

The Role of Gamification and Interactive Learning in Deep Learning for EFL Students

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ABSTRACT

This study investigates the impact of gamification and interactive learning on students' achievement and engagement in English as a Foreign Language (EFL). Using a quasi-experimental posttest-only control group design, 60 eleventh-grade students at MA PPKP Tenggarong were divided into two groups: an experimental group (gamification via Bamboozle) and a control group (conventional instruction). Results show that the experimental group significantly outperformed the control group in achievement scores (91.00 vs. 85.33, $p = 0.005$) and demonstrated higher engagement levels. Students reported positive perceptions regarding motivation, interaction, and vocabulary learning. These findings indicate that gamified and interactive learning strategies enhance both academic performance and student engagement. The integration of gamification into EFL classrooms is recommended to promote meaningful and engaging learning experiences. Further research should explore its long-term impact on communication skills.

Keywords: Gamification, Interactive Learning, Deep Learning, EFL

INTRODUCTION

Effective learning education relies heavily on a learning environment that supports student engagement and motivation. Teaching and learning English is a two-way communication that needs to be designed constructively to achieve students' needs in learning English. The diverse characteristics of students require innovative approaches so that learning methods can be absorbed by students effectively (Agustina et al., 2025). In today's digital and rapidly changing educational landscape, where attention spans are short and student disengagement is increasing, it is crucial to adapt teaching methods that meet modern learning demands. English plays a crucial role in everyday life, Redjeki & Muhajir (2021) say that English is a complex language to learn, there is an essence in learning through reading, writing, speaking, and how students are able to understand the language quickly, which makes the learning process even more challenging. In the context of learning

English as a Foreign Language (EFL), the challenges faced by students are often related to a lack of interest and active participation (Zhang & Hasim, 2023).

Therefore, there is a need for good alternatives to enhance students' interest and participation in learning English. Chang & Huang (2019) and Jihan & Maharsi, (2024) stated that game-based learning is a learning-related interaction that combines educational content and learning materials into digital games. This approach allows students to perform basic tasks or engage in more complex problem-solving activities. Game-based learning encourages children to participate in active learning, which aims to improve students' social skills and improve understanding, as well as problem-solving skills during the learning process. The games are highly educational and not only improve students' understanding of concepts but also motivate them to learn and allow them to enjoy while understanding the subject matter.

To design a pleasant learning environment, learning strategies are needed to acquire students' experience in practicing English. Wulantari et al. (2024) revealed that gamification has an impact on in-depth teaching, especially for English lessons. Gamification is a term in the learning process combined with games that can help someone to improve their English because it is an interesting and innovative process (Redjeki & Muhajir, 2021). Gamification, namely the application of game elements in non-game contexts, has been proven to increase student motivation and engagement. However, despite its growing popularity globally, the integration of gamification with interactive learning in EFL classrooms, especially in the Indonesian context, remains underexplored. This study offers a novel perspective by combining these two approaches to support deep learning, which is still relatively new and developing in Indonesia. Gamification can establish a more dynamic and engaging learning environment by incorporating elements such as badges, points, and challenges. The application of gamification can contribute to a pro-deep-learning approach because students want to expose their private learning-related actions to their friends (Hamari & Koivisto 2015; Aguiar-Castillo et al., 2021).

Gamification is an element that has been presented in the game context. However, it needs to be supported by a learning approach that involves the role of the teacher in inviting students to be active and participate in the game, this is called interactive learning. Roseni & Muho (2024) stated that gamification and interactive learning can have an impact on children's ability to learn English. Interactive learning is a learning concept that can increase children's concentration and focus because it offers a series process with the help of learning media so that children are able to visualize the media (Riyanto, 2017; Darnanta et al., 2020), this can process students' way of thinking in learning compared to conventional learning. Students have the opportunity to test their skills and get answers quickly, so they can find out whether their answers are right or wrong quickly. This technique will develop a more interactive world of education (C. Lestari et al., 2018). What makes this study distinct is the emphasis on how gamification, when designed interactively and used

alongside teacher facilitation, can create a more holistic and engaging language learning experience.

