EduBasic Journal: Jurnal Pendidikan Dasar
Vol. 6 No. 2, October 2024, pp. 113-122

https://ejournal.upi.edu/index.php/edubasic

Improving Fifth-Grade Students' Learning Motivation Utilizing Discovery Learning Model Assisted by Snakes and Ladders Media

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Article Info

History of Article
Received:
27 February 2024
Revised:
24 April 2024
Published:
15 October 2024

Abstract

The background of this study is the inadequate motivation of students to engage in the classroom learning process. This study aims to enhance students' motivation to learn mathematics by utilizing the discovery learning model supported by Snakes and Ladders media. This study employed a classroom action research (CAR) methodology at the State Elementary School of Panjang 01, involving 26 students as the subjects of the research. The study was carried out in two cycles, with each cycle comprising two meetings. The techniques utilized for data analysis were both quantitative and qualitative. The techniques employed for data collection included observation, interviews, questionnaires, and documentation. The findings indicated that students' motivation to learn has the potential to improve with each cycle. In Cycle I, the success percentage of learning motivation was recorded at 53.84%, which saw an increase to 92.30% in Cycle II. This study employed group discussions to enhance student engagement and enthusiasm in the learning process. This has the potential to enhance students' motivation to engage in learning. The implementation of the discovery learning model, supported by Snakes and Ladders media, can enhance student engagement and boost motivation in mathematics education. It can be concluded that the implementation of the Snakes and Ladders media-assisted model has the potential to enhance the motivation of fifth-grade students at the State Elementary School of Panjang 01.

Keywords: Discovery Learning, Learning Motivation, Snakes and Ladders Media

How to cite: Mayuni, A., Masfuah, S., & Ermawati, D. (2024). Improving fifth-grade students' learning motivation utilizing discovery learning model assisted by snakes and ladders media. *EduBasic Journal: Jurnal Pendidikan Dasar*, *6*(2), 113-122.

e-ISSN: 2549-4562, p-ISSN: 2987-937X

Info Artikel

Riwayat Artikel
Diterima:
27 Februari 2024
Direvisi:
24 April 2024
Diterbitkan:
15 Oktober 2024

Abstrak

Latar belakang dalam penelitian ini adalah rendahnya moyivasi belajar siswa pada proses pembelajaran didalam kelas. Tujuan penelitian ini yaitu untuk meningkatkan motivasi belajar siswa pada mata pelajaran matematika melalui model pembelajaran Discovery Learning dengan berbantuan media ular tangga. Penelitian ini menggunakan pendekatan penelitian tindakan kelas (PTK) dilakukan di SDN 1 Panjang dengan subjek penelitian sebanyak 26 siswa. Penelitian ini dilaksanakan dalam dua siklus dan setiap siklus terdiri dari dua pertemuan. Teknik analisis data yang digunakan adalah kuantitatif dan kualitatif. Teknik pengumpulan data menggunakan observasi, wawancara, angket dan dokumentasi. Hasil penelitian menunjukkan bahwa motivasi belajar siswa dapat meningkat setiap siklusnya. Pada siklus I motivasi belajar mencapai persentase keberhasilan sebesar 53,84% dan meningkat pada pelaksanaan siklus II sebesar 92,30%. Metode dalam penelitian ini menggunakan metode diskusi, secara berkelompok agar siswa lebih aktif dan antusias dalam belajar, hal ini dapat meningkatkan motivasi belajar siswa. model pembelajaran Discovery Learning berbantuan media ular tangga dalam melaksanakan pembelajaran dapat membantu siswa lebih aktif dan meningkatkan motivasi belajar dalam pembelajaran matematika. Hal tersebut dapat disimpulkan bahwa penerapan model berbantuan media ular tangga dapat meningkatkan motivasi belajar siswa kelas V SDN 1 Panjang.

