

Implementation of Game-Based Learning Methods to Improve the Learning Activities of 10th Grade Students in Sociology Classes at Baiturahmah High School, Padang

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ABSTRACT

This study was motivated by the low level of learning activity among tenth-grade students in Sociology classes at SMA Baiturahmah Padang. The purpose of this research was to implement a game-based learning method (Game-Based Learning) to improve students' learning activities. The research employed a Classroom Action Research (CAR) approach following John Elliot's model, which consists of four stages: (1) Planning, (2) Action, (3) Observation, and (4) Reflection. The data were collected through observations of students' learning activities and assessments based on five indicators: listening, reading, writing, discussion, and participation. The data were analyzed using descriptive qualitative and quantitative techniques, including percentage calculations and mean scores to measure the improvement of students' learning activities in each cycle. ... The study was conducted in two cycles. The results showed a significant improvement in every aspect of students' learning activities. Listening activities, which were initially at a moderate level, showed a notable increase in the second cycle. Reading skills also improved substantially following the implementation of the game-based learning method. Writing activities exhibited the greatest improvement among all indicators, indicating that this method effectively motivated students to take more active notes and write during the lessons. Class discussions became more dynamic, showing a marked increase in participation among students who were previously passive. Similarly, overall classroom participation increased considerably in the second cycle. In general, students' learning activities improved from a moderate to a high level after the application of the Game-Based Learning method. In conclusion, the implementation of the Game-Based Learning method in Sociology learning proved effective in enhancing the learning activity of tenth-grade students at SMA Baiturahmah Padang, as it successfully fostered enthusiasm and motivation to learn students who were once mostly silent began to actively speak and participate in the learning process.

Keywords: Game-Based Learning; Increasing Learning; Activity; Sociological Learning.



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1. INTRODUCTION

Game-Based Learning (GBL) is an instructional approach that integrates game elements into the learning process to enhance student engagement and motivation. GBL enables teachers to deliver learning materials in an interactive and enjoyable manner, encouraging active participation and meaningful learning experiences. In the context of 21st-century education, GBL

is considered an innovative strategy that supports student-centered learning and promotes critical thinking and collaboration skills (Hierro & Seller, 2020; Issaee et al., 2022; Kamalodeen et al., 2021; Reid et al., 2026).

Learning activities play a crucial role in determining students' learning outcomes, as they reflect students' cognitive, emotional, and behavioral engagement during the learning process. These activities include listening, reading, writing, discussion, and participation, which collectively contribute to students' understanding and retention of knowledge (Al-Osaimi, 2024; Kaur & Beri, 2026; Ma, 2023; Tesfaw et al., 2024; Vo et al., 2025). Low learning activity often leads to difficulties in understanding subject matter, particularly in disciplines that require critical and analytical thinking (Al-Rafayah, 2023; Ávila García et al., 2026; Bal & Öztürk, 2025; Kwangmuang et al., 2021; Purba et al., 2023; Zhang et al., 2024).

In sociology learning, student engagement is essential because the subject involves abstract concepts, social analysis, and critical reflection. However, in many classroom settings, students tend to be passive, which negatively affects their comprehension of sociological concepts (Wita et al., 2024). Therefore, innovative learning approaches such as GBL are needed to stimulate student participation and improve learning activities in sociology classes. Based on observations (April 10 – May 23, 2025) at Baiturahmah High School in Padang, several problems were found. One of the main problems was the lack of student learning activities in sociology. This can be seen from the low learning outcomes of students. The following are the learning activities shown by 10th grade students.

However, in many classroom settings, particularly at the high school level, students tend to show low levels of participation in sociology learning. This condition was also observed at Baiturahmah High School in Padang. Based on preliminary observations conducted from April 10 to May 23, 2025, students' learning activities were found to be relatively low across several indicators. Listening activities only reached 65.45%, reading activities were recorded at 63.58%, writing activities reached 74.5%, and active participation activities were at 66.13%. These findings indicate that students were not yet fully engaged in the learning process, which may hinder their understanding of sociological concepts.

