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Exploring Students' English Learning Engagement in Wordwall-Based Activities

Khalifah Nurul Hikmah[1], Kamelia Lutviyani[2], Natasha Sayyida[3], Syauki[4]
[1234]Ilmu Tarbiyah dan Keguruan, UIN Syarif Hidayatullah, Jakarta
Corresponding E-Mail: nurulalifaa07@gmail.com

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Abstract

Students' engagement is a key factor in successful English language learning, yet many EFL learners in Indonesia still demonstrate low levels of engagement and often perceive English as difficult. This is perhaps due to a lack of interactivity in more traditional teaching approaches, which may discourage more active participation. Most previous studies on gamification in language learning focused on experimental studies using popular platforms like Quizizz and Kahoot, and there is also limited research on Wordwall in the Indonesian EFL context. This research gap highlights the need to explore how Wordwall can foster students' learning engagement in English classrooms. This study aims to explore students' emotional, behavioral, and cognitive dimensions of engagement in an English lesson that incorporates Wordwall activities. This study employed a qualitative descriptive method, involving two classes of 7th grade students in SMP Dharma Karya UT, South Tangerang, involving 42 seventh-grade students, with 10 students participating in semi-structured interviews in Indonesian formal classroom settings. Data were collected through two classroom observation sessions over a two-week period, supported by semi-structured interviews. The findings reveal that students demonstrated high emotional engagement through enthusiasm and enjoyment, behavioral engagement through active participation and peer collaboration, and cognitive engagement through recalling vocabulary, constructing sentences, and explaining their answers during Wordwall-based activities. Despite promoting enjoyment, meaningful engagement was strengthened when Wordwall was accompanied by appropriate instructional guidance. These findings contribute to the discussion on gamification in English language education by highlighting how Wordwall can be strategically integrated to support sustained emotional, behavioral, and cognitive engagement, rather than merely increasing classroom enjoyment.

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Keywords: gamification-based learning; students' engagement; Wordwall

Introduction

Over the last few decades, technology has spread to education as a means of interacting with learning experiences and making it more interesting for learners. In English education, interactive media in the form of games has become popular since it can enhance the learning environment as opposed to conventional approaches, which tend to be unidirectional. One such tool that is increasingly popular is Wordwall, which allows teachers to create activities such as quizzes, matching games, and other interactive elements. Students prefer this type of learning because of the fun, participative engagement, and immediate feedback or outcome, which are difficult to attain through conventional methods. Wordwall, a web-based tool that allows users to design quizzes, matching games, and interactive tasks, has become a popular tool in English language education, providing immediate feedback and participatory engagement that cannot be easily achieved through traditional teacher-centered practices.

The three dimensions of student engagement are behavioral (active participation and effort), emotional (affective reactions and sense of belonging), and cognitive (investment in understanding and mastery), which are interconnected (Fredricks et al., 2004). This framework distinguishes between engagement and other similar concepts: motivation refers to the internal drive to learn, whereas engagement is the outward expression of that motivation in observable patterns of behavior, emotion, and thought. Likewise, achievement is a measure of learning outcomes, whereas engagement is a measure of the quality of participation in the learning process itself. These differences can be important in analyzing how digital tools impact the learning process of students.

Although Wordwall is interactive, it is difficult to sustain meaningful interaction (Henrie et al., 2015). Students tend to be involved primarily for enjoyment, rather than for the prolonged cognitive reasoning. Wordwall can also be played as scoring-based quizzes, which teachers often use (Fitria, 2023), bringing excitement but not helping to engage in a deeper way. Most students are only doing it competitively, driven by extrinsic stimuli that prevent them from fully processing the content and paying close attention to the cognitive aspects. This suggests that the use of gamification tools alone does not automatically guarantee meaningful engagement, and that more exploration is needed to understand how students behave, feel, and think when learning English using Wordwall.

The current gamification studies (Kahoot, Quizizz) demonstrate a rise in motivation and interest in studying English (Rahman et al., 2021). The research on Wall Theory has resulted in nothing but great things such as the increased vocabulary to be learned in Saudi Arabian EFL classrooms (Almuafa & Alqurashi, 2025) and favorable attitudes among Vietnamese students (Do & Huynh, 2024). Nevertheless, most of the research focuses on achievement or overall motivation, as opposed to analyzing how students interact emotionally, behaviorally, and

cognitively with gamification activities. This is a critical gap in Indonesian formal education, where English is taught as a foreign language with its own distinctive issues: high-classrooms, wide disparities in proficiency, and limited natural language exposure outside the classroom. Wordwall has potential, but its role in contributing to multidimensional engagement in Indonesian English education is not fully explored.

Gamification tools in English language learning have been widely studied, particularly with the use of platforms such as Kahoot and Quizizz. However, there is still limited research specifically examining the role of Wordwall in fostering students' engagement in learning English. Most existing studies focus more on learning outcomes or academic achievement, while the aspect of student engagement and students' perception is often overlooked. For example, research by Anisa et al. (2020), focused on the use of Kahoot, shows that gamification can increase intrinsic and extrinsic motivation through competition and feedback features. Meanwhile, a study by Widhiatama & Brameswari (2024) using Wordwall showed positive results in increasing student engagement and motivation in literature classes, but the study was limited to a specific "literature classes" context and has not been widely explored in English language learning in general. This points to a clear research gap which Wordwall has shown potential in supporting learning, but its contribution to foster emotional, behavioral, and cognitive engagement, especially within formal English learning settings, remains an underexplored area.

This study investigates the impact of Indonesian secondary school students' use of Wordwall-based activities on all three dimensions of engagement. This study examines the lived experiences of students, unlike earlier studies that focused on achievement or general motivation, where the voices of students take centre stage in this research. This inquiry is guided by three research questions:

1. How do students emotionally engage with the use of Wordwall-based activities in learning English?
2. How do students behaviorally engage with the use of Wordwall-based activities in learning English?
3. How do students cognitively engage with the use of Wordwall-based activities in learning English?

