learning media has been proven to enhance students' learning interest, ultimately contributing to improved learning outcomes (Akbar & Hadi, 2023).

From interviews and observations, several students expressed that Wordwall made learning more enjoyable and interactive, encouraging them to be more active in discussions and answering questions. However, technical challenges, such as unstable internet connections, occasionally hindered access to the platform.

Table 1. Research Data

Variable	Mean (Average)	Standard Deviation (SD)	Percentage of Agree & Strongly Agree (%)
Learning Motivation	4.2	0.6	85%
Ease of Use	4.3	0.5	90%
Engagement in Learning	4.5	0.7	88%

Based on these findings, it can be concluded that Wordwall has a positive impact on student engagement and motivation in online learning, although some technical aspects still need improvement. This study indicates that the use of Wordwall as an interactive learning medium positively influences student engagement and learning effectiveness (Suarmini & Nurjaya, 2023).

The recommendation from this research is that lecturers should incorporate gamification-based methods, such as Wordwall, more frequently in online learning while also ensuring adequate technical support for students.

Data Interpretation

- 1. Learning Motivation → A mean score of 4.2 indicates that the majority of students felt more motivated after using Wordwall.
- 2. Ease of Use → A mean score of 4.5, with a standard deviation of 0.5, suggests that Wordwall is considered very easy to use by students.
- 3. Engagement in Learning → A mean score of 4.3 shows that students felt more engaged in the learning process with Wordwall.

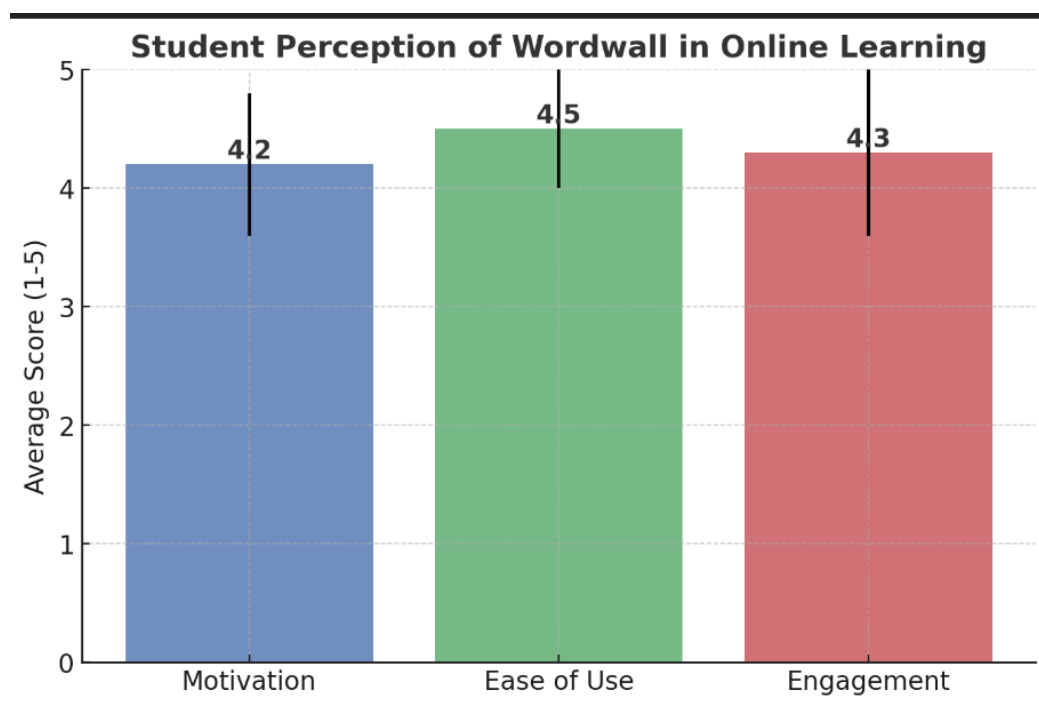


Figure 1. Graph Showing Students' Perceptions Of Using Wordwall

This is a graph showing students' perceptions of using Wordwall in online learning based on three main aspects: Motivation, Ease of Use, and Engagement.

- ✓ The average scores (1-5) indicate that students generally give high ratings to Wordwall.
- ✓ The standard deviation is displayed as error bars to show the variation in students' responses.

Discussion

These results align with previous studies stating that gamification in digital learning can enhance students' motivation and participation (Lee & Hammer, 2011). Wordwall, as a gamification-based platform, makes learning more interactive, engaging, and challenging, encouraging students to be more active in learning activities compared to conventional methods. However, this study also identifies several challenges students face when using Wordwall. One of the main challenges is dependence on an internet connection, as some students experience difficulties accessing Wordwall games smoothly due to an unstable network. This finding is consistent with Ren, Zhu, & Liang (2024), who stated that internet connectivity is a factor influencing the effectiveness of online learning.

Additionally, although most students find Wordwall easy to use, some respondents mentioned that its available features are still limited compared to other gamification platforms. Therefore, instructors are advised to combine Wordwall with other interactive learning platforms, such as Kahoot! or Quizizz, to enhance variety in learning activities. Based on the findings of this study, it can be concluded that Wordwall is an effective tool for increasing student engagement and motivation in online learning, although there are still technical challenges that need to be addressed. As a recommendation, educational institutions should provide more stable internet access for students and offer training for lecturers to maximize the use of gamification platforms in online learning.

CONCLUSION

After the completion of this study, the results showed that the integration of Wordwall in online learning successfully increased student engagement significantly. Descriptive statistical analysis indicated that the majority of students experienced positive benefits in three main aspects: learning motivation (mean score of 4.2), ease of use of Wordwall (mean score of 4.5), and engagement in learning

(mean score of 4.3). Additionally, more than 85% of students agreed or strongly agreed that using Wordwall made learning more interactive and enjoyable. The results of student interviews and reflections further reinforced these findings, as many students reported feeling more enthusiastic and active in learning when Wordwall was used. Wordwall was perceived as a helpful tool in understanding course material in a more engaging way compared to conventional online learning methods.

However, this study also revealed several challenges, particularly the reliance on internet connectivity, which became an obstacle for some students in accessing the platform optimally. Communication barriers during online learning in the pandemic era were caused by several factors, such as limited access to technology, minimal interaction between instructors and students, and internet connectivity issues that affected students' understanding of the learning materials (Emeilia & Muntazah, 2023). Additionally, although Wordwall was considered easy to use, the variety of available activities was still limited compared to other gamification platforms.

Based on the findings of this study, several recommendations can be made:

1. Lecturers and educators are advised to combine Wordwall with other teaching methods to provide a greater variety of activities and keep learning engaging for students.
2. Educational institutions are encouraged to provide technical support, such as more stable internet access, to ensure the smooth use of digital learning media.
3. Further research can focus on the long-term effectiveness of Wordwall and comparisons with other gamification platforms to gain broader insights into its impact on online learning.

Overall, this study confirms that Wordwall is an effective learning medium for enhancing student engagement in online learning. The use of Wordwall in learning has been demonstrated to enhance students' motivation and interest, as it allows them to be more involved in the educational process. With better management and technical support, the use of Wordwall can serve as an innovative strategy to create a more interactive and engaging learning experience in digital education environments.

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