Learning activities play an important role in learning because they can affect student learning outcomes (Wita et al., 2024). Learning activities are necessary because they contain values that can improve understanding, skills, motivation, social skills, retention, creativity, participation, and thinking skills to achieve specific goals. These values and attitudes serve as invisible forces that encourage individuals to achieve learning goals.

Theoretically, this study refers to the Behaviorist theory proposed by Thorndike (1874–1949), which explains that learning is a process of stimulus and response (D'Olimpio et al., 2025; Glenn et al., 2023; Slavin, 2012). In this context, the learning environment must be designed to provide appropriate stimuli and reinforcement for student responses. The application of GBL is in line with this theory, because the game elements in learning can serve as stimuli that elicit positive responses in the form of active student engagement (Boonchai & Boonchai, 2025; Hunter et al., 2020). Through games, students not only gain interactive experiences, but also receive reinforcement for their actions, thereby enabling them to consistently improve their learning activities (Chotiratanapinun & Suppipat, 2022; Jain et al., 2022; Trütsch et al., 2025).

Previous studies have proven the effectiveness of GBL. For example, several previous studies found that GBL can increase student motivation and engagement in learning (Alam, 2022; Chowdhury et al., 2024; Wang & Zheng, 2021; Yang & Chen, 2020), while a meta-analysis by Karakoç et al. (2022) showed that GBL is effective in improving conceptual understanding in

science. However, research on GBL is still dominated by exact sciences, such as mathematics, physics, or computer science. In fact, sociology, as a subject that requires social analysis, critical reflection, and group interaction, also has great potential to be combined with GBL.

Despite these positive findings, most existing studies on GBL focus primarily on cognitive outcomes, such as academic achievement and conceptual understanding. There is still limited research that specifically examines the impact of GBL on students' learning activities, particularly in terms of listening, reading, writing, discussion, and participation. Furthermore, the application of GBL in social science subjects, especially sociology at the high school level, remains underexplored. This limitation indicates the need for further investigation in this area.

Based on this explanation, it can be concluded that there is a significant research gap. Most GBL research focuses on cognitive aspects such as improving academic grades or mastery of concepts, while studies on learning activities such as listening, reading, writing, and active participation are still limited. In addition, there has not been much research in Indonesia that examines the application of GBL in sociology subjects at the high school level, especially in the context of religious-based private schools such as SMA Baiturahmah Padang. Thus, this study is expected to fill the research gap and provide relevant empirical contributions.

The novelty of this study lies in its specific focus on sociology learning, with an emphasis on measuring student learning activities in detail, rather than solely on cognitive learning outcomes. In addition, this study presents the integration of behaviorist theory with the application of GBL so that it not only emphasizes practical aspects but also strengthens the theoretical basis of how stimulus-response through games can increase learning activities. This study also has a contextual contribution because it was conducted at SMA Baiturahmah Padang, so that the results can provide a real picture of the application of GBL in schools with specific socio-cultural backgrounds.

Based on the literature review, a clear research gap can be identified in the lack of studies that focus on improving student learning activities through GBL in sociology education. This study seeks to address this gap by examining the implementation of GBL using a contextual and interactive medium known as the "Sociology Bowling" game. The novelty of this research lies in its focus on learning activities as the main outcome, as well as the use of a simple, group-based physical game that promotes interaction, collaboration, and active participation among students.

This research is highly urgent because it concerns improving the quality of student-oriented learning. First, from a practical perspective, the low level of student learning activity in sociology must be addressed immediately so that it does not impact the quality of social concept understanding. Second, from an educational policy perspective, the application of GBL is in line with the spirit of the Merdeka Curriculum, which emphasizes active, participatory, and collaborative learning. Third, from a theoretical perspective, this study enriches the literature on the application of GBL in non-exact subjects. Fourth, from a social perspective, increasing student learning activities in sociology will encourage social awareness, critical thinking skills, and active participation in social life.