By focusing on Wordwall as a gamification tool to enhance students' English learning engagement, this research contributes to the growing field of technology-based language learning and offers insights into how Wordwall might be integrated into pedagogical practices. This study's novelty lies in the use of Wordwall instead of some common gamification learning tools like Kahoot or Quizziz. This study will also put students' voices at the center through the interview results, rather than merely scoring their achievements. It will provide a deeper understanding of students' experiences in learning English using Wordwall, examining whether it

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truly makes them interested and enthusiastic in learning English, as well as identifying the aspects that most influence this. This contributes to refining theoretical understandings of how digital game-based elements (e.g., rewards, competition, interactivity) influence and maintain students' learning engagement in foreign language learning contexts. Thus, this study lays a foundation for how Wordwall can be meaningfully integrated to promote deeper and more sustained engagement among Indonesian school English learners.

In summary, although existing studies have indicated the potential of gamification tools to support language learning, there remains a lack of research on Wordwall's role to engage students' English learning in Indonesian formal education settings. This study addresses that gap by examining Indonesian students' visible response and their feelings towards the use of Wordwall as an engaging English learning tool. The findings of the research help explain how Wordwall can be used within school contexts to stimulate English learning interest and student participation, providing informed suggestions to teachers and policy makers. The study makes a theoretical and practical contribution by demonstrating how Wordwall-based activities influence students' emotional, behavioral, and cognitive engagement in English language learning.

Literature Review

Students' Learning Engagement

Learning engagement is beyond attendance, it involves active effort, persistence, and enjoyment in learning. Heilporn et al. (2021) highlight three interrelated dimensions of student engagement; behavioral, emotional, and cognitive. Students' behavioral engagement relates to their participation in activities and adherence to rules or norms. Students with high levels of behavioral engagement tend to ask questions, answer back, work in groups, and write exercise solutions without any apparent external constraint. Furthermore, students' emotional engagement refers to their emotional reactions to activities, classmates, and teachers, as well as their sense of commitment to the subject math.

According to Pietarinen et al. (2014), emotional engagement not only affects students' mood but also mediates the relationship between the classroom environment, teacher–student interaction, peer interaction, and cognitive engagement. Emotional engagement supports students' motivation, well-being at school, and their ability to engage deeply in learning activities. Cognitive engagement, in turn, relates to students' psychological investment in mastering complex knowledge and their use of learning or metacognitive strategies. Cognitively engaged students tend to demonstrate initiative by inquiring further about learning materials, questioning unclear content, and striving for deeper understanding rather than merely attending or performing academically.

Empirical research indicates that students who display high levels of behavioral, emotional, and cognitive engagement tend to achieve better learning

outcomes, higher psychological well-being, and stronger commitment to their studies. In contrast, students with low engagement are more vulnerable to academic failure, apathy, or dropping out. This is supported by research conducted at STIT At-Taqwa Ciparay, which found a significant correlation between student engagement and academic achievement, indicating that higher engagement is associated with higher academic performance (Komussudin, 2021)

In addtion to academic achievement, student engagement is also closely related to psychological adjustment within the educational environment. Research by Dharmayana et al. (2012), demonstrates that students' emotional competence influences academic success through the mediating role of engagement, suggesting that engagement acts as a bridge between students' emotional conditions and learning outcomes. Furthermore, engaged students are more likely to employ metacognitive strategies, such as organizing and monitoring their learning process, which positively affects academic performance (Acosta-Gonzaga, 2023).

Wordwall as Learning Tool

Wordwall is a web-based application that provides interactive and educational quiz games designed to support learning activitie(Arifin et al., 2023; Swari, 2023; Widhiatama & Brameswari, 2024). Its interactive features have made Wordwall popular for increasing student engagement and supporting learning development, as it creates a more dynamic classroom atmosphere and encourages active participation (Arifin et al., 2024). As learning media serve as tools to facilitate teaching and learning through communication technologies such as computers and the internet, Wordwall functions effectively as a digital medium that enhances classroom interaction (Baruah, 2012).

Previous studies have highlighted the distinction between Wordwall and other gamified platforms. Arifin et al. (2023), noted that Quizizz primarily functions as an evaluation platform, whereas Wordwall serves as a learning medium that supports students' understanding of instructional content (Arifin et al., 2024; Safitri et al., 2022; Swari, 2023). Research has shown that the use of Wordwall in English language learning increases student engagement (Widhiatama & Brameswari, 2024 as cited in Arifin et al., 2024) By providing varied learning activities rather than focusing solely on assessment, Wordwall enables students to interact more meaningfully with learning materials. Overall, Wordwall is not merely a game-based tool but an effective learning medium for improving students' understanding, motivation, and engagement in English language learning.

The Use of Gamification Tools in English Language Learning

Recent studies have increasingly examined the role of gamified digital tools in language education, including platforms such as Wordwall, Kahoot, and Quizizz. The integration of technology in language teaching is widely regarded to create

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more interactive and enjoyable learning experiences that foster student engagement, motivation, and active participation.

Several studies in the Indonesian context have explored the relationship between gamification, engagement, and motivation. Artati (2021), using an experimental design, found that Kahoot had a strong positive effect on students' motivation when used as an icebreaker. Similarly, Putra & Priyatmojo (2021) investigated students' attitudes toward gamification in English classes through questionnaires and interviews, revealing generally positive perceptions. These findings are consistent with Anisa et al. (2020), who reported that gamification elements such as feedback, visual design, and competition contributed to increased motivation and engagement among eleventh-grade students learning English through Kahoot. The study also highlighted the relevance of Self-Determination Theory in explaining how gamification supports student motivation.