The application of gamification and interactive learning plays a very important role in the deep learning process. Through gamification and interactive elements, can engage students in a way that conventional methods often cannot. With the integration of technology into classrooms and the growing demand for student-centered education, this approach responds directly to the need for more engaging, enjoyable, meaningful, and motivating teaching strategies. The use of rewards, challenges, and real-time feedback keeps students motivated and engaged (Aguiar-Castillo et al., 2021). Students are more likely to practice consistently when they can see immediate results and progress, fostering a sense of accomplishment that encourages them to continue their learning journey (Kusmaryani et al., 2024). Fitria (2022) states that the gamification process can be an approach that provides pleasure to humans through the reactions that arise, such as curiosity, pleasure, and strong thoughts. The implications of gamification are said to be important in education because they can have an impact that helps provide teaching that creates interaction between individuals, thereby creating fun (Fitria, 2022).

The implementation of deep learning provides a meaningful process in taking the learning they have done, apart from that there is a mindful learning process which stimulates students to be active. Besides that, by going through a joyful learning process, students will experience joyful learning (Nasution et al., 2024). Activities in deep learning involve interaction where the teacher tries to explore students' knowledge (Kaya & Ercag, 2023). Attifa et al. (2025) stated that students need media tools to facilitate interactive learning, this freedom to develop collaborative teaching materials provides teachers with a great opportunity to optimally shape the quality of students (Saluza et al., 2025). Learning media, which is a tool for delivering material, can use educational games by utilizing technology to integrate knowledge (Hayati et al., 2024).

This research focuses on exploring the role of interactive learning media through the use of gamification, which employs game-based design elements to enhance motivation and improve student behavior during learning activities (Rodrigues et al., 2019). Gamification introduces elements like points, levels, and badges to foster competition and exploration among students, creating a more enjoyable learning environment (Temel & Cesur, 2024). Additionally, it facilitates interactive discussions for better two-way communication between teachers and students (Jonathan & Recard, 2021). This makes gamification a medium that not only enhances learning motivation but also creates a joyful learning experience that is more engaging and less academically stressful. Students become more emotionally and socially involved, leading to more interactive learning. Additionally, gamification encourages mindful learning and deep understanding by guiding students toward exploration, challenges, and continuous interaction (Wijaya et al., 2025). Thus, gamification is not merely a tool but an effective strategy for building a fun, motivating, and meaningful learning environment.

However, while numerous studies have examined the use of gamification to improve student motivation and engagement, few have specifically investigated how gamification fosters deep learning that focuses on meaningful, mindful, and joyful learning in the EFL context. Most existing research tends to focus on surface-level outcomes such as enjoyment or short-term academic performance, without exploring how game-based elements encourage critical thinking, reflection, and long-term knowledge retention in language learning. Additionally, the role of interactive learning media in supporting these deeper learning processes remains underexplored. Therefore, this study aims to fill this gap by analyzing the extent to which gamification and interactive learning contribute to students' deep learning experiences in EFL classrooms. In the context of learning English as a Foreign Language (EFL), the challenges faced by students are often related to a lack of interest and active participation. Therefore, it is important to design a learning environment that is fun and interesting to be able to encourage them to be able to demonstrate students to process their thoughts into real actions that are structured and systematic.

This study aims to answer the following research questions: how do the students perceive a joyful learning environment created through gamified and interactive learning methods? How does the use of gamification and interactive learning impact students' achievement and engagement?. Theoretically, this study is useful to contribute to the theories of gamification and interactive learning that will influence EFL learning using a deep learning approach. Given the shift toward personalized and reflective learning models in 21st-century education, this study becomes urgent to help educators adopt methods that not only attract students' attention but also support their long-term academic development. Deep learning is a new method in Indonesia, so it is expected to be a reference for the implementation of learning in Indonesia. Deep learning emphasizes active, reflective and meaningful learning experiences. This research contributes to the understanding of deep learning in education through an analysis of how deep learning enhances students' cognitive development and learning engagement. Practically, this research is expected to be useful for teachers, especially English teachers, in facing teaching challenges so that they can provide teaching variations. Deep learning is expected to improve student learning outcomes through three main aspects of mindful learning, meaningful learning, and joyful learning.