Based on the above description, it can be concluded that the low learning activity of students in sociology at Baiturahmah High School in Padang is an urgent problem to be solved. The application of the Game-Based Learning method is expected to be an innovative solution that not only improves material comprehension but also encourages active student involvement in the learning process. Therefore, this study was conducted to analyze the implementation of GBL in improving the learning activities of 10th grade students in sociology at Baiturahmah High School in Padang.

2. METHODS

2.1 Type of Research

The type of research used is Classroom Action Research (CAR) with a descriptive qualitative and quantitative approach. This approach integrates qualitative and quantitative data to provide a comprehensive analysis of students' approach. mah High School in Padang is an urgent problem to be solved. The application of the Gameeews to capture students' behaviors and interactions during the learning process. Quantitative data were analyzed using descriptive statistics, including percentage calculations and mean scores, to measure the improvement of learning activities across cycles. The integration of these methods allows for triangulation, thereby increasing the validity and reliability of the findings.

2.2 Research Subjects and Objects

The subjects of this study were 25 students in grade X at Baiturahmah High School in Padang for the 2024/2025 academic year. The students consisted of 14 female students and 11 male students. Based on preliminary observations and the teacheric year. nd interviews. The quantitative approach was un sociology was categorized as moderate, as reflected in their average learning outcomes and classroom participation prior to the implementation of the intervention. The object of the study was the application of the Game-Based Learning method using the "Sociology Bowling" game in sociology lessons. The focus of the research is on improving student learning activities, which include listening, reading, writing, and active participation.

2.3 Research Location and Time

The research was conducted at Baiturahmah Padang High School, specifically in the 10th grade sociology class. The research was conducted in the even semester of the 2024/2025 academic year, namely in April–May 2025.

2.4 Research Design

This research used a PTK cycle design according to which consists of four stages (Glenn et al., 2023), namely:

a. Planning

The teacher prepared a Lesson Plan (RPP) by applying the Sociology Bowling method. In this planning stage, the teacher prepares media in the form of modified miniature bowling pins: each bowling pin is labeled with a sociological term, concept, or theory. Students who successfully knock down a pin will receive a question corresponding to the label on that pin. The teacher also prepares research instruments in the form of learning activity observation sheets, interview guidelines, and learning outcome test questions to evaluate student understanding. Students who successfully knocked down a pin were required to answer questions corresponding to the label on that pin. In addition, the teacher prepared research instruments, including observation sheets of students' learning activities, interview guidelines, and learning outcome test questions.

To ensure the quality of the research instruments, validity testing was conducted through expert judgment. The instruments were reviewed by experts in the field of education and sociology to assess the relevance, clarity, and appropriateness of the indicators used to measure students' learning activities. The validation results indicated that the instruments were suitable for use in this study with minor revisions.

Furthermore, the reliability of the observation instrument was ensured through consistency in observation procedures. Observations were conducted systematically using the same indicators across all cycles to maintain data consistency. This approach helped to ensure that the data collected were reliable and could accurately reflect students' learning activities during the implementation of the Game-Based Learning method.

b. Action Implementation

The teacher conducted the lesson using the Sociology Bowling game. The activity was carried out by dividing the students into several groups. Each group took turns "throwing" at the bowling pins, then answering questions corresponding to the pins that fell. Groups that answered correctly received points. This activity encouraged students to actively listen, read the material, write answers, and participate in group discussions.

c. Observation

During the learning process, the researcher observed student engagement. The observation focused on four aspects of learning activities: listening, reading, writing, and active participation. Observation data was recorded using a prepared observation sheet, accompanied by photo documentation, field notes, and student work.

d. Reflection

After the action and observation, the teacher and researcher analyzed the results obtained. Reflection was carried out to evaluate whether the Sociology Bowling method was able to improve student learning activities. If the results in the first cycle were not as expected, the plan was revised and continued to the next cycle until there was a significant improvement in student learning activities. This research was designed in two cycles. Each cycle included two meetings (1 meeting for action, 1 meeting for evaluation and reflection). If adequate improvement was not achieved in the second cycle, the research could continue to a third cycle.

