



## Implementation Of Game Based Learning Model Using Snakes And Ladders Media To Improve Student Learning Activeness

Ronauli Anastasya<sup>1</sup>, Putri Maisyarah Ammy<sup>2</sup>, Hotnida Simarmata<sup>3</sup>

<sup>1</sup>Program Profesi Guru Calon Guru, Gelombang 2 Semester 2 Tahun 2024, Universitas Muhammadiyah Sumatera Utara, Medan, Indonesia

<sup>2</sup>SDN 066055 Medan

Email: [ronaulitasya30@gmail.com](mailto:ronaulitasya30@gmail.com), [putrimaisyarah@umsu.ac.id](mailto:putrimaisyarah@umsu.ac.id),  
[hotnidasimarmata84@gmail.com](mailto:hotnidasimarmata84@gmail.com)

---

### Article History:

Accepted: 16 October 2024

Revised: 17 March 2025

Published: 15 June 2025

---

### Abstract

This study aims to improve student learning activity by implementing a game-based learning model using snakes and ladders media. The background of this study is based on the low learning activity of students such as being passive during discussions, less enthusiastic about answering teacher questions, and being reluctant to participate in learning activities as well as learning activities that have not been able to encourage active involvement both individually and in groups. This study was conducted in class III of SD N 066055 Medan using the Classroom Action Research (CAR) method which was implemented in two cycles. The increase in learning activity can be seen from the results of the questionnaire in the pre-cycle to cycle II. In the pre-cycle, the number of students in the Active and Very Active categories was only 6 people (31.6%). In cycle I it increased to 10 people (52.6%), and in cycle II it increased again to 15 people (78.9%). This shows that the implementation of Game Based Learning through snakes and ladders media has proven to have a positive effect and helps improve student learning activity.

**Keywords :** Game Based Learning Model, Snakes and Ladders, Learning Activity

## **INTRODUCTION**

Education is a crucial process in shaping students' character, skills, and knowledge. At the elementary school level, Pancasila Education plays a crucial role in instilling the nation's noble values, including patriotism, tolerance, and pride in Indonesia's cultural diversity. One crucial aspect to consider in learning is student engagement. This engagement reflects students' physical, mental, and emotional involvement in the learning process. (Al-Amien et al., 2021).

Student learning activity is an important indicator of the success of the learning process in elementary schools. Active students will more easily understand the material, dare to express their opinions, and demonstrate interest and involvement during the learning process. However, in reality, many students still show low learning activity, such as being passive during discussions, less enthusiastic about answering teacher questions, and reluctant to participate in learning activities. Learning activities are not able to encourage active involvement either individually or in groups (Purnomo, 2023). This certainly impacts low student understanding and learning outcomes. One of the causes of low student learning activity is the use of learning methods that are not varied enough and do not involve students directly (Pratama et al., 2021). One-way and monotonous learning tends to make students quickly bored and uninterested in participating in learning activities with enthusiasm (Yuniawatika et al., 2023).

To address these issues, it is necessary to implement a learning model that can create a fun, interactive learning environment and motivate students to be more active. One such model is Game-Based Learning (GBL), which integrates game elements into the learning process. GBL provides an engaging and challenging learning experience, enabling students to learn while playing (Tangkui & Keong, 2021).

The learning media used in GBL also plays a crucial role. One engaging and child-friendly medium is the snakes and ladders game. This game can be modified by incorporating questions and learning challenges relevant to the material being studied. Through the snakes and ladders game, students are encouraged to learn actively, collaborate, and think critically in a fun atmosphere (Mar'atussolichah et al., 2024).