LITERATURE REVIEW

Gamification and Interactive Learning

In every learning activity, development is necessary for effective learning to take place. Interactive learning can facilitate a smoother educational process, especially when supported by interactive learning media. Aulia et al. (2024) mention that interactive learning media enables direct interaction between students and the learning material, contributing to increased engagement and academic

achievement. Additionally, the use of technology in interactive learning provides opportunities for students to learn independently and adjust their learning pace according to their individual needs. Various educational applications are needed to optimally deliver instructional material. One of these is learning media that integrates gamification, which has been proven to enhance students' motivation and participation in the learning process (Aulia et al., 2024). Moreover, gamified and interactive learning environments also serve as cooperative learning tools that strengthen academic, personal, and social skills within a fun and creative learning context. Through face-to-face, virtual, and blended activities, students work in groups, engage in discussions, and collaborate, which enhances participation, interaction, motivation, and social inclusion. Through group-based challenges and interactive tasks, students are encouraged to cooperate and exchange ideas, fostering social-emotional growth alongside cognitive development (Fonseca et al., 2023). Gamification is an approach aimed at making non-game activities, such as learning, teaching, and marketing, more engaging by adopting principles, designs, and mechanics from games (Mukra et al., 2023). Thus, gamification can be understood as a learning strategy that utilizes game mechanics to foster student engagement and assist them in solving problems more effectively.

Deep Learning

In the field of education, deep learning refers to a comprehensive and profound learning process. This approach focuses on a deeper understanding of the material and the development of higher-order thinking skills, such as analyzing, synthesizing, and evaluating (Wijaya et al., 2025). According to the Kemendikbud (2025), deep learning aligns with an educational philosophy that places students at the center of the learning process by creating an environment that is mindful, meaningful, and joyful. This approach is increasingly relevant in addressing the challenges of a complex and uncertain world by integrating intellectual, ethical, aesthetic, and kinesthetic aspects holistically. In addition to enhancing academic abilities, it plays a role in character development, creativity, and empathy, enabling students to grow into well-rounded individuals prepared to navigate global dynamics. In Indonesia, the implementation of deep learning is in line with the Merdeka Curriculum, which emphasizes freedom of learning and project-based learning, supported by ministry regulations and teacher training programs (Diputera, 2024). This approach is based on three main aspects: Meaningful Learning, Mindful Learning, and Joyful Learning. Meaningful learning enables students to understand the material deeply by connecting new information to prior knowledge, building integrated and lasting understanding (Wijaya et al., 2025). Meanwhile, mindful learning emphasizes full student engagement in the learning process with focused attention, promoting awareness of their social and cultural environment and their roles within it (Arif et al., 2025). Joyful learning is an educational approach aimed at enhancing student motivation and engagement by creating a more interactive and pressure-free learning atmosphere. This model allows teachers to present material in a more engaging, meaningful, and easily understandable way, thereby improving student activity and learning outcomes.

Saputri et al. (2021) state that the implementation of joyful learning, especially with the aid of digital media such as applications, can significantly boost students' motivation and learning results during online learning processes.

The focus of this research is to analyze how the implementation of deep learning through the three main aspects of meaningful learning, mindful learning, and joyful learning contributes to the effectiveness of EFL (English as a Foreign Language) instruction for students. This study will explore the extent to which Meaningful Learning can enhance students' deep understanding, how Mindful Learning influences their engagement and awareness in the learning process, and the role of Joyful Learning in creating a more enjoyable learning environment that fosters student motivation. By understanding the interconnections among these three aspects, this research aims to provide new insights into developing more holistic and student-centered learning strategies in the modern educational era.