3. RESULT AND DISCUSSION

The result in this study is intended to provide further interpretation of the research results obtained through the application of the Game Based Learning (GBL) method using Sociology Bowling media in sociology learning in class X at Baiturahmah High School in Padang. This section not only presents descriptive data but also analyzes and relates it to theory, previous research results, and predetermined objectives. This research was conducted in two cycles, each consisting of two meetings. In each cycle, the researcher applied games to attract students' interest and enthusiasm in participating in the learning process. Learning with the game-based learning method was carried out in the form of the Sociology Bowling Game. This game uses bowling balls and is applied in sociology learning, hence the name Sociology Bowling.

3.1 Implementation of Game-Based Learning in Sociology Education

Sociology bowling is a bottle game, where the bottles contain rolls of paper with various questions about the learning material that has been explained previously. This game is challenging, encouraging students to seek answers to the questions they encounter in the game. This research was conducted in two cycles, with each cycle consisting of two meetings. Each meeting was organized based on the steps of Classroom Action Research (CAR) according to John Elliot, namely: (1) planning, (2) action, (3) observation, and (4) reflection. In the planning stage, the researcher and teacher developed a learning scenario that involved the Sociology Bowling game as a strategy to activate students. The action stage was carried out by integrating the game into the teaching and learning process, while the observation stage focused on student behavior during the activity,

such as asking questions, discussing, and responding to questions. The reflection stage is used to analyze the shortcomings in the first cycle and improve them in the second cycle. The schedule for this research is as shown in Table 1.

Table 1. Activity Implementation

Cycle	Meeting	Time
1	1	Wednesday, May 7, 2025
	2	Tuesday, May 13, 2025
2	1	Tuesday, May 20, 2025
	2	Thursday, May 22, 2025

Based on the observation sheet of student learning activities in the implementation of learning meetings 1 and 2 in cycles I and II. The game activities were carried out in four meetings, namely May 7, 13, 20, and 22, 2025. Through this schedule, the researcher provided opportunities for students to adapt to the new learning pattern so that the increase in learning activities could be measured gradually from the first cycle to the second cycle. Furthermore, the results of the observation of student learning activities can be seen in Table 2 below:

Table 2. Results of Learning Activities of Grade X Students in Cycle I

Student Learning Activities	Number of Scores Average Score		Percentage Increase/Decrease (Meeting 1 and Meeting 2)
	Meeting 1	Meeting 2	
Listening	58.08	66.66	1.09%
Reading	53.20	67.56	5.90%
Writing	45.08	55.19	4.04%
Discussion	67.75	70.06	8.90%
Student Participation	69.01	92.27	5.92%

Source: Researcher's Data Analysis Results (2025)

Based on the table above, it can be described that student learning activities in the early stages of implementing the Game-Based Learning (GBL) method in cycle I showed an increase in every aspect, although it was not yet very significant. The learning process was observed comprehensively from the beginning, core, to the end of the lesson, so that the data obtained represented student activities throughout the teaching and learning activities.

The results of the first cycle indicate a general improvement in students' learning activities across all observed indicators, including listening, reading, and writing. Although the increases were not yet substantial, a consistent positive trend can be identified, suggesting that students began to adapt to the Game-Based Learning (GBL) approach. This initial improvement reflects a transition from passive to more active engagement, where students gradually became more responsive to learning stimuli provided through the Sociology Bowling game. However, the relatively modest gains also indicate that students were still in the early stages of adjustment, as they were not yet fully familiar with integrating game activities into meaningful learning processes.

From a broader perspective, the pattern of improvement shows that GBL has begun to stimulate students' cognitive and behavioral engagement simultaneously. Students demonstrated increased willingness to pay attention, explore learning materials, and participate in learning

tasks, although these behaviors were not yet optimal. This phenomenon aligns with behaviorist learning theory, where repeated exposure to stimuli such as game-based questions and interactive activities gradually encourages positive responses. Therefore, the first cycle can be interpreted as an adaptation phase, in which students started to develop active learning behaviors, but still required reinforcement and repeated practice to achieve more significant improvement.