Based on this background, the researcher is interested in conducting Classroom Action Research (CAR) with the title "Implementation of Game Based Learning Model through Snakes and Ladders Media to Increase Student Learning Activity at SD N 066055 Medan". This study aims to determine whether the application of the GBL model with snakes and ladders media can increase student learning activity in the classroom

## **RESEARCH METHODS**

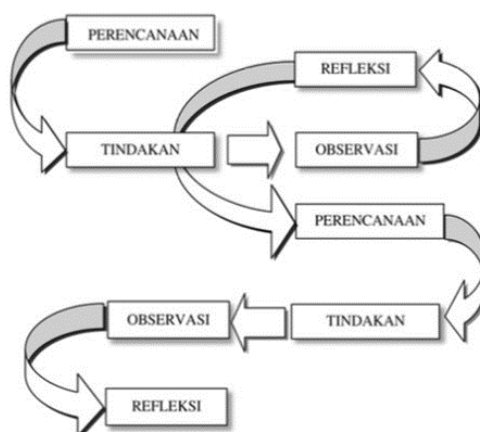
The type of research that will be applied in this study is Classroom Action Research (CAR), which is research conducted by teachers by implementing certain actions to improve the learning process and outcomes of students (Insani Nurchintyawati, S.Pd., 2022). The type of CAR used in this study is experimental CAR, which is a type of research conducted by trying to apply various techniques or strategies effectively and efficiently in the teaching and learning process (Sukmawati & Hardhinata, 2023). In the context of learning, the application of more than one strategy or technique is possible to achieve the expected

instructional objectives (Acquah & Katz, 2020). The model used in this study is the Kemmis and Mc-Taggart model, which consists of four stages: planning, action, observation, and reflection. These four stages form a single cycle. simultaneously..

The action model used in this study refers to **the Kemmis and McTaggart model** , which consists of four iterative stages, namely:

1. Planning – designing the actions to be taken,
2. Implementation of action (acting) – carrying out the learning process according to plan,
3. Observation – observing and recording the process and results of actions,
4. Reflection – analyzing the results of actions and planning corrective actions.

These four stages form an interconnected cycle that can be continued to the next cycle if the desired results are not achieved. This model is flexible and encourages teachers to reflect on their own actions to improve the quality of learning.



**Figure 1. Kemmis and Mc-Tagart's PTK Model**

The research was conducted in the even semester of the 2024/2025 academic year at SDN 066055 Medan. The implementation period was from April to May 2025, according to a schedule agreed upon with the school (Partovi & Razavi, 2019) .

The subjects in this study were grade III students of SDN 066055 Medan in the 2024/2025 academic year, totaling 19 students consisting of 10 male students and 9 female students.

The object of this research is the application of Snakes and Ladders media to increase student learning activity.

The research was conducted through two cycles, each consisting of four stages, namely: Planning, Implementation of Action (Acting) , Observation (Observing) , Reflection (Reflecting).

The main instrument used in this study was a questionnaire on student learning activity . The statements in the questionnaire were structured based on aspects of activity, namely:

1. Interest in learning through games
2. Ease of understanding the material

- 3. The courage to ask
- 4. Love to learn while playing
- 5. Ability to remember material
- 6. Interaction with friends
- 7. Confident in answering questions
- 8. Eager to learn
- 9. Collaboration with friends
- 10. Pleasant impression while studying

Data were collected using a learning activity questionnaire compiled based on activity indicators according to Yuliani et al. (Gunawan et al., 2022), which describes activity as various forms of involvement in learning activities, such as asking questions, discussing, and collaborating

**RESULTS AND DISCUSSION**

**Description of Research Results**

This research was conducted in grade III of SDN 066055 Medan in the even semester of the 2024/2025 academic year. The number of students in this class was 19 people. The research was conducted in two cycles with the application of the **Game-Based Learning model using snakes and ladders media** in the Pancasila Education subject, the topic "My Nation's Wealth."

**Pre-Cycle Overview**

The pre-cycle was held on Saturday, April 14, 2025, with a time allocation of 2 x 35 minutes for the Pancasila Education subject. In this activity, the teacher administered a pre-test to determine the level of student learning engagement before implementing the snakes and ladders learning media using the Game-Based Learning model (Aulia & Kurniawan, 2021) .