EFL Students

Language is used as a tool to convey thoughts and feelings, both verbally and in writing. Nurdiansyah et al. (2024) define language as a system of human communication expressed through structured arrangements of sounds or written expressions that form larger units, such as morphemes, words, and sentences. In a global context, language plays a crucial role in social interaction, education, and the development of science and technology. In the realm of education, English as a Foreign Language (EFL) refers to the use or study of English by speakers of various native languages in countries where English is not the primary language. This indicates that someone studying English in a country where English is not the primary language is considered an EFL learner (Tanjung & Furqanul Hakim, 2021). In Indonesia, English is a compulsory subject in junior high schools, senior high schools, and vocational schools. EFL students emphasize mastering the four main language skills listening, speaking, reading, and writing which are essential for communication and global competence (Whisnubrata et al., 2024). EFL students often face challenges in developing speaking skills, which are essential for effective communication. According to Alvarez et al. (2024), factors such as a lack of exposure to English outside the classroom, limited instructional time, and minimal speaking activities in the learning materials are major obstacles to language acquisition. Furthermore, learners may encounter issues such as foreign language anxiety, low self-confidence, and insufficient vocabulary knowledge, all of which can negatively impact their progress (Pratista, 2023). With technological advancements, digital tools have become integral for EFL students. Learning methods such as deep learning can provide students with new experiences in mastering the language authentically through interactive activities and enjoyable learning experiences.

METHOD

Design and Samples

This study employs a quasi-experimental design with a descriptive quantitative approach. The purpose of this research method is to examine the impact of gamification and interactive learning on students' achievement and engagement, as well as to understand how students perceive a joyful learning environment created through gamification methods. The quantitative approach in this study is utilized to assess the effectiveness of gamification in deep learning of English as a Foreign Language (EFL), and to explore students' perceptions of their learning experiences. This method adopts a posttest-only control group design, which consists of an experimental class and a control class, both determined based on posttest assessments (Sari et al., 2024). The experimental class receives treatment through a gamified learning model using the Baamboozle application, while the control class is taught using conventional methods. Furthermore, data collection involves observation sheets, posttests, and questionnaires. This study follows the research design outlined below.

Table 1. Research Design

Class	Treatment	Posttest
Experiment	Y	X
Control	-	X

This study focuses on 11th-grade students at MA PPKP Tenggara as the sample or participants. The research employs a random sampling technique, known as simple random sampling. This technique ensures that each member of the population has an equal chance of being selected as a sample. It is conducted randomly without considering specific strata or groups within the population, allowing every individual in the population an equal opportunity to be part of the study (Purwanza et al., 2022).

Instrument and Procedure

This study will use a classroom observation sheet to record students' initial engagement during the learning process before any tests or treatments are conducted. This observation sheet is adapted from the research observation sheet developed by Lestari (2023). According to Lestari (2023), the indicators for observational assessment in gamification-based learning models include evaluating student engagement based on cognitive and behavioral levels. The cognitive indicators assess aspects such as deep understanding, problem-solving, and critical thinking, while the behavioral indicators evaluate active participation, discipline, and positive behavior. In addition, testing instruments will be used to measure students' achievement in English and their engagement in the learning process. The tests will be divided into a posttest, each consisting of 10 items. The questions used are modifications of the items from Kusumawati (2019) research, adjusted to be multiple-choice questions and tailored to different difficulty levels.

Furthermore, to identify how students perceive the implementation of gamification and interactive learning in deep learning, a questionnaire will be employed. This questionnaire is adapted and modified based on the questionnaire by Adipranata, as referenced in Nasridayani (2021). According to Nasridayani (2021) the questionnaire will encompass several aspects, such as emotional responses, physical engagement, motivation, and reactions to the benefits of using gamification in the classroom, as well as students' perceptions of gamification-based deep learning in learning English as a foreign language. The distribution of questionnaire ratings will utilize a scoring system of 1-4 on the Likert scale, with criteria of score 1 (strongly disagree), score 2 (disagree), score 3 (agree), and score 4 (strongly agree) (Nur et al., 2024). The research instruments will be validated and checked for reliability before use, with content validity assessed by experts. Subsequently, these instruments will undergo a pilot test using Cronbach's alpha.