For discussion activities, the score increased from 67.75 to 70.06, with an increase of 8.90%. This increase is relatively higher than other indicators, showing that the GBL model is beginning to be effective in fostering social interaction and communication among students. Group discussions that took place during the game encouraged students to exchange opinions, negotiate, and agree on answers that were considered correct. This reflects the creation of a learning community where students learn not only from teachers but also from their peers. Discussion activities such as these also strengthen critical and social thinking skills, which are one of the main objectives of sociology learning.

Meanwhile, student participation increased from 56.49 to 65.06, with a percentage increase of 1.15%. Although this increase is relatively low, the results still show a positive trend. Participation here includes student activity in answering questions, expressing opinions, and daring to present the results of discussions. The low increase in this indicator shows that in the first cycle, some students were still passive and needed time to adjust to the dynamics of the game, which involved group work and competition.

Overall, the data in cycle I shows that the initial application of the Game-Based Learning method using the Sociology Bowling media has not had a significant impact on increasing student learning activities at Baiturrahmah High School in Padang, but it has brought about positive behavioral changes in the early stages. This is understandable because in the first phase, students were still in the process of recognizing a new learning pattern that was different from the previous conventional methods. Some students needed time to understand the rules of the game, overcome shyness, and build confidence to participate actively. However, the increase in all indicators, albeit small, was an early indicator of the successful implementation of the GBL method, which is expected to show more optimal results in the next cycle. Thus, the first cycle serves as an orientation and adaptation stage, where students build mental and social readiness to accept interactive learning. This moderate improvement also shows that stimuli in the form of games have begun to elicit positive responses, which will then become the basis for reinforcement in the next cycle, as shown in Table 3.

Table 3. Results of Learning Activities of Grade X Students in Cycle II

Student Learning Activities	Number of Scores Average Score		Percentage Increase/Decrease (Meeting 1 and Meeting 2)
	Meeting 1	Meeting 2	
Listening	72,15	88,31	1,05%
Reading	70,75	91,95	4,13%
Writing	74,75	91,90	2,80%
Discussion	71,07	91,90	2,80%
Student Participation	69,01	92,97	5,92%

Source: Researcher's Data Analysis Results (2025)

Based on the table above, it can be explained that student learning activities in cycle II showed a much more significant increase compared to cycle I. This increase occurred in almost all aspects of learning activities observed, namely listening, reading, writing, discussion, and student

participation. This indicates that students have adapted well to the Game-Based Learning (GBL) model using the Sociology Bowling media and have begun to display more active, enthusiastic, and focused learning responses. While in cycle I the increase in learning activities was still relatively low because students were still adapting, in cycle II the changes in learning behavior were more stable and consistent.

In listening activities, the average score increased from 72.15 in the first meeting to 88.31 in the second meeting, with an increase of 1.05%. Although the percentage increase seems small, the high final score (88.31) indicates that the students' ability to listen and pay attention is already in the excellent category. In game-based learning, listening skills are important because students must understand game instructions, listen to questions being read aloud, and pay attention to their friends' opinions in group discussions. This is in line with [Slavin \(2012\)](#) view that listening skills are a form of active engagement, namely the mental involvement of students in understanding the messages or information received during learning activities. Thus, the increase in listening activities in this cycle shows that a more conducive classroom atmosphere and the GBL method have succeeded in fostering students' concentration on the learning process.

Furthermore, in reading activities, there was an increase in scores from 70.75 to 91.95 with a percentage of 4.13%. This increase is quite significant because it indicates that students have realized the importance of reading to understand the content of questions that arise in the Sociology Bowling game. When students knock down pins containing questions, they must read carefully to understand the meaning of the questions before discussing the answers. This activity provides positive reinforcement for reading habits because students feel motivated to read not merely as an academic obligation, but as part of a fun game. In the context of Edward Lee Thorndike's Law of Exercise theory, repeating reading activities in a fun atmosphere will strengthen the stimulus-response connection, so that reading habits will become more ingrained in students.