Based on a descriptive analysis of the scores obtained by students during the pre-cycle, it was found that student learning engagement was still relatively low. Most students did not demonstrate active involvement in the learning process and tended to be passive when the teacher explained the material or posed questions. The results of the analysis of student learning engagement during the pre-cycle stage are presented in the following table:

**Table 1. Results of Pre-Cycle Student Learning Activity**

No	Activity Category	Score Range	Number of students	Percentage (%)
1	Very Active	615– 760	2 students	10.5%
2	Active	464– 615	4 students	21.1%
3	Less Active	312 – 463	7 students	36.8%

4	Not active	0-311	6 students	31.6%
	<b>Total number</b>		<b>19 students</b>	<b>100%</b>

Based on the analysis, the majority of students were in the **Less Active** (36.8%) and **Inactive** (31.6%) categories. Only 6 students (31.6%) were in the **Active** and **Very Active categories** . This indicates that before the implementation of the snakes and ladders media, student learning activity was still relatively low. Therefore, the implementation of more engaging learning media is needed to increase their active participation in the learning process (Mulyasari et al., 2021) .

## Cycle 1 Overview

### 1) Planning

In the planning stage, the teacher prepares a teaching module using **the Game Based Learning model** using **snakes and ladders media** . The teacher also prepares:

1. A modified snakes and ladders game board with question boxes according to the Pancasila Education material "My Nation's Wealth"
2. Question cards containing questions about the lesson material.
3. Student learning activity questionnaire based on predetermined indicators.
4. Teacher and student observation instruments.

### 2) Implementation of Actions

Cycle I was conducted on **Monday, April 21, 2025**, with a time allocation of **2 x 35 minutes** . The learning steps include:

1. **Introduction** : The teacher conveys the learning objectives and explains how to play snakes and ladders.
2. **Core activity** : Students play snakes and ladders in groups. Each time they stop at a question box, they answer the question listed. The teacher awards points and records student activity.
3. **Closing** : Teachers and students reflect together and conclude the material that has been studied.

### 3) Observation

During the learning process, teachers and observers record student involvement based on learning activity indicators, such as:

1. Interest in learning,
2. Courage to ask and answer,
3. Ability to work together in groups,
4. Excitement and enthusiasm while playing snakes and ladders.

### 4) Reflection

The results of the observations and questionnaires were analyzed to determine the extent to which student learning engagement improved after the implementation of the

snakes and ladders model. If any deficiencies persist, improvements will be made in the next cycle.

**Table 2. Results of Student Learning Activity in Cycle I**

No	Activity Category	Score Range	Number of Students	Percentage (%)
1	Very Active	615– 760	6 Students	31.6%
2	Active	464– 615	7 Students	36.8%
3	Less Active	312 – 463	4 Students	21.1%
4	Not active	0-311	2 Students	10.5%
<b>Total number</b>			<b>19 Students</b>	<b>100%</b>

During Cycle I, there was an increase in student engagement compared to the pre-cycle. The number of students in the Active and Very Active categories increased to 13 (68.4%), compared to only 6 (31.6%) in the pre-cycle. This indicates that the use of the snakes and ladders model has begun to have a positive impact on student engagement (Ardilla et al., 2021) . However, there are still 6 students (31.6%) who fall into the Less Active and Inactive categories, so improvements need to be made in Cycle II to achieve the established success indicators, namely a minimum of 75% of students are in the Active and Very Active categories.

### **Overview of Cycle II**

#### **1) Planning**

Based on the results of the reflection in Cycle I , the teacher made improvements to increase the effectiveness of learning. Planning for Cycle II includes:

1. Improve the design of the snakes and ladders media , such as adding more interesting variations of questions and challenges.
2. Increase guidance to students on how to play and teamwork.
3. Developing revised teaching modules by strengthening more interactive Game Based Learning strategies.
4. Prepare learning activity questionnaires and follow-up observation sheets.

#### **2) Implementation of Actions**

Cycle II was conducted on Monday, May 5, 2025 with a time allocation of 2 x 35 minutes . The learning activity steps were carried out as follows:

1. Introduction : The teacher greets students, conveys the learning objectives, and reminds them how to play snakes and ladders.
2. Core activity : Students play in groups using a refined snakes and ladders game . The teacher provides additional challenges in the form of time to answer questions.
3. Closing : The teacher and students reflect on the learning and conclude the material.