Data Analysis

The data collected in this study will be analyzed using quantitative data analysis, specifically descriptive and inferential statistics. According to Gracia & Susanti (2024), data analysis techniques in quasi-experimental research may include normality testing with the Shapiro-Wilk test, homogeneity testing with Levene's test, and hypothesis testing using t-tests, both Paired Sample t-test and Independent Sample t-test, to compare the results between the control group and the experimental group. If the data is not normal or not homogeneous, a non-parametric test is conducted using the Mann-Whitney U test (Sari et al., 2024). Additionally, to analyze the improvement in students' learning outcomes, N-Gain testing will be used to measure the effectiveness of the treatment in enhancing students' understanding after using gamification media. This statistical testing will be conducted with the assistance of IBM SPSS software, which allows for more accurate and systematic data analysis. This test is used to assess the effectiveness of gamification in this study and will involve both the experimental and control groups.

RESULT AND DISUSSION

Students' Perception of Gamified and Interactive Learning Methods

Table 2. Descriptive Analysis of the Experimental Class

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
I am interested in using gamification-based and interactive learning in English class.	30	3.00	4.00	3.5000	50.855

I am happy about implementing gamification in the classroom learning process.	30	3.00	4.00	3.4000	49.827
I am excited about gamification-based and interactive English learning.	30	3.00	4.00	3.4000	49.827
The material taught in class is very suitable to be delivered through gamification and interactive strategies.	30	3.00	4.00	3.3000	46.609
My vocabulary knowledge has improved because of using gamification and interactive learning.	30	2.00	4.00	3.0333	71.840
Gamification makes me more enthusiastic about learning English.	30	2.00	4.00	3.2667	58.329
The use of gamification and interactive learning in class motivates me to learn English.	30	3.00	4.00	3.3667	49.013
I have gained various new experiences after learning using gamification and interactive learning.	30	3.00	4.00	3.4000	49.827
With gamification and interactive learning, I find it easy to understand the material explained by the teacher.	30	3.00	4.00	3.4667	50.742
Gamification in the learning process creates good communication between students and teachers.	30	3.00	4.00	3.6667	47.946
Valid N (listwise)	30				

Table 2 shows that, in general, students in the experimental class responded positively to the use of gamification and interactive learning in English lessons. The mean scores for each statement ranged from 3.03 to 3.66 (on a scale of 1–4), indicating a tendency toward agreement or strong agreement. For example, the statement “Gamification in the learning process creates good communication between students and teachers” received the highest mean score (3.6667), suggesting that most students felt gamification not only made learning more enjoyable but also improved classroom interaction. Conversely, the statement “My vocabulary knowledge has improved because of using gamification and interactive learning” had the lowest mean score (3.0333) and the highest standard deviation (71.840), indicating a wide variation in student experiences some may not have felt

a significant improvement in vocabulary. Critically, the data show that gamified and interactive learning improves affective aspects (interest, excitement, motivation) and supports material comprehension (mean = 3.4667 for “easy to understand material”), although its effect on vocabulary development varies among students. Therefore, these findings address the research question on student perceptions, showing that most students find gamification beneficial and relevant for English learning, though vocabulary acquisition may require more targeted efforts.

Table 3. Descriptive Analysis of the Control Class

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
I am interested in the use of conventional learning methods in English class.	30	2.00	4.00	3.0333	76.489
I am happy about the implementation of conventional learning methods in the classroom.	30	2.00	4.00	3.1333	73.030
I am excited to learn English using conventional learning methods.	30	2.00	3.00	2.6000	49.827
The material taught in class is very suitable to be delivered through conventional learning methods.	30	2.00	4.00	2.8000	71.438
My vocabulary knowledge has improved because of using conventional learning methods.	30	2.00	4.00	2.7333	73.968
Conventional learning methods make me more enthusiastic about learning English.	30	2.00	3.00	2.1667	37.905
The use of conventional learning methods in class motivates me to learn English.	30	2.00	3.00	2.3000	46.609
I have gained various new experiences after learning using conventional methods in class.	30	2.00	2.00	2.2000	0
With conventional learning methods, I find it easy to understand the material explained by the teacher.	30	3.00	4.00	3.1667	37.905
Conventional learning methods create good communication between students and teachers.	30	2.00	4.00	2.5000	68.229

