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Enhancing Students' Learning Engagement Through Slido-Based Gamification In High School English Classes

Donata Risa Merina*, Muhammad Nurwahidin, Rangga Firdaus
Lampung University, Lampung Indonesia
***Corresponding Author e-mail: donataenglishclass24@gmail.com**

Abstract: This study investigates the impact of using the Slido platform as a gamification tool on student engagement in English language learning at the secondary school level. The research is motivated by the challenges faced in enhancing student engagement through traditional teaching methods, particularly in Indonesia, where technology integration in education remains relatively low. Gamification, which incorporates games such as rewards, points, and challenges, has significantly boosted student participation and motivation. The study uses a quantitative experimental design with two groups: an experimental group that uses Slido for interactive activities such as quizzes, polls, and Q&A sessions, and a control group that follows conventional teaching methods. Data collected from pre-tests, post-tests, and student engagement surveys indicate a substantial increase in engagement among students who used Slido, with the experimental group showing a 29.8% improvement in engagement scores compared to a 6.8% improvement in the control group. These results suggest that Slido's gamified features, by fostering real-time interaction and feedback, effectively enhance student involvement and motivation. The findings offer valuable insights for educators on integrating gamification tools like Slido to improve student participation and create a more dynamic and enjoyable learning environment.

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Introduction

English language learning in secondary schools often faces challenges in increasing student engagement. Many factors influence this low engagement, including less interactive learning methods and the lack of technology utilization in the classroom. Research by Sari et al. (2021) shows that despite the advancement of technology, its adoption in education in Indonesia is still relatively low, which has an impact on students' motivation and participation in learning.

In recent years, the concept of gamification has emerged as an effective solution to increase student motivation and engagement. Gamification involves the use of game elements to make

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pp. 497-504

learning more interesting and motivate students to participate more actively. Research by Alqahtani (2022) found that gamification can increase student participation by introducing game elements such as rewards, points, and challenges that are relevant to the subject matter.

One increasingly popular platform is Slido, which enables real-time interaction through polls, quizzes, and question-and-answer sessions. Using Slido in learning can positively impact student engagement, as it provides immediate feedback that encourages students to participate more actively in discussions and quizzes (Smith et al., 2023). This study examines the effect of using Slido on student engagement in English learning in grade 11 at SMA Sugar Group, Lampung.

Theoretical Foundation

A. Gamification in Education

Gamification is the application of game elements in a non-game environment to increase student motivation, engagement, and achievement. Deterding et al. (2011) define gamification as using game design elements, such as rewards, levels, and challenges, in contexts unrelated to games. Furthermore, Nicholson (2020) states that gamification in education aims to increase student participation and engagement by making learning more interesting.

Relevant gamification theories in education include Self-Determination Theory (SDT), Social Learning Theory, and Reinforcement Theory. According to Deci & Ryan (2000), SDT emphasizes that intrinsic motivation is more effective than extrinsic motivation in fostering student engagement. Gamification leverages this by providing challenges that appeal to students' intrinsic motivation. Bandura's Social Learning Theory (1977) highlights the significance of social interaction in the learning process, which gamification can enhance through collaborative and competitive elements. Furthermore, Skinner's Reinforcement Theory (1953) suggests that rewards, a key component of gamification, help reinforce desirable behaviors, such as active participation and sustained engagement in learning activities. Together, these theories provide a strong foundation for understanding how gamification can positively influence student involvement and learning outcomes.

Recent research by Hamari et al. (2019) shows that gamification can increase student motivation and engagement. Gamification elements integrated with lesson material can help students focus better, increase intrinsic motivation, and improve their understanding and academic achievement.

B. Use of Slido in Learning

Slido offers several interactive features that can increase student engagement, such as:

- Interactive Polling: Teachers can collect student opinions in real time and assess their understanding of the material.
- Quizzes: Students can participate in competition-based quizzes, which test their understanding and provide rewards.

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pp. 497-504

- Q&A Sessions: These sessions provide a platform for students to ask questions anonymously or openly, encouraging interaction between students and teachers.

Slido excels in real-time interactivity, ease of access, and flexibility of use across various devices (tablets, laptops, smartphones). As an easy-to-use tool, Slido allows students to participate in learning without significant technical barriers (Joo & Park, 2020).