#### **3) Observation**

Observations were conducted throughout the activity to record student activity. Indicators observed included:

1. Student participation in answering questions,
2. Initiative to ask and discuss,

3. The spirit of playing and learning,
  4. Cooperation and communication with teammates.
- 4) Reflection

Based on the results of observations and analysis of questionnaire data, it was found that student learning activity increased significantly compared to Cycle I. Most students showed high enthusiasm and involvement during the learning process.

**Table 3. Results of Student Learning Activity in Cycle II**

No	Activity Category	Score Range	Number of Students	Percentage (%)
1	Very Active	615– 760	10 Students	52.6%
2	Active	464– 615	6 Students	31.6%
3	Less Active	312 – 463	2 Students	10.5%
4	Not active	0-311	1 Student	5.3%
<b>Total number</b>			<b>19 Students</b>	<b>100%</b>

In the implementation of Cycle II, there was a significant increase in student activity compared to Cycle I. The number of students in the Active and Very Active categories increased to 16 students (84.2%), exceeding the established success indicator of at least 75% active students. This shows that the use of snakes and ladders media effectively increases student learning activity in the classroom.

Only 3 students (15.8%) were in the Less Active and Inactive categories, indicating that most students were actively involved in the learning process. Thus, the application of the snakes and ladders media through the game-based learning model successfully had a positive impact in increasing student learning activity. This increase indicates that the application of the Game Based Learning learning model using the snakes and ladders media was effectively able to increase student learning activity in the Pancasila Education subject, the material "My Nation's Wealth" (Saputra et al., 2024) .

### Comparison of Results of Cycle I and Cycle II

Based on data obtained from the student learning activity questionnaire, a significant increase was seen from Cycle I to Cycle II. In Cycle I, the percentage of students in the Active and Very Active categories reached 68.4%, while in Cycle II, this increased to 84.2%.

**Table 4. Results of Comparison of Results of Cycle I and Cycle II**

Activity Category	Number of Participants in Cycle I	Percentage of Cycle I (%)	Number of Cycle II Participants	Percentage of Cycle II (%)
Very Active	6 students	31.6	10 students	52.6
Active	7 students	36.8	6 students	31.6

Less Active	4 students	21.1	2 students	10.5
Not active	2 students	10.5	1 student	5.3
Total	19 students	100%	19 students	100%

This improvement indicates that the implementation of the game-based learning model using the snakes and ladders model had a positive impact on student learning engagement. Furthermore, the number of students categorized as Less Active and Inactive decreased from 31.6% in Cycle I to just 15.8% in Cycle II.

This indicates that the learning strategies used in Cycle II were more effective in actively engaging students in the learning process. Therefore, the research objective of increasing student learning engagement through the snakes and ladders model was successful (Wadud & Lailiyah, 2024) .

## **Discussion of Research Results**

The increase in student learning activity indicates that the Game-Based Learning model using the Snakes and Ladders model is effective in encouraging active student engagement in the learning process. Students are not only recipients of information but also directly involved in fun and challenging learning activities (Syafitri et al., 2019) . This is reflected in the increase in the number of students in the Active and Very Active categories from pre-cycle to cycle II.

These results align with the theory of Yuliani et al. (2025), which states that active learning encompasses various forms of student involvement, such as asking questions, discussing, answering questions, and collaborating. Furthermore, according to Silvia Ningsih et al. (2024), active learning also encompasses physical aspects, attitudes, actions, and words in the learning process (Shofiyani et al., 2024) .

The Game-Based Learning model encourages students' intrinsic motivation through meaningful learning experiences. The Snakes and Ladders game, as part of this approach, creates a fun learning environment, stimulates collaboration, increases the courage to ask questions, and strengthens students' understanding of the material because they learn while playing (Sukmawardani et al., 2021) .

Thus, it can be concluded that the application of the Game Based Learning learning model using snakes and ladders media has been proven to be able to significantly increase the learning activity of class III students at SDN 066055 Medan and can be an alternative innovative active learning strategy in elementary schools (Novyani et al., 2023)

## **CONCLUSION**

Based on the results of classroom action research that has been carried out for two cycles, it can be concluded that the application of the Game Based Learning learning model using snakes and ladders media can increase the learning activity of class III students at SDN 066055 Medan.