Valid N (listwise)	30				
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In Table 3, the mean scores for statements about conventional learning methods range from 2.1667 to 3.1667. Mean scores below 3 suggest that many students were not highly interested or enthusiastic about traditional methods. For instance, the statement “Conventional learning methods make me more enthusiastic about learning English” received the lowest mean score (2.1667), indicating that students generally did not feel motivated by conventional teaching. Additionally, the statement “I have gained various new experiences after learning using conventional methods in class” had a mean of only 2.2000 and a standard deviation of 0, meaning all students unanimously felt their experience was not diverse with traditional approaches. Only one statement “With conventional learning methods, I find it easy to understand the material” (mean = 3.1667) suggests that some students still found the method effective for comprehension, but it lacked the motivational or affective support (e.g., mean = 2.3000 for motivation). Critically, these results demonstrate that while traditional methods might help with understanding, they are less effective in fostering interest, excitement, and motivation. This answers the research question about students’ perceptions of conventional methods and reinforces that they are less engaging than gamified approaches.

Comparative Analysis Between Experimental and Control Group

A comparative analysis between the experimental and control groups reveals clear distinctions in students' perceptions and engagement. In the experimental class, students gave consistently higher mean scores across all perception statements, ranging from 3.03 to 3.67, while the control class showed lower and more varied scores between 2.17 to 3.17. This suggests that students responded more positively to gamification-based learning compared to conventional methods. For instance, the highest mean score in the experimental group (3.67) reflected strong agreement that gamification helped foster better communication with teachers, whereas the control group's highest score (3.17) merely indicated moderate understanding of material through conventional means.

Additionally, the classroom observation data reinforces this difference. The experimental class demonstrated stronger engagement indicators such as active discussion (score: 4), positive peer interaction (score: 4), and consistent task participation (scores: 3 across most indicators). In contrast, the control class showed lower participation in discussions (score: 2) and problem-solving initiative (score: 2), indicating more passive learning behavior.

Overall, the comparative results suggest that gamified and interactive learning environments not only enhance students’ perception of the learning process but also foster higher levels of motivation, engagement, and participation. These findings indicate that gamification and interactive learning are more effective in developing the core elements of deep learning conscious, meaningful, and enjoyable learning—than conventional teaching methods. The observed increases in motivation, active

collaboration, and emotional engagement in the experimental group indicate a shift from passive learning toward a more student-centered and reflective learning experience, which is crucial for enhancing long-term retention and deeper understanding in the EFL learning context.

The Effect of Using Gamification and Interactive Learning on Student Achievement

Table 4. Group Statistics for English Learning Scores

Group Statistics					
Class		N	Mean	Std. Deviation	Std. Error Mean
Score of English Learning	Control Class	30	85.3333	8.19307	1.49584
	Experiment Class	30	91.0000	6.61764	1.20821

Table 4 presents the comparison of English achievement scores between the control class (N = 30, mean = 85.33, SD = 8.19) and the experimental class (N = 30, mean = 91.00, SD = 6.62). The experimental group scored approximately 5.67 points higher on average, indicating that students exposed to gamified and interactive learning achieved better results than those taught using conventional methods. The slightly lower standard deviation in the experimental class (6.62) compared to the control class (8.19) also indicates more consistent performance among students. Critically, this difference reveals that gamification positively affects not only motivation and perceptions but also actual academic performance. These results support the research question on the effectiveness of gamification in enhancing learning outcomes, showing that the integration of game elements and interactivity can lead to significantly higher and more consistent student achievement.