A similar improvement was also seen in writing activities, where the average score increased from 74.75 to 91.90, with an increase of 2.80%. Writing activities in this game include recording the results of group discussions, writing down answers to questions, and summarizing the important points of the material discussed. This increase shows that educational games such as Sociology Bowling can train students' systematic thinking skills in expressing ideas and answers in writing. According to the theory of cognitive engagement by [Fredricks et al. \(2016\)](#), cognitive engagement in the form of writing shows that students have actively processed information and integrated it with their existing knowledge. Thus, this increase in scores not only illustrates physical activity, but also the depth of the thinking process that occurs during learning.

In the discussion activity, there was an interesting dynamic. The activity score increased from 71.07 to 91.90, with a very high percentage increase of 91.90%. This increase shows that the classroom atmosphere in the second cycle was truly active, with each group intensely involved in the discussion process. Through the Sociology Bowling game, students were encouraged to exchange ideas, present arguments, and agree on the best answers together. This activity is in line with Vygotsky's principle of socioconstructivism, which emphasizes that knowledge is constructed through social interaction ([Langford, 2005](#)). Group discussions allowed students to construct meaning collaboratively and strengthen their communication and social empathy skills, which are at the core of sociology learning. This increase also indicates that the teacher had succeeded in creating a learning climate that supported the active participation of all students without fear or awkwardness. As for participation activities, the score increased from 69.01 to 92.27, with a percentage increase of 5.92%.

This figure shows a remarkable jump in participation compared to the previous cycle. This increase illustrates that students are no longer passive in the learning process but are now fully engaged, both verbally and nonverbally. Students have begun to come forward, answer questions, comment on their friends' opinions, and even ask questions back to the teacher. This kind of participation reflects the teacher's success in building students' confidence through a learning approach that is not intimidating, but rather fosters curiosity and healthy competition. It also proves that game-based learning can create a positive emotional climate, where pleasant stimuli reinforce desired positive behaviors.

Overall, the results obtained in cycle II show that the application of the Game-Based Learning method using the Sociology Bowling media has had a very positive impact on increasing student learning activities. Unlike the first cycle, which was still dominated by the adaptation stage, the second cycle showed that students had fully understood the mechanics of the game and were able to internalize the learning values contained therein. Classes became more lively, interactive, and student-centered learning

Thus, it can be concluded that the GBL method not only increases the quantitative value of learning activities but also shapes the quality of social interaction, intrinsic motivation, and critical thinking skills of students in sociology learning. These results provide empirical evidence that the game-based learning approach is effective when applied in the context of social sciences and humanities, particularly in efforts to create meaningful and enjoyable learning experiences. Furthermore, the overall percentage of the application of the Games Based Learning method can be seen in Table 4 below:

Table 4. Results of Student Learning Activities Between Cycle I and Cycle II

Student Learning Activities	Average Cycle 1	Average Cycle 2	Percentage Increase in Learning Cycle I and Cycle II
Listening	62,37	80,23	22,26%
Reading	69,38	81,38	25,80%
Writing	50,13	83,32	39,83%
Discussion	68,90	81,48	15,43%
Student Participation	60,77	80,64	24,64%

Source: Researcher's Data Analysis Results (2025)

Based on the table above, it can be described that the percentage increase in student learning activities from cycle I and cycle II has increased, namely in listening activities in cycle I with an average score of 62.37, and increased in cycle II with an average score of 80.23. The percentage increase in listening activities is 22.26%. The average score for reading activities in cycle I was 60.38 and increased in cycle II to 81.38. The percentage increase was 25.80%. Writing activities in cycle 1 obtained an average score of 50.13 and increased in cycle II to 83.32 with a percentage increase of 39.83%. Discussion activity in cycle I obtained an average score of 68.90 and increased in cycle II to 81.48. The percentage increase in listening activity was 15.43%. Student participation activities in cycle 1 obtained an average score of 60.77 and increased in cycle II to 80.64 with an increase percentage of 24.64%. Therefore, it can be concluded that the application of the Game-Based Learning method in Grade X can significantly improve learning activities in sociology learning.