In addition, Pradini & Adnyayanti (2022) conducted an experimental study on the use of Wordwall to improve fifth-grade students' vocabulary mastery during the COVID-19 pandemic, concluding that Wordwall functioned as an effective and practical digital medium that made learning more enjoyable and meaningful. However, despite growing interest in gamification, research specifically examining how Wordwall influences student engagement in general English classrooms remains limited, particularly beyond vocabulary-focused activities. Most existing studies focus on Kahoot or are conducted in controlled experimental settings rather than regular classroom contexts.

Unlike previous research, the present study focuses on the use of Wordwall as a gamification learning tool by placing students' voices at the center of analysis. This study highlights the relationship between students' attitudes, perceptions, and engagement when using Wordwall in English classrooms, an area that has received limited attention in prior research. The novelty of this study lies in its exploration of Wordwall integration as a means of enhancing student engagement in authentic classroom settings, contributing to ongoing discussions in English Language Teaching.

Method

This study employed a qualitative descriptive research design to describe and explore in-depth of students' feelings and experience towards using Wordwall as a learning tool. According to Yin & Robert K (2016), the qualitative approach allows researchers to witness the everyday life of different types of people and what they hold in a given situation. Thus, the choice of a qualitative approach in this study was guided by exploring students' sentiments and views of learning English using Wordwall. Second, as noted by Deckert & Wilson (2023), state that descriptive research allows researchers to describe and understand what the participants experience. Descriptive research may include collecting data using questionnaires and reviews, surveys, interviews, or observations. In this way,

researchers are expected to produce rich and in-depth information about how gamification tools such as Wordwall can trigger students' engagement in learning English.

The participants of this study involved two classes of 7th grade students at SMP Dharma Karya UT, South Tangerang. The class was selected based on convenience sampling, considering accessibility to conduct the research. According to Makwana et al. (2023), convenience sampling is choosing sample members based on their ease of accessibility to participate in the data collection process. The selection process involved choosing members who were readily available to the researcher. The total of participants are 42 students with varying levels of proficiency. For the purpose of depth in the data, 5 students from each class, 10 students in total were chosen for a semi-structured interview. The interview participants were selected based on clearly observable high levels of engagement during the Wordwall-based classroom activities, such as students who showed enthusiasm, actively participated in group discussions, and responded consistently to the learning tasks. These students were chosen to obtain rich and detailed insights into how Wordwall-based activities foster learning engagement. The school and all participants were informed about the research objectives, and informed consent was obtained prior to data collection. Students' identities were kept anonymous, and participation was voluntary.

This study used observation checklists as instruments to collect data on student learning engagement during the use of Wordwall in English language learning. Through this instrument, it is possible to record students' perceptions, enthusiasm, feelings, and experiences during the learning process in a structured manner and to assess the extent to which students show engagement in participating in Wordwall-based activities. The observation checklist instrument used in this study was adapted from the questionnaire adopted by Widhiatama & Brameswari (2024), which was originally developed by Reeve & Tseng (2011). The original questionnaire was designed to measure students' engagement through self-reported responses in a quantitative form. However, since this study employed a qualitative approach, the instrument was adapted into an observation checklist, enabling the researcher to record observable student behaviors during the learning activities which align with the research objectives. The adaptation process involved transforming each questionnaire item, such as indicators of behavioral, emotional, and cognitive engagement, into indicators that could be directly observed in the classroom.

Additionally, semi-structured interview guide was used to discover their emotional, behavior, and cognitive skills in using Wordwall in learning the English language, focusing on students' personal voices. Semi-structured interview questions were adapted from the observation checklists instruments to enrich the information of students' perceptions and experiences in the classroom. Questions

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were further adapted by translating them from English into Indonesian through translation tools such as *DeepL* to match the native language of the participants so that the students' experiences could be conveyed effectively. The translated interview questions were reviewed to ensure clarity and conceptual equivalence before being administered to the students. The interview results were recorded, transcribed word for word, and scheduled after the observation so that interview data may complement and extend the findings from observation. Data triangulation was conducted by comparing observation data with interview responses. Member checking was applied by confirming key interpretations with selected participants to ensure accuracy.

The data were collected by observation and semi-structured interviews. The researchers conducted participatory observation, where the researchers acted as classroom teachers, facilitating the activities while simultaneously observing students' engagement. The classroom observations were conducted in two meetings for each class over two-week period during regular English lessons, with each session lasting approximately 80 minutes. During the observation sessions, several Wordwall-based activities were implemented, including matching games, quiz show formats, group sort, spint the wheel, open the box, anagram, and group-based short-answer activities. Wordwall was used in all observed meetings, with an average duration of 20–30 minutes per activity, integrated into the main learning material.

Semi-structured interview conducted following the observation data because it allows researchers to understand the actual feelings of the respondents on the phenomenon under study (Mwita, 2022). Through the interviews, rich qualitative data on student learning experience was obtained: how they think and feel English learning using Wordwall. This approach aims to generate valid and context-rich data and therefore a clear picture of the elements of students' learning engagement using Wordwall. To minimize researcher bias, the observation checklist was used as a structured guide, and data interpretation was supported by interview data to avoid reliance on a single source.

Table 1. A summary of the research instruments and data sources used in this study.