Kata Kunci: Discovery Learning, Motivasi Belajar, Media Ular Tangga

Cara Mensitasi: Mayuni, A., Masfuah, S., & Ermawati, D. (2024). Improving fifth-grade students' learning motivation utilizing discovery learning model assisted by snakes and ladders media. *EduBasic Journal: Jurnal Pendidikan Dasar*, *6*(2), 113-122.

e-ISSN: 2549-4562, p-ISSN: 2987-937X

INTRODUCTION

The evolution of the educational landscape has been advancing since education comprises a number of activities aimed at attaining learning objectives. Ermawati et al. (2023) assert that education is an essential requirement for cultivating human resources equipped with the capacity for logical, critical, creative, proactive, and adaptable thinking in response to the evolution of contemporary society at all stages of life. In education, prevalent technology encompasses internet facilities, infrastructure, and the interaction between educators and students. The focus of education, as opposed to learning, is on the independent development of a student's consciousness and character to transmit religious values, culture, identity, and knowledge to subsequent generations (Nurkholis, 2013). Education is unable to facilitate the learning process due to the recent implementation of the Independent Curriculum. The curriculum implemented for the fifth grade at the State Elementary School of Panjang 01 has transitioned to the Independent Curriculum, which is more varied and allocates additional time for students to enhance their learning capabilities.

Following the interviews and observations carried out on December 7, 2023, by researchers with fifth-grade students at the State Elementary School of Panjang 01, it was noted that while there remains a desire to learn, student motivation during the classroom learning process is still lacking. Some students exhibited lower levels of engagement in their learning, demonstrated a lack of enthusiasm, and showed hesitance when responding to questions posed by the teacher. Indeed, this is essential for acquiring valuable knowledge, skills, and attributes. To address this issue, educators need to offer guidance and inspire a desire to learn.

Motivation is applicable across diverse activities, including the domain of learning motivation. Learning motivation is crucial for students as it significantly impacts the learning process. Furthermore, it influences students' learning behavior. Amalia et al. (2022) assert that learning motivation fosters an environment that encourages students to sustain their enthusiasm for effective learning. Learning motivation is a significant factor in the execution of activities, including educational endeavours. Learning outcomes, whether positive or negative, can be assessed through the levels of student motivation. Nuraeni et al. (2023) stated that learning motivation functions as a driving force or encouragement for students in the educational process, facilitating the attainment of learning objectives. All students can be encouraged to engage in mathematics. Zulfa et al. (2023) argued that mathematics necessitates advanced cognitive skills for problem-solving and conceptual comprehension. The content of mathematics education is challenging and constrained by time, leading students to desire engaging and enjoyable learning activities. Students exhibit reduced enthusiasm for mathematics when required to approach the front, as new educators utilize learning media confined to the classroom and rely solely on concrete objects (Sari et al., 2023).

This may result from multiple sources, specifically internal and external influences. Internal factors for each student pertain to knowledge, while external factors originate from outside the individual, encompassing aspects connected to health and psychology. Students are affected by various elements, including their peers, educational environment, and the degree of support they receive. This learning incentive aligns with Sari et al. (2021), who assert that its quality can fluctuate based on parental influence. Student motivation for learning can show in diverse forms and be tailored to each individual's approach. This may encompass active participation in the educational process, the aspiration to obtain incentives or accolades from educators, a genuine interest in specific honors, and an environment favorable to learning, thereby enhancing student comfort.

This was corroborated by an interview with the teacher on December 7, 2023. Mathematics sessions exhibited comparatively low scores compared to other topics, as students showed diminished enthusiasm and attentiveness during the teacher's explanations. This is due to students perceiving mathematics sessions as exceedingly challenging, resulting in diminished interest and reduced academic engagement. Consequently, a crucial component in ensuring that mathematics

learning scores are not deemed low is for teachers to foster student motivation, thereby encouraging enthusiasm in accomplishing the desired objectives.

Several factors reflect students' motivation to alter their behavior while learning. Uno (in Rahman, 2021) identifies six categories of learning motivation indicators. 1) the aspiration for success, 2) the necessity for knowledge acquisition, 3) the optimism or ideals toward the future, 4) the value placed on education, 5) the intriguing nature of desire, and 6) the presence of a supportive learning environment. In this study, only four factors were utilized to assess learning motivation: 1) the aspiration and ambition to succeed, 2) the motivation and necessity to study, 3) the intriguing desire, and 4) the presence of a supportive learning environment.