It can be concluded that the learning process from the first cycle to the second cycle has improved. This can be seen from the changes and improvements in the learning activities that have been carried out in each learning process. Learning using the Game-Based Learning method,

with the Sociology bowling game, is a learning method that encourages students to play while learning, by throwing balls at bottle pins containing questions about the learning material. The questions are collected and the answers are sought together with friends in the group and then presented.

3.2 Discussion

The findings of this study indicate that the implementation of Game-Based Learning (GBL) using the Sociology Bowling game significantly improved students' understanding about the learning material. The questions are collected and the answers are sought together with them, and participation. This improvement reflects a shift from passive to active learning behavior, where students became more engaged in the learning process. The increase in learning activities suggests that GBL effectively creates an interactive learning environment that encourages students to participate actively and take responsibility for their own learning (Lu, 2024; H. Zhang et al., 2025).

From a theoretical perspective, these findings support the principles of behaviorist learning theory proposed by Edward Lee Thorndike, which emphasizes the role of stimulus and response in shaping behavior. In this study, the Sociology Bowling game functioned as a stimulus that triggered positive student responses, such as increased attention, participation, and engagement. The use of game elements, such as competition and rewards, provided reinforcement that strengthened desirable learning behaviors. This indicates that integrating game-based strategies into classroom instruction can effectively enhance students' learning activities through structured and meaningful stimuli (Ram, 2022).

The results of this study were analyzed using Behaviorism theory, developed by Edward Lee Thorndike, which states that learning is a change in behavior that can be observed as a result of a stimulus-response relationship (D'Olimpio et al., 2025). In this study, the researcher provided students with a stimulus in the form of a Sociology Bowling game in learning. The presence of games in learning made students respond positively to what the teacher had provided. For example, students were enthusiastic about reading the material that the teacher would provide before learning began by applying game-based learning (GBL) in sociology learning. This approach can be interpreted as the use of game elements to provide stimuli that elicit positive responses from students. By applying Thorndike's behaviorist principles in GBL, sociology learning can be more effective and enjoyable, and can increase students' overall learning activities. Therefore, students can follow the learning process well and enjoyably. The Bowling Sociology game is able to change students' learning styles and learning activities, such as reading, writing, discussion, and student participation in learning, making them more concentrated.

When compared to previous studies, the results of this study have similarities and differences. Research by Hartati et al. (2022) & Enrico et al. (2024) found that GBL increases students' intrinsic motivation to learn because the game elements provide a sense of achievement, challenge, and emotional involvement (Enrico et al., 2024; Hartati et al., 2022). This is in line with the findings of this study, where students became more enthusiastic and excited to participate in sociology learning when game media was used. Further research on science subjects also shows that GBL can improve conceptual understanding because students do not just passively receive information but actively explore knowledge (Alamin et al., 2022; Mar'atussolichah et al., 2024; Sarifah et al., 2022). In this study, students not only read the material but also wrote answers, discussed in groups, and presented their results, reflecting cognitive and social engagement.

In addition, Wita (2024) emphasized that low learning activity leads to weak understanding of sociological concepts. This study successfully proved the opposite: when learning activity was

increased through GBL, students' understanding and learning outcomes also improved. [Reid et al. \(2026\)](#); [Sarifah et al. \(2022\)](#); [Trütsch et al. \(2025\)](#) in their research on the use of educational games in social studies subjects found that games encourage students to be more active in group discussions, increase their confidence, and train them to have the courage to express their opinions. This is consistent with the increase in discussion activity and student participation in this study, where participation scores rose by 24.64% from cycle I to cycle II. However, this study also provides more specific findings than previous studies.