Instrument	Indicator	Data Source
Observation checklist	Visible Emotional, Behavioral, Cognitive engagement	Classroom observation
Semi-structured interviews	Students' perceptions and experiences	5 students' interview of each class

The data obtained from observations and interviews were analyzed descriptively and qualitatively following 5 stages of data analysis introduced by Miles et al. (2014):

1. Transcription and Data Organization
   The word-by-word transcription was done for all the recordings of the interviews. Data organizations were conducted for observational data. The observation and interview data were organized descriptively. The interview excerpts were translated back into English for publication purposes. To maintain meaning accuracy, the translations focused on conceptual equivalence rather than literal wording.
2. Data reduction
   Researchers went through the transcripts and observation results for the second time to comprehend the total content. The focus of the research is students' engagement of Wordwall use, and relevant data was selected. Less relevant data fragments (off-topic) were put away, thus helping to concentrate on the main phenomenon.
3. Category Formation
   Researchers recognized the primary themes from the reduced data based on the patterns/keywords/repeated experiences of students using Wordwall as a medium for learning English.
4. Description and Interpretation
   Themes were narrated in a descriptive narrative with direct quotes from respondents and illustrations of classroom situations. The interrelationships among the themes were analyzed and interpreted: why students feel this way, factors that support and hinder, and how their interaction with Wordwall affects engagement.
5. Conclusions and Preliminary Verification
   Based on the interpretation of the themes, the researchers drew preliminary conclusions about the effect of Wordwall on learning engagement. Researchers then evaluated the data sources (observations vs. interviews) against each other to find out if the themes are consistently present across the sources. Triangulation was achieved by comparing themes derived from observation and interview data to ensure consistency and trustworthiness.

Results

The observations in the classrooms were carried out through learning sessions that incorporated Wordwall-based activities, such as Matching Games, Quiz Show, and Group Short. These activities were implemented in dividing students into small groups consisting of four to five students, promoting collaborative interaction in interacting with English learning content. Furthermore, table 2 shows the result of classroom observation.

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Table 2. Observation Checklist Result

No.	Indicator	Yes	No
Emotional Engagement			
1.	Students show interest while using Wordwall.	✓	
2.	Students show curiosity about the answers or scores on Wordwall.	✓	
3.	Students express that the class feels fun because of Wordwall.	✓	
4.	Students show enjoyment in learning English through Wordwall activities.	✓	
5.	Students show enthusiasm when participating in the Wordwall activity.	✓	
Behavioral Engagement			
7.	Students listen attentively during the feedback session after the Wordwall game.	✓	
8.	Students actively participate during the feedback or discussion session.	✓	
9.	Students pay attention to other students' answers and feedback.	✓	
10.	Students put effort into answering the Wordwall questions correctly.	✓	
11.	Students collaborate with their peers during group work or discussions.	✓	
12.	Students answer the quiz questions independently.		✓
13.	Students take the initiative to answer questions during the activity.	✓	
Cognitive Engagement			
14.	Students monitor their own progress or scores after completing the Wordwall activity.	✓	
15.	Students perceive the Wordwall quiz as a friendly competition.	✓	
16.	Students can recall the knowledge or vocabulary learned through the Wordwall quiz.	✓	
17.	The Wordwall-based activity helps students develop critical thinking skills through various quiz questions.	✓	
18.	Students are able to solve problems related to the quiz collaboratively during discussions.	✓	

The observation results show that students were very engaged throughout the sessions. In the Wordwall activities, most students were enthusiastic, positive, and actively involved in the learning activities. The students had a positive reaction to the games of Wordwall, which were competitive but also pleasant to play and seemed to stimulate behavioral and emotional involvement as well. Students would extremely get excited when their group gained points, and the majority had evident contentment in arguing answers with each other. Based on the observation checklist, the findings were categorized into three dimensions of engagement such as emotional, behavioral, and cognitive engagement.

Students' emotional engagement in learning English using Wordwall

There was considerable emotional engagement of the students during the learning process. Most students demonstrated strong interest, curiosity, and enthusiasm while playing the Wordwall games as reflected in their active participation, smiling, and verbal expressions of enjoyment. The teacher presented the questions in the form of an interactive quiz using Wordwall, after which the students were given time to discuss with their group members. When it was time to compete in answering the questions, the majority demonstrated a high level of enthusiasm. They were eager to be noticed by the teacher and to have the opportunity to answer first. Indications such as *"Students show interest while using Wordwall," "Students show curiosity about the answers or scores on Wordwall," "Students show enjoyment in learning English through Wordwall activities,"* and *"Students show enthusiasm when participating in the Wordwall activity"* were marked "Yes" consistently.

After the learning session, the students were asked whether learning through Wordwall was enjoyable. The majority of the class expressed that the learning experience was indeed engaging and enjoyable when using Wordwall-based activities. Thus, the indicator *"Students express that the class feels fun because of Wordwall."* was also marked by "Yes". In general, class observation results show that Wordwall was successful in providing a positive emotional engagement for building students' motivation and enjoyment in English learning. Furthermore, semi-structured interview results highlight how students' feelings during the Wordwall-based activities in the classroom, supporting the observation data. Students' expressions of the use of Wordwall in English class will be presented below:

Researcher: How do you feel when learning English using Wordwall?

Several students described positive emotional responses when learning English using Wordwall, such as feeling happy, excited, and relaxed. However, a few students expressed mixed emotions during the activity.

Student 1: "Yes, I enjoyed it and found it interesting because I was really eager to answer the questions to get a good score."
Student 2: "I found it exciting and interesting and want to try again, because getting points is fun and we have to think, and I had never used Wordwall before, so this was a new experience for me."
Student 3: "Very happy and able to relax while learning."
Student 4: "It's exciting because we can learn while competing with other friends to get points and win prizes."
Student 10: "I'm interested but also annoyed. Because I raised my hand, but

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someone behind me was chosen instead. I'm interested because there is discussion, and it's also exciting to answer questions quickly."

These responses indicate that Wordwall generally fostered positive emotions, although emotional experiences were not entirely uniform among students. To further explore the sources of these emotional responses, the following question examined whether students perceived Wordwall as making the learning process more fun or interesting, and the reasons behind this perception.

Researcher: "Does Wordwall make learning more fun or interesting? Why?"

Many students reported that Wordwall made learning more fun and interesting. Their reasons varied, including the presence of points and rewards, attractive visual design, and opportunities for peer interaction.