Judging from the reality of learning in this class, students exhibited low levels of learning motivation. A strong drive to succeed among students fosters excellent motivation for learning. This motivation significantly contributes to enhancing enthusiasm and happiness in students, thereby stimulating their desire to persist in learning and ultimately attain higher performance levels. A strong motivation for learning is positively correlated with successful learning outcomes (Masfuah, 2016). Fostering a strong desire to learn and achieve academic success requires mastery of the subject matter, the careful selection of effective learning strategies, effective communication, and the maintenance of a well-managed classroom environment. Consistent daily learning habits and intrinsic motivation can significantly enhance students' learning outcomes.

Pre-cycle observations conducted by the researchers during mathematics instruction revealed that fifth-grade students at the State Elementary School of Panjang 01 achieved a success percentage of 15.38%, categorized as "less active." Research interviews and observations of fifth-grade students at the State Elementary School of Panjang 01 revealed that their learning motivation was suboptimal. Consequently, researchers propose solutions through the implementation of a discovery learning approach facilitated by Snakes and Ladders media.

Moreover, the diminished motivation for mathematics learning was attributed to a teacher-centered approach, with educators predominantly employing the lecture style during instruction. This is due to teachers' limited innovation in employing learning paradigms. Consequently, the researchers implemented the discovery learning model to enhance student motivation for learning. Discovery learning is an educational model that engages students in cultivating their self-knowledge (Ermawati et al., 2023). In its application, the discovery learning model comprises various stages that must be adhered to for effective implementation. The subsequent stages of the discovery learning model are as follows: (1) Stimulation (demonstrating stimulation), (2) Problem statement (problem identification), (3) Data collection, (4) Data processing, (5) Verification (evidence), and (6) Generalization (formulating conclusions) (Prasetyo & Abduh, 2021).

The motivation for student learning can be enhanced when educators utilize learning media that align with the characteristics of the students, specifically tailored learning media. Learning media serves as a vital tool to facilitate the interaction between educators and students through various learning resources, ensuring that the messages conveyed to students are effectively received (Riswari et al., 2023). Learning media encompasses all the tools and materials utilized to attain educational objectives (Ermawati et al., 2022). The utilization of learning media can effectively illustrate concrete concepts, whereby the greater the tangibility of the educational material, the more experiential learning students will acquire, ultimately influencing their academic outcomes. According to Sholeh et al. (2021), learning media serves to facilitate students' comprehension of the ongoing educational material, ultimately influencing their academic performance. Arum et al. (2020) indicate that learning media serves as an effective tool that can engage students and stimulate their enthusiasm for the learning process. This study utilized Snakes and Ladders media, a traditional format frequently enjoyed by children, which is likely to enhance student engagement and enthusiasm for learning (Djo,

2021). The Snakes and Ladders game media are engaging, as this study involved researchers utilizing Snakes and Ladders game media constructed from banners measuring 200x200cm. The media for this Snakes and Ladders game features a unit square shape that includes an image of a snake, an image of a ladder, an image of one star, and an image of two stars. This Snakes and Ladders game set includes dice, pawns, and educational cards.

With the objective of enhancing their low learning motivation, this study focuses on addressing the issues identified among fifth-grade students at the State Elementary School of Panjang 01. This study is consistent with the findings of prior researchers (Nurrokhmah et al., 2023). Their study revealed that implementing the discovery learning model significantly enhanced both learning motivation and outcomes among second-grade students at the State Elementary School of Tambakrejo in mathematics subjects. Furthermore, additional pertinent research was carried out by Mahartati (2017), which revealed an increase in thematic learning motivation through the implementation of the discovery learning model at the State Elementary School of 03 Cakranegara. In the meantime, Arofah (2021) study indicated a rise in students' motivation for learning Indonesian through discovery learning among fifth-grade students at the State Elementary School of Jrebeng Kidul. The findings of this study reveal several similarities in the implementation of the discovery learning model, particularly concerning the engagement of students in reaching educational objectives. In comparison, the distinctions between the study and the current research lie in the number of students, variations in class structure, research location, and the learning media employed. In light of the challenges identified, the researchers intend to enhance the learning motivation of fifth-grade students at the State Elementary School of Panjang 01 by implementing a discovery learning model supported by Snakes and Ladders media.