While most previous studies focused more on motivation and cognitive learning outcomes, this study analyzed in detail the increase in student learning activities in five main aspects: listening, reading, writing, discussion, and participation. Thus, this study reinforces the argument that learning activities are not limited to physical involvement, but also include mental and social involvement of students.

The results of this study are consistent with previous research indicating that GBL enhances student motivation and engagement ([Alam, 2022](#); [Chowdhury et al., 2024](#); [Yang & Chen, 2020](#)). However, unlike many prior studies that primarily focus on cognitive outcomes, this study provides more specific evidence on the improvement of learning activities as multidimensional constructs. Furthermore, the use of a simple, physical game such as Sociology Bowling offers a practical alternative to digital game-based learning, demonstrating that effective GBL implementation does not necessarily require advanced technology. This finding expands the applicability of GBL, particularly in contexts with limited technological resources.

Critically, the application of Bowling Sociology also provides new innovations that have not been widely used in previous studies. Most GBL studies use digital media, application-based quizzes, or board games. Meanwhile, Bowling Sociology, as a group-based physical game, is more suitable for sociology learning that emphasizes social interaction, cooperation, and communication. With this game model, students are encouraged to read questions, write answers, discuss together, and present results, so that learning takes place more actively and collaboratively.

Thus, this study not only reinforces previous research results regarding the effectiveness of GBL, but also makes a new contribution by showing that simple games such as Sociology Bowling can be an effective medium for increasing learning activities in sociology subjects. This confirms that GBL can be applied not only to exact subjects, but also to social sciences and humanities, and is capable of integrating cognitive, affective, and social aspects in the learning process.

This study has several limitations that should be acknowledged. First, the research was conducted in a single class with a relatively small number of participants, which may limit the generalizability of the findings. Second, the study focused primarily on short-term improvements in learning activities without examining long-term retention or sustainability of the effects. Third, the analysis relied mainly on descriptive data, which may not fully capture the complexity of student learning behavior. Despite these limitations, the findings provide important practical implications for educators, suggesting that GBL can be an effective strategy to enhance student engagement in sociology learning. Future research is recommended to involve larger samples, apply more rigorous statistical analysis, and explore long-term impacts of GBL in various educational contexts.

4. CONCLUSION

Based on the results of the research and discussion, it can be concluded that the application of the Game-Based Learning (GBL) method in sociology learning through the Bowling Sosiologi game was able to significantly improve the learning activities of 10th grade students at Baiturahmah High School in Padang. In the first cycle, the average learning activity of students only reached 60.51 percent, indicating that most students were still not actively involved in listening, reading, writing, discussing, or participating optimally. However, in the second cycle, student learning activities increased to 81.41 percent, indicating a surge in student involvement in the learning process. This increase proves that the application of game media in learning is not only able to arouse interest but also creates a more lively, enjoyable, and conducive classroom atmosphere. The Sociology Bowling game implemented by the teacher successfully created a competitive yet collaborative atmosphere in the classroom, where students felt challenged when they had to answer questions from the game pins, so they were more serious in preparing themselves, reading the material, writing answers, and discussing with their groups. This kind of learning atmosphere encouraged students to focus more on listening to the teacher's explanations, ask questions more actively, and be more courageous in expressing their opinions.

The findings of this study demonstrate that the implementation of Game-Based Learning (GBL) through the Sociology Bowling game effectively improves students' learning activities in sociology classes. Significant improvements were observed across all indicators, including listening, reading, writing, discussion, and participation, particularly from the first to the second cycle. These results indicate a clear shift from passive to more active learning behavior, reflecting increased student engagement during the learning process. Overall, the study confirms that GBL is an effective instructional approach for creating a more interactive and student-centered learning environment. The consistent improvement across multiple dimensions of learning activities highlights the potential of game-based strategies to enhance classroom participation and engagement, particularly in social science subjects such as sociology.

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