Student 1: "Yes, it's fun because there are points that make it exciting."
Student 3: "It's exciting because we don't have to read books all the time, we can play games while learning.
Student 4: "Yes, because there are lots of fun pictures and games while we learn English. It's more enjoyable because there are many games to play and it's not boring like just looking at a whiteboard."
Student 8: "It's fun because we play with friends, we can discuss things together, so it's like playing at the same time."

This finding suggests that emotional engagement was supported by multiple features rather than a single factor. Moreover, building on these perceptions, the next question focused on identifying which specific features of Wordwall were considered most emotionally engaging by the students.

Researchers: "What part of Wordwall excites you the most when learning (e.g., appearance, games, scores, or others)?"
Student 1: "Because of the score, because there are prizes."
Student 3: "It looks more modern and colorful."
Student 4: "Playing with Wordwall is very fun because it looks cute, is enjoyable, the games are fun, and it is also more fun than just looking at a whiteboard."
Student 6: "I am more enthusiastic about the score because it is a group activity, so it makes the group more enthusiastic."
Student 8: "It's like guessing the answers to the game, and many friends discuss it together."

Several students highlighted scoring features as the most exciting aspect of

Wordwall. Some students emphasized visual appearance, while others focused on group interaction. Overall, emotional engagement in Wordwall-based English learning was predominantly positive. Most students experienced enjoyment, excitement, and enthusiasm, mainly driven by scoring systems, visual design, and peer interaction. However, a small number of students reported mixed emotions, such as frustration related to turn-taking or competition. This indicates that while Wordwall effectively promotes positive emotional engagement, its implementation should consider inclusive participation to ensure balanced emotional experiences among students.

Students' behavioral engagement in learning English using Wordwall

On the aspect of behavioral engagement, the behavior that was being observed in most of the students was that they listened to instructions carefully and participated actively in group discussions before answering questions during the quiz. Most of the indicators, such as *listening carefully*, *participating actively during feedback or discussion sessions*, *collaborating with peers*, and *taking initiative to answer questions*, were marked as "Yes." It is expressed very clearly through the students' behavior during the game. The students engaged in discussion before responding to the questions. When one group provided an inaccurate answer, other groups actively offered corrections and feedback. This process made the learning experience more meaningful and interactive. Overall, the behavioral data indicate that students were engaged, active, and collaborative, and this follows closely with the objectives of collaborative digital learning. Semi-structured interviews results will be shown below:

> *Researchers: "During class, what do you usually do when participating in Wordwall activities?"*

Wordwall activities showed diverse behavioral patterns among students. Majority of the students (7/10) stated that they actively participated by responding to questions either as an individual or as a representative of their groups. Other students (2 out of 10) played a less active listening role, listening to what was being told and what students were saying. Some of the students (1 out of 10) had a fluctuating behavior and will switch between actively responding and remaining silent based on their level of confidence

> *Student 3: "Actively answering but sometimes also staying quiet."*
> *Student 6: "I rarely make an effort to answer questions, usually my friends do, but I participate to help answer the questions correctly, actively discussing."*
> *Student 7: "I usually actively participate in answering questions on behalf of the group."*

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Student 9: "I listen more."
Student 10: "I listen to the teacher's instructions and then discuss after the question is given."

There is inconsistency in the answer of the student 3: the response is active, but at times passive. This implies that there is no fixed mode of behavioral engagement but rather it varies depending on contextual variables like the level of difficulty of the question or group dynamics. Also, Student 6 admitted that he or she is not very proactive: "I do not often make an effort to answer questions, it is often my friends who do it, which means that some students are highly dependent on their peers, not on their own efforts.

Researchers: "How do you work with your friends during Wordwall activities? (What kind of discussions do you have?)"

Collaborative behaviors at Wordwall activities were of a different structure and depth. The majority of the students (8 out of 10) discussed the answers in the groups before giving their answers. Others (3 out of 10) spoke of very structured cooperation with assigned roles. Some students (2 out of 10) indicated short, efficiency-oriented conversation intended to get a fast consensus

Student 1: "Discuss together to find the correct answer. Discuss briefly, and once you are sure or confident, then answer."
Student 4: "There are three tasks in a team: first, someone shouts to get the teacher's attention; second, someone else formulates the answer; then the first person answers the question."
Student 6: "In discussions, I usually decide on the answer first. I usually discuss it first, then decide on the answer. Later, he usually says that whoever raises their hand will represent the group in answering the question."
Student 9: "The discussion is like, sometimes there are people who don't know, so we want to help them understand. So sometimes we discuss things together. Sometimes there are groups where only two people are discussing things. So we just discuss things together."

Not every collaboration was a well-distributed one. Student 6 observed: When in discussions, my first option is to make up my mind about the answer... whoever raises his/her hand will speak on behalf of the group to answer the question and this means that decision making in some groups of people may be dominated by an individual. Moreover, Student 9 stated: Sometimes it happens that there are two people and one group is discussing something, and this means that not all the people have participated in a team as they are not engaged.

Researchers: "When you find it difficult to answer questions on Wordwall, what do you usually do?"

Students had different coping behaviors in case of difficulties. Majority of students (9 out of 10) used peer support either by discussing or requesting the group members. A hierarchical help-seeking strategy was used by some students (4 out of 10), as they sought the assistance of their fellow students, before seeking the attention of a teacher. Some of the students (2 out of 10) exhibited passive strategies as they waited to have answers given by others or they simply got the teacher to explain.

Student 1: "I find the questions difficult, so if a friend gives the wrong answer, I immediately say that it is not the correct answer and help provide the correct answer to replace it."
Student 4: "Asking friends and guessing what the correct answer is."
Student 6: "Usually, my group likes to give up, but we keep looking for the answer, asking people around our group (asking each other)."
Student 8: "Actually, if I don't know the answer, I ask my friends first, but if they don't know, then I ask the teacher."