METHODS

This study employed classroom action research (CAR). This study was conducted at the State Elementary School of Panjang 01, with 26 fifth-grade children as research subjects. The design approach in this study was informed by the perspectives of Kemmis and McTaggart, wherein each cycle had two sessions, each encompassing four stages: planning, implementing actions, observing, and reflecting. In this research, the researchers executed the stages as follows. Firstly, the planning of actions involved the compilation of educational tools in alignment with the discovery learning concept facilitated by Snakes and Ladders media. Secondly, the implementation of actions involved learning exercises organized into two cycles, each comprising two meetings. Third, observations were made about students' learning motivation. The fourth involved reflection through the analysis of data regarding students' learning motivation observations. The following are indicators of learning motivation observed in this study.

Table 1. Observed Indicators

No	Indicator
1.	Having a passion and desire to succeed
2.	Having a drive and need to learn
3.	Having an interesting desire
4.	Having a conducive learning environment

Source: (Uno in Rahman, 2021)

The data were then analyzed using the formula according to Sugiyono in *Metode Penelitian Kuantitatif, Kualitatif dan R&D [Quantitative, Qualitative and R&D Research Methods]* (2022):

$$\% = \frac{\boldsymbol{Total\ score}}{\boldsymbol{Maximum\ score}}\ \boldsymbol{x100}$$

The criteria used are as follows:

Table 2. Learning Success Standard Criteria

Skor	%	Criteria	Success Level
33-40	83% -100%	Very Active	Success
25-32	63% - 80%	Active	Success
17-24	43% - 60%	Quite Active	Not Successful
10-16	25% - 40%	Less Active	Not Successful

This research was conducted over two cycles, where each cycle consisted of two meetings held on January 24, 25, 31, and February 1, 2024, on fifth-grade students of the State Elementary School of Panjang 01 with a total of 26 students.

Classroom action research was conducted to improve primary learning to increase students' motivation in mathematics learning in the fraction chapter. The implementation of this research applied the discovery learning model assisted by Snakes and Ladders media. Students were divided into several heterogeneous groups, carried out by providing stimulation, identifying problems, team learning activities using Snakes and Ladders media, data collection, data processing, proof and drawing conclusions.

This study employed both quantitative and qualitative data analysis techniques. Quantitative analysis methods were used to determine the success rate of students' learning motivation, utilizing diagrams and tables for presentation. In comparison, a qualitative approach was utilized to descriptively analyze the data on learning motivation.

RESULTS AND DISCUSSION

The Use of Snakes and Ladders Media

The research was carried out at SDN 1 Panjang involving a cohort of 26 fifth-grade students. This research was conducted utilizing a discovery learning model supported by Snakes and Ladders media. This study was performed over two cycles, with each cycle comprising two meetings, each lasting 35 minutes. The implementation phase of this study corresponds with the stages outlined in the discovery learning model, facilitated by the use of Snakes and Ladders media.

In each cycle, (1) students were prompted to observe specific images: the dice image during Cycle I Meeting 1, the pizza image during Cycle I Meeting 2, the shading image on the board during Cycle II Meeting 1, and the image of fruit division during Cycle II meeting 2, in alignment with the instructional material. (2) The teacher explained the material. (3) For data collection, the teacher organized the groups to work on LKPD (student worksheets), with each group designating a member to represent them in alternating turns of playing Snakes and Ladders with their group members. (4) Each group engaged in alternating play to obtain ladder cards, one-star, and two-star cards that included questions related to the studied material. If the answers provided were correct, the group representative would assign a reward in the form of a star for each column presented by their group. (5) In the proof, the teacher requested that all groups present their findings by coming to the front to read their results and documenting their work in front of the class. (6) The final step involved drawing conclusions regarding the material studied during mathematics class sessions.