Several studies have shown Slido's success in increasing student engagement. Research by Muthmainnah (2022) reported that using Slido in English language learning in Indonesia can increase student interaction, especially in class discussions. These results align with the findings by Joo & Park (2020), who found that using Slido can increase student participation in English classes, both in question-and-answer sessions and in interactive quizzes.

C. Student Engagement in Learning

Definition of Student Engagement:

Student engagement refers to the active participation of students in learning activities that include cognitive, emotional, and behavioral aspects. According to Fredricks et al. (2004), student engagement has a strong correlation with academic achievement, as engagement helps deepen students' understanding of the material.

Factors that Influence Student Engagement:

Several factors influence student engagement, including:

- Intrinsic and Extrinsic Motivation: Intrinsic motivation, which stems from personal interest in the material, significantly affects engagement. However, external factors such as rewards can also encourage students to participate more actively.
- Engaging Learning Environment: Using technology in learning can create a more engaging environment and motivate students to participate more actively (Eynon et al., 2021).
- Social Relationships in the Classroom: Positive interactions between students, teachers, and classmates increase student engagement in classroom activities (Vassallo & Cucciniello, 2022).

The Relationship between Student Engagement and Learning Achievement:

High engagement is associated with increased understanding of material and better academic results. Research by Zepke & Leach (2010) found that student engagement directly impacts academic achievement, as engagement deepens understanding and helps students retain information longer.

Research Method

1. Research Design

This study uses an experimental design with two groups: an experimental group that uses Slido-based gamification in English learning and a control group that follows conventional learning methods (without gamification). This study will use a quantitative approach to measure the difference in student engagement levels between the two groups through pre-tests and post-tests.

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Juli 2025. Vol. 10 No. 3
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pp. 497-504

- **Experimental Group:** Students in this group will participate in English learning using the Slido platform for interactive activities such as quizzes, polls, and question-and-answer sessions.
- **Control Group:** Students in the control group will participate in English learning using conventional methods, namely lectures and class discussions, without the use of a gamification platform.

2. Population and Sample

- **Population:** The population of this study is high school students studying English.
- **Sample:** The sample consists of 46 students divided into two groups, each with 23 students. Sampling was conducted using **random sampling** to ensure fair representation and reduce bias in selecting research participants.
- **Sampling Technique:** Samples were randomly selected from classes that agreed to participate in this study.

3. Research Instruments

The instruments used to measure student engagement in this study include:

1. **Student Engagement Questionnaire:**
   This questionnaire was designed to measure student engagement before and after the implementation of Slido in learning. The questionnaire includes indicators such as:
   - The frequency of student participation in class activities (e.g., answering questions or participating in polls).
   - Student interaction with learning materials through quizzes and question-and-answer sessions.
   - Students' perceptions of their engagement during learning, including their level of motivation and satisfaction.
2. **Direct Observation:**
   Direct observation is conducted during learning sessions to assess students' interaction with learning materials and participation in Slido-based activities. This observation provides qualitative data that will support the quantitative data from the questionnaire.
3. **Pre-test and Post-test Data:**
   Students complete a pre-test before the implementation of Slido and a post-test after using the platform. The pre-test and post-test will measure changes in student engagement based on scores obtained from various interactive activities in the learning process.

4. Research Procedure

1. Experimental Group: The experimental group participate in English learning using Slido. They participate in activities such as:
   a. Interactive Polling: To gather students' opinions or measure their understanding of the lesson material.
   b. Quiz: After the lesson material is delivered, students will take a Slido-based quiz to test their understanding.
   c. Question and Answer Session: Students can ask questions or provide feedback on the material that has been studied.
2. Control Group: The control group participate in learning using conventional methods without using gamification technology. They learn through lectures and class discussions, which do not involve interactive elements such as those found in Slido.

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Juli 2025. Vol. 10 No. 3
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pp. 497-504

3. Data Collection: Data is collected in two stages:
    a. Pre-test: Conducted before using Slido to measure students' initial level of engagement.
    b. Post-test: Conducted after using Slido for several learning sessions to measure changes in student engagement.