The increase in activeness was evident from the questionnaire results from the pre-cycle to the second cycle. In the pre-cycle, the number of students in the Active and Very Active categories was only 6 (31.6%). In the first cycle, this increased to 10 (52.6%), and in the second cycle, it increased again to 15 (78.9%). This indicates that the implementation of Game-Based Learning through the snakes and ladders method has a positive effect on learning activeness.

### **Suggestion**

Based on the results of the research that has been conducted, the researcher provides several suggestions as follows:

1. For Teachers : Teachers can use the Game-Based Learning model with snakes and ladders as an alternative active learning method, particularly in Pancasila Education, to increase student engagement and enthusiasm for learning.
2. For Schools : Schools are expected to provide teachers with a variety of creative and innovative learning media to support a fun and effective learning process.
3. For Further Researchers . Other researchers can develop similar learning media with game variations or integrate them into other subjects, as well as explore other aspects such as learning outcomes, creativity, or student motivation

### **BIBLIOGRAPHY**

- Acquah, E. O., & Katz, H. T. (2020). Digital game-based L2 learning outcomes for primary through high-school students: A systematic literature review. *Computers & Education*, 143, 103667. <https://doi.org/10.1016/j.compedu.2019.103667>
- Al-Amien, M. R., Iyakrus, I., & Sumarni, S. (2021). Improvement Learning Outcomes of Sepaktakraw Basic Techniques Using Audiovisual Media During Covid-19 Pandemic in PJOK Students of Sriwijaya University. *Journal of Educational Research and Evaluation*, 10(2), 74–85. <https://doi.org/10.15294/jere.v10i2.52352>
- Ardilla, M. W., Wiguno, L. T. H., Kurniawan, A. W., & Mu'arifin, M. (2021). Pengembangan Perangkat Pembelajaran Kebugaran Jasmani Berbasis Aplikasi Articulate Storyline. *Sport Science and Health*, 3(4), 192–205. <https://doi.org/10.17977/um062v3i42021p192-205>
- Aulia, S. R., & Kurniawan, A. W. (2021). Pengembangan Media Pembelajaran Aplikasi Tentang Variasi Permainan Pencak Silat Berbasis Aplikasi Articulate Storyline. *Sport Science and Health*, 3(12), 929–941. <https://doi.org/10.17977/um062v3i122021p929-941>
- Bahauddin, A., & Setyaningrum, W. (2019). Teacher's and prospective-teacher's perceptions of mobile math game "Proadventure" implementation in mathematics learning. *Journal of Physics: Conference Series*, 1320(1), 012080. <https://doi.org/10.1088/1742-6596/1320/1/012080>
- Gunawan, E., Sulistyowati, & Rusdiana, L. (2022). Aplikasi Game Edukasi Matematika Tingkat Dasar Berbasis Android. *Jurnal Teknoinfo*, 16(1), 107. <https://doi.org/10.33365/jti.v16i1.806>