Figure 1. Starting learning using the discovery learning model assisted by Snakes and Ladders media in Cycle I

Figure 2. Starting learning using the discovery learning model assisted by Snakes and Ladders media in Cycle II

Learning Motivation Improvement

The Snake and Ladder educational tool was supplemented with cards featuring questions to stimulate student motivation and

critical thinking. This study acquired the results of observations about student learning motivation during the execution of Cycle I and Cycle II. The subsequent table presents the observational results for Cycle I and Cycle II on each indicator of learning motivation.

Table 3. Results of Observations of Learning Motivation for Each Indicator

Indicator	Cycle I	Cycle II
Having a passion and desire to succeed	66.45%	84.6%
Having a drive and need to learn	61.6%	80.45%
Having an interesting desire	59.5%	82.25%
Having a conducive learning environment	53.25%	81.5%
Successful	14	24
Unsuccessful	12	2
% successful	53.84%	92.30%
% unsuccessful	46.15%	7.69%

Based on the table above, it can be concluded that there was an increase in student learning motivation in Cycle I and Cycle II, which was obtained from observations using the student learning motivation observation sheet. Observations were made by making observations to obtain information. The following is a diagram of the results of increasing student learning motivation to clarify the data.

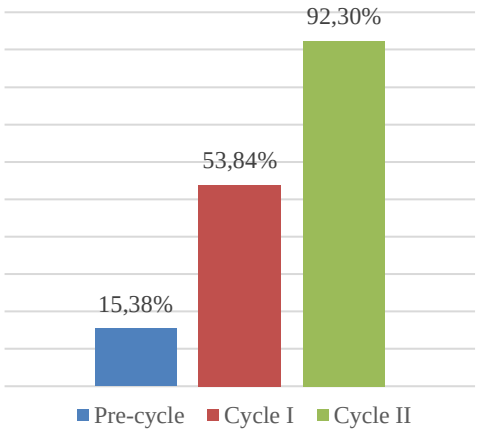

Figure 3. The Success of Students' Learning Motivation

The diagram indicates that the pre-cycle observation of 26 fifth-grade students at the State Elementary School of Panjang 01 resulted in a success percentage of 15.38%. Consequently, this study should enhance student learning motivation through proactive measures. The implementation of the Cycle I study, utilizing the discovery learning model supported by Snakes and Ladders media, increased learning motivation. The success rate of Cycle I was 53.84%, categorized as "quite active," but it was ultimately deemed unsuccessful. The execution of Cycle I had not achieved the success criterion established by the researchers of ≥63%. Consequently, the researchers proceeded with the investigation in Cycle II. During the execution of Cycle II, there was a rise, achieving a success rate of 92.30%, categorized as "very active," and the level of success was deemed successful. Consequently, Cycle II met the established success markers, rendering further cycles unnecessary for the researchers.

The researchers employed observation sheets alongside questionnaires administered to students to assess the enhancement of student learning motivation. The questionnaire results revealed that students in Cycle I achieved an average percentage of 83.16%, meeting the "active" criteria, and were deemed successful. Following that, Cycle II achieved an average percentage result of 84.83%, categorized as "very active," and was deemed effective. The findings suggest that student learning motivation improved from Cycle I to Cycle II.

Discussion

This study has proven that learning motivation is effective in enhancing student learning outcomes. This pertains to earlier studies (Syachtiyani & Trisnawati, 2021), which are intricately connected to personal accomplishment. Furthermore, one might assert that it is a motivation that emerges from both internal and external sources, compelling the student to engage in behaviors that lead to academic success. Nuryasana & Desiningrum (2020) assert that student learning motivation is a critical factor influencing the effectiveness of the learning process. Nasrah & Muafiah (2020) posited that motivation for learning may emerge from intrinsic factors