Table 5. Independent T-test

Independent Samples Test									
	Levene's Test for Equality of Variances		t-test for Equality of Means						
								95% Confidence Interval of the Difference	
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper

Score of English Learning	Equal variances assumed	3.875	.054	-2.947	58	.005	-5.66667	1.92284	-9.51565	-1.81768
	Equal variances not assumed			-2.947	55.542	.005	-5.66667	1.92284	-9.51928	-1.81405

In Table 5, Levene's Test shows $F = 3.875$ with $p = 0.054$ (> 0.05), meaning the assumption of equal variances between the groups is nearly met. The t-test result (equal variances assumed) shows $t(58) = -2.947$, $p = 0.005 < 0.01$, indicating that the difference in mean scores between the control and experimental classes is statistically significant. The mean difference of -5.6667 (95% CI: -9.51565 to -1.81768) confirms that the improvement in the experimental group's scores is not due to chance, but is a real effect of the gamified and interactive approach. Critically, the p-value of 0.005 indicates a high level of confidence (only a 0.5% chance of this result occurring randomly) that gamification contributes positively to learning achievement. Therefore, this t-test confirms that gamified and interactive learning significantly improves academic performance compared to conventional methods. This strengthens the overall conclusion that gamification not only enhances students' enjoyment but also leads to tangible improvements in learning outcomes.

The Effect of Using Gamification and Interactive Learning on Engagement

Table 6. Frequency Analysis of Classroom Observation Experimental Class

No	Statement	Score
1	Students actively participate in classroom discussions.	4
2	Students show high enthusiasm and interest in learning.	3
3	Students follow the agreed classroom rules.	4
4	Students show interest in finding answers and asking relevant questions.	3
5	Students use available learning resources effectively.	3
6	Students are actively engaged in completing tasks.	3
7	Students demonstrate high concentration and follow instructions well.	3
8	Students take initiative in problem-solving.	3
9	Students connect learning materials to personal experiences or daily life.	3

10	Students interact positively with classmates during learning activities.	4
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Based on the classroom observation results, students in the experimental class who were taught using the gamification method generally showed high levels of engagement and positive behavior during the learning process. Out of the ten observed indicators, the highest scores (4) were found in statement number 1 (“Students actively participate in classroom discussions”) and statement number 10 (“Students interact positively with classmates during learning activities”). These results suggest that the gamification approach effectively encouraged students to be more involved in discussions and to build positive social interactions.

Meanwhile, the remaining indicators scored 3, indicating good but improvable performance. Specifically, areas such as student initiative in solving problems (statement 8), curiosity in seeking answers and asking relevant questions (statement 4), and the ability to connect learning material with real-life experiences (statement 9) scored slightly lower. This shows that while students were actively participating, there is still room for development in terms of critical thinking and reflective learning. In conclusion, the highest trend was seen in verbal participation and peer collaboration, while the slightly lower scores were related to cognitive and exploratory skills. These findings imply that the gamification method creates an engaging, interactive, and collaborative learning environment that promotes student motivation and active involvement.

Table 7. Frequency Analysis of Classroom Observation Control Class

No	Statement	Score
1	Students actively participate in classroom discussions.	2
2	Students show high enthusiasm and interest in learning.	3
3	Students follow the agreed classroom rules.	4
4	Students show interest in finding answers and asking relevant questions.	2
5	Students use available learning resources effectively.	3
6	Students are actively engaged in completing tasks.	3
7	Students demonstrate high concentration and follow instructions well.	3
8	Students take initiative in problem-solving.	2
9	Students connect learning materials to personal experiences or daily life.	3
10	Students interact positively with classmates during learning activities.	3

In contrast, the observation results from the control class, which used a conventional teaching method, showed relatively lower levels of student engagement. The highest score (4) was found only in statement number 3 (“Students follow agreed classroom rules”), indicating that students were generally disciplined and followed

instructions. However, the lowest scores (2) appeared in statement number 1 (“Students actively participate in classroom discussions”) and statement number 4 (“Students show interest in finding answers and asking relevant questions”), suggesting limited student participation and lower levels of curiosity and inquiry. Most other indicators scored 3, showing that students were able to complete tasks and maintain focus, but their involvement in terms of initiative, interaction, and reflective thinking was less optimal. This pattern indicates that the conventional method tends to create a more passive learning environment where students are compliant but less engaged in exploring ideas or actively participating.