Not every student portrayed effective strategies of coping. Student 3 also reported passivity: I think first/wait till the choice is correct, which implies that instead of actively solving the problem, he/she depends on others. The fact that group members are willing to give up, as it was mentioned by Student 6, makes it clear that sometimes, the challenge can result in disengagement instead of determination. Moreover, the strategy employed by Student 4, of asking friends and having an idea of what the right answer is, suggests that there are cases of students who will guess instead of understanding the given problem.

Researchers: "Do you try to answer Wordwall questions correctly? How do you prepare for them? (This seems unnecessary.)"

The strategies of preparation students had in answering questions of Wordwall were not complicated and deliberate. The majority of students (7 out of 10) used purposeful strategies that included reading the questions a few times, thinking or checking answers with peers. Others (3/10) used cognitive effort that consisted of concentration and repeated reading. Some students (2 out of 10) were not very specific or detailed about their preparation process.

Student 4: "I read the question twice and then confirmed my answer with my

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friends."
Student 6: "I do this by thinking hard without losing focus, staying concentrated, and answering the question."
Student 7: "I read it repeatedly, then think about the answer. If I don't know, I ask my friends."
Student 8: "I just answered correctly."
Student 10: "I guess and think about the correct answer first."

Others exhibited a low level of strategic awareness. The unspecific answer of Student 8, who said that he simply answered correctly, indicates that this person does not reflect on the metacognition process or cannot explain their way of thinking. Student 10 who resorted to guessing or rather stating that he guesses and then thinks the right answer to the question, demonstrates that not every student prepares systematically some falling to trial and error methods. This heterogeneity indicates that though Wordwall can motivate students to work hard, it does not equally facilitate strategic thinking among all students.

The results indicate that Wordwall is a successful behavioral engagement tool among most students but not all learners. Individual variations in confidence, English proficiency, metacognitive abilities and learning preferences play colonial roles in facilitating behavioral reactions to gamified activities. Consequently, teachers are recommended to add to the use of Wordwall with the help of scaffolding teaching techniques for less confident or strategic pupils, and to set rules at the group level which promote just participation.

Students' cognitive engagement in learning English using Wordwall

In terms of cognitive engagement, all of the students were able to think and reflect meaningfully with the activities. They could monitor their scores and progress after each round, remember words they had learned before, and use reasoning to pick the right answers. Thus, indicators like *"Students can recall knowledge or vocabulary learned through the use of the Wordwall quiz"* and *"Wordwall activity allows students to enhance their critical thinking skill"* were marked with a "Yes." The students were not merely required to answer the questions of the quizzes but also to provide justifications for their chosen answer to the teacher. Furthermore, the teacher designed the learning activities to foster students' critical thinking skills, for instance, by asking them to construct sentences in order to earn points. This illustrates the importance of teacher creativity in the organization of learning activities that are centered on the cognitive aspects while maintaining the interactive gamification-based character.

The Wordwall activity also was viewed by the students as a positive competition, which made them try to do better. However, there were students who appeared to be too overzealous in the endeavor to achieve increased scores;

therefore, the indicator *"Students perceive the Wordwall quiz as a competition"* was rated as "sometimes." Besides, they also demonstrated problem-solving skills through the group discussion, where they had to work with the group members in order to achieve the most appropriate response. These results confirm that Wordwall is not only a form of interaction on the surface but also a tool for the students' higher thinking to be learned and incorporated into the learning process. Semi-structured interviews results regarding students' cognitive engagement will be presented below:

Researchers: Do you think Wordwall helps you understand English material better? Why?

Most students reported that Wordwall helped them understand English material better by encouraging quick thinking, focus, and active processing of information. Several students emphasized that time-limited questions required them to think more critically, while others highlighted that the interactive format made learning easier to understand.

Student 1: Yes, it helps because I have to respond quickly, and it makes it easier for me to understand the lesson.
Student 2: The time given to answer questions quickly forces our brains to think critically so we can solve problems quickly.
Student 4: Because I became more interested in learning, as there are many exciting games with good graphics.
Student 6: Yes, because it makes learning more fun, so it's easier for me to understand.

These responses indicate that Wordwall supported cognitive engagement by stimulating students' reasoning and attention during the learning process. Moreover, building on students' perceived understanding, the next question focused on whether the learning content was retained after the Wordwall-based activities.

Researchers: If so, after using Wordwall, do you still remember the vocabulary or topics you learned? Can you give an example?

The majority of students were able to recall the vocabulary and grammar topics learned through Wordwall-based activities, particularly prepositions of place and basic grammatical structures. Several students provided concrete examples, suggesting effective retention of learning content.

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Student 1: Yes, I still remember learning prepositions of place, such as in front of, behind, besides, next to, above, over. Learning there is (singular) and there are (plural), the use of a (consonant)/an (vowel).
Student 2: Yes, learning prepositions of place, such as "on" and "in," then in the second meeting learning "there is" and "there are." "There is" is used for singular nouns, and "there are" is used for more than one noun. Then there is "a" and "an," where 'a' is used for words that start with a consonant and "an" is used for words that start with a vowel.
Student 6: Just a little

However, a few students reported only partial recall of the material, indicating variation in the depth of cognitive engagement among learners. This finding suggests that while retention was generally strong, the depth of recall varied among students. Moreover, building on this variation, the following question explored whether Wordwall also encouraged students to think more critically or strategically during the learning process.

Researchers: Does using Wordwall make you think more critically or strategically when answering questions? Describe your experience.

Many students stated that Wordwall encouraged them to think more critically, particularly when distinguishing between similar concepts or constructing sentences. Peer discussion was frequently mentioned as helping students refine their understanding.