characterized by a desire for achievement and an inherent drive to fulfil educational needs. Lomu & Widodo (2018) further stated that elevated learning motivation will undoubtedly foster a commitment to engage in assignments and cultivate a desire for extensive learning. Meanwhile, as noted by Idaman et al. (2024), cognitive psychological factors contribute significantly to fostering student enthusiasm for learning, alongside the cultivation of joy and excitement in the educational experience. The findings of the study reveal parallels in the exploration of student learning motivation, a crucial element contributing to the successful attainment of individual objectives. An optimal equilibrium of learning motivation enables individuals to comprehend the objectives of their educational experiences and engage proactively in the pursuit of their accomplishments. Moreover, the motivation to learn serves as a significant catalyst for students collectively, fostering their intentions to engage in educational pursuits.

The researchers concluded that effective learning motivation is evident in students who demonstrate independence in their studies, possess a clear intention, and actively engage in the learning process. In this study, the innovative aspect lies in the necessity for students to engage more actively in the learning activities occurring within the classroom, thereby enhancing their motivation to learn. Consequently, educators must maintain a dynamic presence and foster motivation, thereby encouraging students to engage more actively and confidently in their classroom learning experiences. The implementation of the discovery learning model, facilitated by Snakes and Ladders media, for fifth-grade students at the State Elementary School of Panjang 01 during the 2023/2024 academic year could enhance students' motivation for learning. The research is consistent with findings from other studies (Nurrokhmah et al., 2023), which reported a notable percentage of success in Cycle I, demonstrating motivation, and an increase in Cycle II under-motivated criteria. The research conducted by previous scholars and the current study shared a notable similarity in that both have explored learning motivation through the lens of the discovery learning model within the realm of mathematics education. In comparison, the distinctions were found in the research setting, the composition of student cohorts, and the educational resources employed.

The enhancement of student learning motivation aligns with the findings of Asriningsih et al. (2021). Their study revealed that the average learning motivation in Cycle I fell within a fairly motivated category, while Cycle II exhibited an improvement, categorizing it as motivated. The increase in learning motivation increased because researchers had implemented the discovery learning model. The current research shares similarities with prior studies in that both investigated learning motivation through the discovery learning model in mathematics. However, differences are evident in the research locations, student demographics, and learning media utilized. Consistent with Safitri & Mediatati (2021), the implementation of an innovative learning model, specifically the discovery learning model, can enhance student motivation. This model promotes student engagement by encouraging learners to identify their problems, thereby fostering an active and enjoyable educational environment. The study's results revealed notable similarities in the application of the discovery learning model, emphasizing student involvement in achieving learning objectives and enhancing problem-solving abilities in the learning process.

As indicated by the data mentioned above, the results of the classroom action research conducted by the researchers can be classified as successful and can address the problem formulation. This is due to the fact that the students met the specified success indicators during the implementation of Cycle II. Specifically, 24 students attained a success percentage of 92.30% by meeting the criteria of "very active."

CONCLUSION

As indicated by the research and discussion mentioned earlier, the discovery learning model, in conjunction with Snakes and Ladders media, could enhance students' learning motivation. The discovery learning model was implemented by researchers in accordance with the learning stages that were employed to instruct students on how to

collaborate during discussions and develop an innovative, creative, and user-friendly learning medium for students. This was demonstrated by researchers, who observed a 53.84% success rate in Cycle I and a 92.30% success rate in Cycle II, indicating an increase in motivation among fifth-grade students at State Elementary School of Panjang 01.

Based on this classroom action research, the researchers advocate for the implementation of the discovery learning model. This technique is applicable to mathematical disciplines and can motivate students to engage in problem-solving, fostering critical thinking skills. Subsequent research is anticipated to employ extensively changed media for well-designed Snakes and Ladders activities aimed at captivating students' attention and facilitating their learning. This classroom action research suggests that teachers and prospective teachers can enhance the quality of learning by implementing the discovery learning model alongside suitable media, thereby facilitating the achievement of learning objectives.

ACKNOWLEDGEMENT

With this, the authors would like to thank the supervising lecturer, the teacher and the fifth-grade students of the State Elementary School of Panjang 01, Kudus, who have helped and been involved in the entire process of writing this research.

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