This study discovered that the integration of gamification and interactive learning does not merely create a fun classroom experience, but also fosters meaningful and sustained engagement that leads to deep learning among EFL students. Students demonstrated significant improvements not only in their academic scores but also in behavioral, emotional, and cognitive engagement, indicating a learning process that moves beyond surface understanding. Previous studies such as Chan & Lo (2024) confirmed that gamification increases learning motivation, Sappaile (2024) emphasizes that gamification increases involvement and interest via challenges and rewards, while Mislia et al. (2021) highlighted its role in encouraging collaboration. Building upon these findings, this research identifies how gamified-interactive methods promote self-driven inquiry, reflection, and transfer of knowledge into real tasks, which are essential indicators of deep learning. Unlike earlier works that emphasized enjoyment or participation, this study reveals a shift toward students developing intrinsic motivation, critical thinking, and social accountability in learning English.

The tools used such as Quizziz and Baamboozle have been discussed in past research. For instance, in Pham (2023) noted that Quizziz enhances academic performance through real-time feedback, and Minh et al. (2023) found that Baamboozle improved vocabulary mastery. However, this study reveals a deeper insight: these platforms, when embedded into well-structured interactive learning, do more than improve test results they stimulate higher-order thinking and self-reflection by encouraging students to analyze, justify, and apply their language skills collaboratively.

Moreover, the emotional and social growth observed in this study adds a dimension that is underexplored in earlier works. Rohman & Fauziati (2022) emphasized Vygotsky’s theory that social interaction is crucial in learning. Boghian & Cojocariu (2023)) add that conscious learning supports social interaction awareness, as well as student responsibility in the learning community. This study extends that view by showing how digital gamification tools facilitate meaningful interaction and social bonding, leading students to take greater ownership of their learning. Fonseca et al. (2023) supported the idea of group learning enhancing cooperation, and the present findings confirm that such collaboration when gamified amplifies not only engagement but also mutual support and emotional safety in the learning environment.

Safitri & Tari (2024) warned that not all students respond equally to gamified learning. This study responds directly to that limitation by identifying variability in student outcomes, especially in grammar mastery, and suggesting that future gamification design must account for learner diversity. Thus, this research contributes by advocating adaptive gamified strategies that support differentiated learning paths, enabling all students to reach deeper cognitive processing regardless of their starting point. This study contributes a new perspective by demonstrating that gamification and interactive learning when thoughtfully integrated promote not just participation, but the cognitive, emotional, and social depth required for 21st-century language learning. The key contribution lies in showing how these methods transform classroom activities into deep learning experiences that empower students to think critically, collaborate meaningfully, and reflect independently.

CONCLUSION

The results of the study show that the implementation of gamified and interactive learning methods significantly improves students' positive perceptions, motivation, engagement, and learning outcomes in English classes. Students demonstrated high enthusiasm, active participation, and stronger emotional and cognitive involvement during the learning process. The average score of the experimental class was higher than that of the control class, indicating the effectiveness of this approach in enhancing academic performance. Moreover, the use of interactive media such as Baamboozle successfully captured students' attention and helped reinforce their memory of the material. However, its effectiveness may vary depending on the lesson content, so teachers are encouraged to apply adaptive strategies tailored to their students' needs and learning characteristics. Practically, teachers should thoughtfully integrate gamified tools aligned with learning objectives, provide clear instructions, balance competition and collaboration, and continuously assess student engagement to maximize benefits. For future research, it is recommended to investigate the long-term impact of gamified learning on language retention and communication skills, explore its effects across different age groups and cultural contexts, and examine the integration of gamification with other pedagogical approaches such as blended or flipped classrooms to further optimize student engagement and learning outcomes. Overall, gamified and interactive learning can create a fun and meaningful environment that supports students' cognitive, affective, and social development.

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