Student 1: It helps me, like for example, at first I couldn't tell the difference between "above" and "on" because I thought they had the same meaning, but now that I've learned using Wordwall, I understand.
Student 7: Yes, that's right, I think more because we're competing with other groups, so we have to be quick and think fast.
Student 10: I can make sentences, but I get nervous and afraid of making mistakes.

These responses suggest that while most students experienced increased critical thinking, a small number felt cognitive pressure during performance-based tasks. Moreover, building on students' experiences of critical thinking and competition, the next question examined how students perceived Wordwall as a competitive learning activity.

Researchers: Do you consider Wordwall games to be friendly competitions? How often do you monitor your group's scores?

Most students perceived Wordwall as a friendly competition that motivated them to improve their performance. Monitoring scores was commonly described as a way to stay focused and engaged.

Student 4: Yes, I'm a good sport, but I will be ambitious to try my best.
Student 5: Yes, friendly, but I want to answer the questions correctly with the highest score. I really want to win.
Student 9: Yes, more so. Like that rather than being too competitive or getting upset when losing. So it's just for fun.

These responses indicate that Wordwall was generally perceived as a friendly competition that motivated students to stay focused and engaged. While most students viewed competition as a positive challenge to improve performance, some students approached it more casually for enjoyment rather than winning.

In all, analysis of interview data from ten students shows that cognitive engagement in Wordwall-based English learning is generally positive. Most students demonstrated active thinking, reasoning, and knowledge retention, while some experienced cognitive stress related to competition and performance. This variation indicates that although Wordwall is effective in promoting cognitive engagement, instructional supports remain important to support diverse learning responses.

Discussion

Students' Positive Reaction to learning English through Wordwall (Emotional Engagement)

The findings indicate that Wordwall-based activities foster strong emotional engagement by creating feelings of enjoyment, excitement, and enthusiasm, primarily driven by competitive elements, visual appeal, and peer interaction. Observation results show an enthusiastic classroom atmosphere in both classes where most of the students in the classroom seemingly enjoyed the activity designed by the teacher through Wordwall. The semi-structured interview results support the students' visible attitudes through examining students' voices comprehensively. Students' repeated use of positive affective expressions suggests that Wordwall successfully generated a pleasurable emotional climate rather than merely momentary enjoyment.

Many students expressed genuine happiness and increased enthusiasm, highlighting that the gamification tools in Wordwall combined by the activity designed by the teacher created a more interesting and encouraging classroom atmosphere compared to traditional learning.Rahayu & Utami (2023) Rahayu & Utami (2023) found similar results that show Wordwall-based digital media significantly stimulates students' interest and motivation in learning English

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vocabulary, creating an interactive and interesting learning environment. Moreover, as a bridge between traditional teaching and the development of innovative teaching practices, Nguyen (2025) found that Wordwall promotes learner autonomy in EFL classes by enhancing engagement, motivation, and responsibility, but requires pedagogical adjustments to mitigate limitations and drawbacks. Therefore, the integration of Wordwall into English learning must be combined by teaching practices adjustments for deeper utilization so that learning can be more joyful and meaningful, not just merely playing games for fun.

A major encouragement to the emotional engagement was found to be the competitive game features, particularly scoring, points, and the chance to win prizes prepared by the teacher. Students felt eager to answer quickly, participate actively, and win the competition, which made the learning process more thrilling. Wordwall works not merely because it is enjoyable, but because it stimulates emotional trigger that captures students' attention and lowers affective barriers to participation. The excitement generated by game elements such as scoring and competition created a sense of anticipation, which encouraged students to stay attentive and emotionally invested throughout the activity. Although competition enhanced excitement, excessive competitiveness may also lead to frustration or disappointment, as reflected in students who felt annoyed when not selected to answer. This suggests that emotional engagement driven by competition may fluctuate and requires careful regulation to remain inclusive and sustainable.

These findings align with the study by Anisa et al. (2020) that examined gamification tools in increasing students' motivation through competition features. However, the findings also suggest a potential risk of over-reliance on extrinsic emotional triggers. Many students explicitly associated their enjoyment with scores, prizes, and winning, indicating that their positive emotions were strongly tied to external rewards. While such extrinsic motivators can enhance short-term emotional engagement, they may not sustain long-term interest if the rewards are removed. This raises concerns about whether students' enjoyment is directed toward learning English itself or merely toward winning the game. Therefore, the teacher's role becomes essential in scaffolding emotional engagement by shifting students' focus from winning to learning. By emphasizing reflection, feedback, and meaning making after the game, teachers can help students internalize positive emotions toward learning English rather than toward competition alone.

Furthermore, students enjoyed discussing answers with friends, working in groups, and sharing excitement during the game. Importantly, the group-based format reduced students' fear of making mistakes, allowing emotional safety to emerge through peer support. This emotional comfort helped students participate more willingly without anxiety, which is crucial for sustained emotional engagement in EFL classrooms. These findings aligned with the statement Wang (2025) found by , how interactive classroom activities incorporating teamwork are associated with higher enjoyment and lower boredom in foreign language learning.

Overall, the combination of competition, visual appeal, novelty, and peer interaction contributed to strong emotional engagement, helping students feel more enthusiastic and motivated when learning English.

Students' Active Participation in Learning English through Wordwall (Behavioral Engagement)

From the observation results, most of the student behavioral engagement indicators in Wordwall activities fall into the active category: students listen attentively, actively participate in the discussion, pay attention to friends, try to give answers, work together, and take the initiative. Whereas the indicator "students answer quiz questions independently" falls under "no." This means that students tended not to work independently when answering Wordwall quizzes and more often relied on group discussions and help from friends (observation table). This corresponds to the interview results that show students tend to discuss and collaborate in groups before answering Wordwall questions, while fewer try to answer independently.