5. Data Analysis

The collected data is analyzed using quantitative statistical analysis to measure the differences between the experimental and control groups. The analysis steps used are as follows:

1. Descriptive statistics is used to describe the pre-test and post-test data, including average scores and value distributions. This will provide an overview of student engagement in both groups.
2. Paired t-test compares the differences in pre-test and post-test scores within each group. Independent t-tests will also be used to compare the differences between the experimental and control groups after implementing Slido.
3. Data analysis is performed to calculate the mean, distribution, and t-test to determine whether there is a significant difference between the experimental and control groups.

Results and Discussion

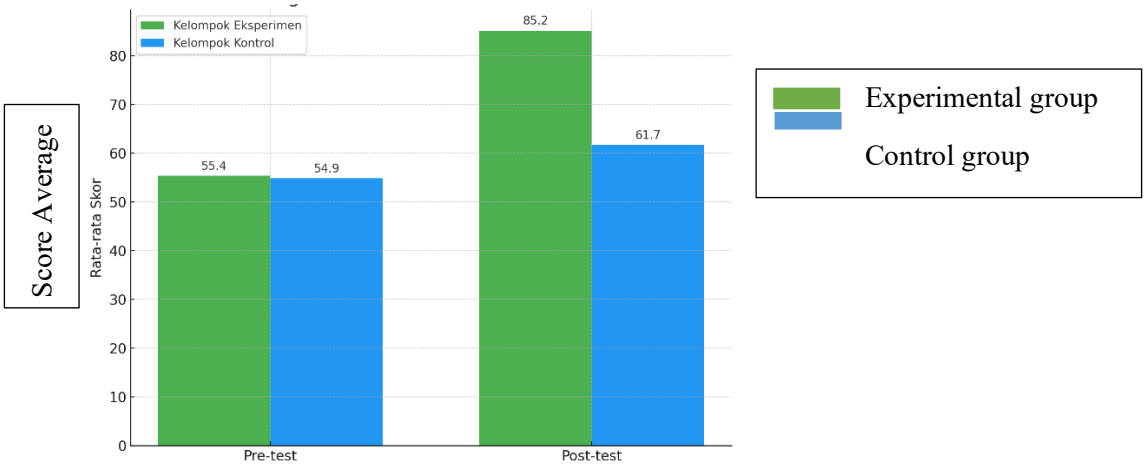
The research results are presented based on data collected through pre-tests and post-tests, student engagement questionnaires, and direct observation. These results include comparing student engagement levels between the experimental group using Slido and the control group following conventional learning.

Presentation of Research Results

The following table presents the average pre-test and post-test scores for both groups (experimental and control):

Table 1: Average Pre-test and Post-test Scores

Group	Average Pre-test	Average Post-test	Increase (%)
Experimental Group	55.4	85.2	29.8%
Control Group	54.9	61.7	6.8%



Graph 1. The following graph compares students' average scores between the experimental and control groups before and after the implementation of Slido.

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Juli 2025. Vol. 10 No. 3
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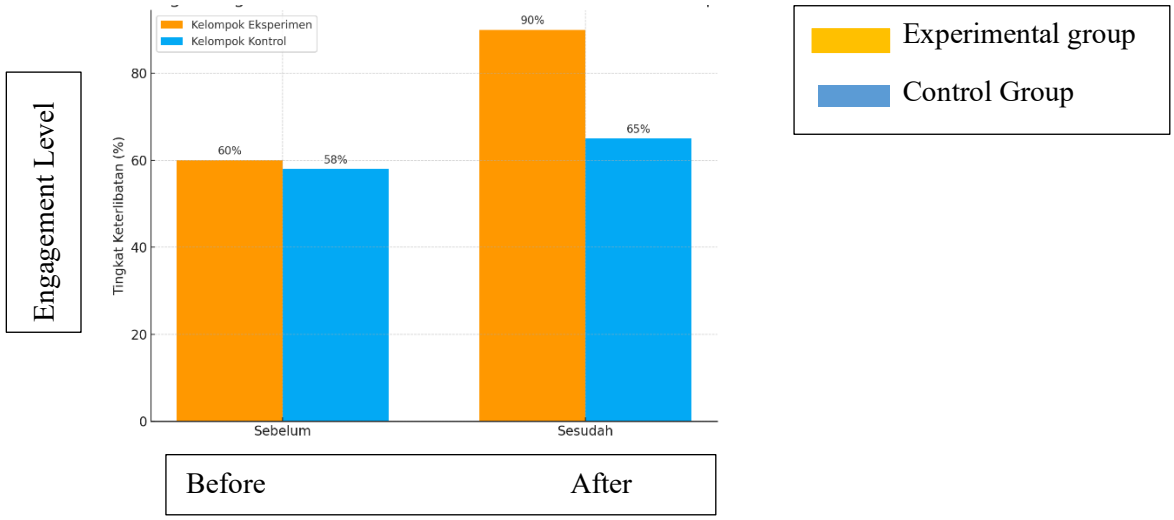
pp. 497-504