- Insani Nurchintyawati, S.Pd., M. P. (2022). Android Based Educational Game in Learning and Teaching English Vocabulary. *Journal of Applied Linguistics*, 2(1), 13–18. <https://doi.org/10.52622/joal.v2i1.44>
- Mar'atussolichah, M., Ibda, H., Al Hakim, M. F., Faizah, F., Aniqoh, A., & Mahsun, M. (2024). Benkangen game: Digital media in elementary school Indonesian language. *Journal of Education and Learning (EduLearn)*, 18(2), 480–488. <https://doi.org/10.11591/edulearn.v18i2.21091>
- Mulyasari, D. W., Abdussakir, A., & Rosikhoh, D. (2021). Efektivitas Pembelajaran Etnomatematika “Permainan Engklek” Terhadap Pemahaman Konsep Geometri Siswa Sekolah Dasar. *Jurnal Tadris Matematika*, 4(1), 1–14. <https://doi.org/10.21274/jtm.2021.4.1.1-14>
- Novyani, A. A., Muhajang, T., & Mulyawati, Y. (2023). Pengaruh Media Ular Tangga Terhadap Hasil Belajar Tema 7 Indahya Keragaman Di Negeriku. *Jurnal Elementary*, 6(1), 78. <https://doi.org/10.31764/elementary.v6i1.12471>
- Partovi, T., & Razavi, M. R. (2019). The effect of game-based learning on academic achievement motivation of elementary school students. *Learning and Motivation*, 68, 101592. <https://doi.org/10.1016/j.lmot.2019.101592>
- Pratama, D. S., Sumarni, S., Safaruddin, S., & Iyakrus, I. (2021). Digital Based Learning Media Development to Increase Baseball Technique for Grade VI Elementary School Students. *Journal of Educational Research and Evaluation*, 10(1), 19–27. <https://doi.org/10.15294/jere.v10i1.48131>
- Purnomo, A. (2023). Pengembangan Game Belajar Huruf Hijaiyah Untuk Disleksia dengan Metode Waterfall. *JURIKOM (Jurnal Riset Komputer)*, 10(1), 68–75.
- Saputra, M. H., Tjahyo, B. F., & Ismayadewi, C. (2024). Implementasi Permainan Hijau-Hitam untuk Meningkatkan Minat Belajar Lari 100 Meter Siswa Kelas VII SMPN 11 Surabaya. *Journal of Creative Student Research*, 2(5), 34–41. <https://doi.org/10.55606/jcsr-politama.v2i5.4264>
- Shofiyani, A., Hidayah, N., Barry, M. Y. F., Al-Ghozali, D. H., Azizah, H., Herlina, N., ... Muslimin, M. (2024). Upaya Pengenalan Media Pembelajaran Ular Tangga 3D. *Al-Tafani: Jurnal Inovasi dan Pengabdian Kepada Masyarakat*, 1(2), 51–58.
- Sukmawardani, E. V., Suyitno, S., & Setianingsih, E. S. (2021). Pengembangan Media Ular Tangga Carakan untuk Keterampilan Membaca dan Menulis Aksara Nglegena Siswa Sekolah Dasar. *DWIJALOKA Jurnal Pendidikan Dasar dan Menengah*, 2(1), 57–62. <https://doi.org/https://doi.org/10.35473/dwijaloka.v2i1.933>
- Sukmawati, L., & Hardhinata, A. Y. (2023). Peningkatan Hasil Belajar Menggunakan Media Ular Tangga Pintar pada Siswa Kelas IV. *Jurnal Penelitian Pendidikan*, 15(1), 56–62. <https://doi.org/https://doi.org/10.33365/ji-mr.v4i2.4068>
- Syafitri, A., Amir, H., & Elvinawati, E. (2019). PERBANDINGAN HASIL BELAJAR SISWA

MENGGUNAKAN PEMBELAJARAN KOOPERATIF TIPE TEAM GAMES TOURNAMENT (TGT) DENGAN MEDIA ULAR TANGGA DAN MEDIA PUZZLE DI KELAS XI SMA NEGERI 01 BENGKULU TENGAH. *Alotrop*, 3(2). <https://doi.org/10.33369/atp.v3i2.9911>

Tangkui, R., & Keong, T. C. (2021). THE EFFECTS OF DIGITAL GAME-BASED LEARNING USING MINECRAFT TOWARDS PUPILS' ACHIEVEMENT IN FRACTION. *International Journal on E-Learning Practices (IJELP)*, 4, 76–91. <https://doi.org/https://doi.org/10.51200/ijelp.v4i.3427>

Wadud, A. J., & Lailiyah, S. (2024). Pengaruh Media Ular Tangga Berbasis Genially terhadap Minat dan Hasil Belajar Matematika. *Kognitif: Jurnal Riset HOTS Pendidikan Matematika*, 4(1), 500–512. <https://doi.org/10.51574/kognitif.v4i1.1579>

Yuniawatika, Y., Febrianti, W. A. N., & Atoillah, M. (2023). Inovasi Media English Fun Learning Melalui Permainan Ular Tangga untuk Siswa SDN 01 Jambesari. *JPPM (Jurnal Pengabdian dan Pemberdayaan Masyarakat)*, 7(2), 371–376.