This collusive tendency was verified by the interview data. The students 1, 2, and 4 were categorical that they would rather discuss with their peers and then proceed to answer, which is a social-collaborative engagement pattern and not autonomous learning. According to one student: I do not really bother to answer questions on my own; my friends do. I contribute to answering the questions properly by actively discussing with the classmates. This is consistent with Khairunnisa et al. (2023) who determined that game-based platforms such as Wordwall trigger peer interaction, discussion engagement, and responsiveness to learning instructions, which are some of the indicators of behavioral engagement in digital game-based learning.

According to the data, students were very active in discussing their answers with one another, clarifying terms through conversation, and getting a common understanding before giving their response. These patterns are consistent with prior research indicating that game-based learning can significantly enhance active student participation and classroom engagement. Damayanti et al. (2025) reported that integrating Wordwall into the "Team Games Tournament" model increased the learning engagement of students.

In addition, the behavior of students who persisted despite facing difficulties (e.g., discussing further, asking friends for help, or asking questions of the teacher) reinforces the idea that digital games encourage persistence and self-regulation. This shows that the discussion activities provided by the teacher encouraged students to try to participate in learning activities. Other studies also support this; by Radityastuti et al. (2023) showed that digital game-based learning can improve critical thinking and problem-solving skills in junior high school students.

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Although teamwork augments interaction, excessive dependence on peer support could be counterproductive to the development of self-solving competence. The fact that students answered with rare cases of independent answers is a cause of concern regarding learned helplessness in the individual assessment setting. Teachers should then strike a balance between the collaborative affordances of Wordwall and scaffolding interventions that allow students to learn independently by gradually transferring some of the collaborative support to individual reflection before group discussion or alternating between collaborative and solo quiz mode. Also, engagement sustainability is to be questioned. Game-based motivation can weaken with time (novelty effect), and competitive factors can work against the less confident learners. The next steps in future studies involve the analysis of the long-term patterns of engagement and the distinction of effects at the levels of proficiency.

The observational design of this study constrains causation, which cannot be done without experimentation as compared to traditional methods. The context and sample size (one classroom) limit the extent to which individuals can generalize. Future studies must address (1) the best ratios of collaborative to individual tasks in Wordwall, (2) how to shift extrinsic motivation to intrinsic motivation, and (3) how to affect other learning outcomes (e.g., retention vs. transfer).

Wordwall Assists Students in Learning English (Cognitive Engagement)

The findings suggest that Wordwall-based activities encourage strong cognitive engagement by encouraging students to actively process information, recall previously learned material, and apply reasoning when answering questions. Unlike traditional learning activities that often emphasize passive reception, Wordwall required students to think quickly, justify their answers, and construct sentences to earn points. Observation results revealed that students were not merely selecting answers but were involved in deeper cognitive processes such as problem-solving, metacognitive reflection, and strategic thinking. Semi-structured interview data further supported these observations, as many students reported that the time-limited nature of Wordwall games pushed them to think faster and remain focused during the learning process.

These findings align with previous studies show that digital game-based learning enhances cognitive engagement by strengthening reasoning, memory, and critical-thinking skills. For example, Radityastuti et al. (2023) found that students' analytical skills improved through interactive digital quizzes, while Damayanti et al. (2025) emphasized that integrating Wordwall with gamification models enhanced problem-solving abilities in learning tasks. The present study supports these findings by showing that Wordwall enables students to engage at deeper levels of cognitive processing rather than through superficial interaction.

Interview results revealed that students still remember vocabulary such as

prepositions of place and grammar rules being learned like the use of *there is* and *there are* after participating in Wordwall-based learning. This suggests that learning retention was supported through repeated exposure and retrieval practice during gameplay. Recalling information under meaningful and engaging conditions may facilitate the transfer of learning into long-term memory. However, a few students reported limited recall, indicating variation in the depth of cognitive engagement among learners. This variation highlights that, although Wordwall supports retention for most students, individual differences in learning pace and cognitive readiness continue to influence learning outcomes.

Wordwall contributes significantly to students' understanding of English grammar and vocabulary through its interactive and game-based features. Students demonstrate a better understanding of the material presented, mainly because this platform requires quick responses and high focus. These findings support previous research stating that gamified tasks increase cognitive engagement by promoting active processing, immediate decision-making, and repeated exposure to target forms (Deterding et al., 2011).

Students reported engaging in critical thinking through peer discussion and strategic decision-making, particularly during group-based tasks. However, some students also experienced nervousness when required to perform under time pressure, especially during sentence construction activities. These findings indicate that while competition and speed can enhance cognitive engagement, they may also introduce cognitive pressure for certain learners. Therefore, the teacher's role in providing cognitive scaffolding through reflection, feedback, and guided explanation is essential to ensure that cognitive engagement leads to meaningful and sustained learning outcomes.

Conclusion

This research concludes that students were emotionally, behaviorally, and cognitively engaged with the Wordwall-based activities in learning English. The emotional engagement was analyzed by the way students demonstrated increased enjoyment and enthusiasm as the result of gamification features and collaborative activities. Moreover, the behavioural engagement is reflected in how students actively participate in class through various activities such as discussions, answering questions, and listening attentively during the class. Finally, in terms of cognitive engagement, students showed that they still remembered the vocabulary and material they had learned, indicating that Wordwall-based activities did not interfere with their understanding. Many of the participants showed that Wordwall-based learning combined with interactive activities encouraged critical thinking among students. These findings highlight the importance of integrating Wordwall to create engaging English learning experiences.

Practically, those findings suggest English teachers to integrate Wordwall as

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gamification learning platforms to maintain students' learning engagement during the lesson. The study, however, was limited to a small group of students in one school and only focused on students' visible action and their feelings throughout the lesson. Future research could involve a larger and more diverse group of participants across different school contexts to provide more generalizable findings.

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