Table 2: Level of Students' Engagement

Group	Before	After	Increase (%)
Experimental Group	60%	90%	30%
Control Group	58%	65%	7%



Graphic 2: The following graph shows a comparison of student engagement levels between the experimental and control groups before and after the implementation of Slido.

The statistical analysis results show that the experimental group experienced a significant increase in their engagement levels after using Slido. The paired t-test for the experimental group showed a p-value **< 0.05**, indicating a significant difference between the pre-test and post-test. In contrast, the control group showed a smaller increase in their engagement, with a p-value > 0.05, indicating no significant difference between the pre-test and post-test in the control group. This shows that the use of gamification through Slido can increase student engagement more effectively than traditional learning methods.

Discussion

Based on the results of statistical analysis, it can be concluded that using Slido in English language learning can significantly increase student engagement. This can be seen from the greater increase in the post-test scores of the experimental group (29.8%) compared to the control group (6.8%). This significant increase indicates that the gamification elements in Slido, such as polls, quizzes, and question-and-answer sessions, effectively attract students' attention and encourage them to participate more actively in learning.

Interactive technology in learning, especially in gamification, allows students to receive immediate feedback and compete in fun quizzes, increasing their motivation and engagement. As an easily accessible and user-friendly platform, Slido facilitates interaction between teachers and students and among students, creating a more dynamic and enjoyable learning atmosphere (Joo &

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pp. 497-504

Park, 2020). This study's results align with previous findings showing that gamification can increase student engagement. For example, research by Hamari et al. (2019) shows that gamification can increase student motivation and engagement at various levels of education. Similarly, research by Joo & Park (2020) showed that using Slido can increase student participation in English learning through gamification elements that facilitate more intense interaction.

This study shows that Slido, a technology-based gamification platform, has great potential to increase student engagement in foreign language learning, especially English.

Several factors may influence the results of this study, including:

1. Students' Level of Comfort with Technology: Students who are more familiar with the use of technology may feel more comfortable and engaged during learning using Slido. Conversely, students who are less familiar with technology may experience difficulties in using this platform, although the results do not significantly reduce the positive impact of gamification.
2. Extrinsic Motivation Factors: Gamification often focuses on extrinsic motivation, such as rewards and points. While this can increase engagement, some students may feel more focused on the rewards than on understanding the material. Therefore, a balance between intrinsic and extrinsic motivation is essential to maintaining deep engagement.
3. Student Technology Skills: Students with better technology skills tend to adapt more easily to platforms such as Slido, which allow them to engage more actively in learning. Conversely, students with lower technology skills may need additional support to use the platform effectively.

The results of this study indicate that Slido can be a very effective tool in increasing student engagement in English language learning. Therefore, educators may consider integrating technology-based gamification, such as Slido, into their learning activities to make the learning experience more interactive and enjoyable. Gamification can create a more engaging learning environment, encouraging students to participate more actively and increasing their motivation.

In addition, this study also provides insights for educators to better understand how interactive technology can be used to increase student engagement in the classroom. By utilizing platforms such as Slido, teachers can increase interaction in the classroom, both physical and virtual, and enhance the overall learning experience.

Conclusion

This study shows that gamification based on the Slido application can significantly increase student engagement in learning English in grade XI Sugar Group Senior High School. Interactive features such as quizzes, polls, and Q&A on Slido create a more interesting, participatory, and fun learning atmosphere. Students' engagement increased significantly in cognitive, affective, and behavioral aspects compared to conventional learning.

Suggestions

Teachers should utilize digital platforms such as Slido as part of a gamification-based learning strategy to increase student participation. Schools should support technology integration in learning by providing adequate training and facilities. Future researchers should explore the

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Juli 2025. Vol. 10 No. 3
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pp. 497-504

long-term effects of Slido-based gamification on other aspects, such as learning outcomes, creativity, or student collaboration.

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