Kognitif
Jurnal Riset HOTS Pendidikan Matematika
Volume- 5 No- 3 Halaman 1228 – 1238
ISSN 2776-9704 P-ISSN 2776-9984
https://doi.org/10.51574/kognitif.v5i3.3662

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How to cite : Fauziahnur, F., & Baidullah, B. (2025). Impact of the Snakes and Ladders Educational Game on Students' Engagement in Learning. *Kognitif: Jurnal Riset HOTS Pendidikan Matematika*, *5*(3), 1228–1238. https://doi.org/10.51574/kognitif.v5i3.3662

To link to this artcle : https://doi.org/10.51574/kognitif.v5i3.3662

Kognitif: Jurnal Riset HOTS Pendidikan Matematika
https://doi.org/10.51574/kognitif.v5i3.3662 Volume 5, No 3, Juli - September 2025, pp. 1228– 1238

Impact of the Snakes and Ladders Educational Game on Students' Engagement in Learning

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Article Info

Article history:

Received Jul 17, 2025
Accepted Aug 16, 2025
Published Online Aug 22, 2025

Keywords:

Educational Game
Snakes and Ladders
Students' Interest

ABSTRACT

Mathematics learning interest at the primary level is widely recognized as a key determinant of students' long-term achievement and attitudes toward the subject, making its early development an urgent educational priority. This study addresses the low level of mathematics learning interest among fourth-grade students at SD Negeri 7 Kuala Batee. An initial survey indicated that limited enthusiasm for mathematics hindered students' understanding of basic concepts, largely due to monotonous teaching methods with minimal student engagement. To overcome this issue, the Snakes and Ladders game was introduced as a learning medium, grounded in constructivist theory and prior findings on play-based learning. Employing a quantitative approach with a pre-experimental one-group pretest–posttest design, the study involved 12 students. A Likert-scale questionnaire on learning interest, tested for validity and reliability, was used as the instrument. Results revealed an increase in mean scores from 72.50 to 82.42, with a paired-sample t-test showing significance at 0.000 (<0.05). Student interest categories also improved, with four students achieving the "very high" level and eight in the "high" category after the intervention. Despite limitations related to the absence of a control group and small sample size, the findings suggest the potential of game-based approaches to foster engagement in mathematics learning. This study contributes novelty by empirically demonstrating the effectiveness of Snakes and Ladders as a culturally relevant, low-cost, and interactive medium to enhance primary students' interest in mathematics.

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Introduction

Education is a fundamental process aimed at integrating individual potential in terms of knowledge, skills, and character. Through education, individuals are shaped to think critically

and adapt to various aspects of everyday life. According to Rachmadyanti (2017), education constitutes a crucial and foundational element in every individual's life, playing an essential role in producing generations who are virtuous, intelligent, and knowledgeable. This aligns with the definition of education stated in Article 1, Section 1 of Indonesian Law No. 20/2003, which describes education as a purposeful and systematic process designed to create learning environments and activities that enable learners to actively develop their potential—religious and moral values, self-control, personality, intelligence, noble character, and the skills needed by themselves, society, the nation, and the state. Education can thus be understood as a planned process to explain, predict, and control phenomena across formal, non-formal, and informal systems (Sohilait, 2015).

Education plays a critical role in the development of a nation; without it, national growth and progress cannot be achieved effectively (Sirait, 2016). It is not merely the transmission of information but also the application of knowledge to daily life in ways that contribute tangibly to national advancement. As Utami et al. (2021) highlight, educational institutions are responsible for shaping creative and innovative individuals who contribute positively to national development, thereby determining the quality of the institutions themselves. For this reason, education must be delivered optimally from the primary to higher levels to ensure the comprehensive achievement of national educational goals.

One of the most persistent challenges in education lies in the teaching and learning of mathematics. Mathematics continues to evolve alongside societal development (Kamarullah, 2017). In Indonesia, mathematics education has undergone continuous reform in response to curriculum changes and pedagogical innovation. As a core subject, mathematics is taught from the elementary through the secondary level, with the primary school stage designed to prepare students to develop problem-solving skills applicable in daily life (Nengsih et al., 2019). Nevertheless, many students perceive mathematics as difficult and uninteresting. This difficulty often stems from overly theoretical teaching methods, a lack of contextual approaches, and insufficient connections to real-life situations. Consequently, students' interest in learning mathematics is often low, leading to difficulties in understanding concepts and reduced engagement (Ilham et al., 2023).

Mathematics learning is not limited to memorizing formulas and solving complex computations. Many students struggle due to the heavy emphasis on rote learning, which fosters the perception that mathematics is an intimidating subject (Astika Desanti et al., 2023). These challenges can become barriers to the learning process itself (Nuraeni & Syihabuddin, 2020), particularly in understanding and interpreting mathematical problems (Yeni, 2015). Therefore, mathematics learning should be presented in ways that are engaging, simple, and contextual to support conceptual understanding. Nugraha (2022) and Wawat (2022) emphasized that the focus of mathematics learning should be on conceptual understanding and logical reasoning, rather than memorization.

Students' interest in learning plays a vital role in determining the success of mathematics education. High levels of interest encourage enthusiasm, active participation, and curiosity, enabling students to understand concepts more effectively and relate them to daily life. As argued by Andriani & Wahyudi (2023), mathematics learning in primary education is essential for training and developing students' cognitive skills. Learning interest strongly correlates with academic achievement (Riwahyudin, 2023), while low interest hinders comprehension and lowers overall learning outcomes.

At the primary school level, the use of instructional media incorporating elements of play has proven effective in enhancing learning quality. Such media not only make the learning process more enjoyable but also deepen conceptual understanding and improve retention. Instructional media serve as essential tools to achieve learning objectives effectively and efficiently (Supriyono, 2018). Wadud & Lailiyah (2024) noted that learning media help teachers

Kognitif: Jurnal Riset HOTS Pendidikan Matematika
https://doi.org/10.51574/kognitif.v5i3.3662 Volume 5, No 3, Juli - September 2025, pp. 1228– 1238

capture students' attention and create an engaging environment, while Pulungan & Rakhmawati (2022) emphasized that media can foster stress-free environments, sustain focus, and promote positive teacher–student interaction. Teachers may thus use various strategies—such as teaching aids, voice modulation, humor, and appropriate examples—to foster engagement (Rahmayanti, 2016). Similarly, Enstein et al. (2022) argued that combining media with play can enhance student involvement and optimize the learning process.

By engaging students actively in enjoyable learning experiences, they shift from being passive observers to active participants. Game-based media, therefore, provide interactive, meaningful, and effective environments for fostering learning interest. One such medium is the Snakes and Ladders game, which is familiar to children and can be modified as an enjoyable mathematics learning tool. Each square on the board can be filled with mathematical problems that students must solve before moving forward. Correct answers allow students to progress, while incorrect answers require them to move back or lose a turn. This model enhances participation while motivating students to learn through play.

Maulyda et al. (2021) highlight that Snakes and Ladders, an interactive game involving dice and numerical sequences, supports the understanding of numbers, sequences, and arithmetic in an enjoyable way. Its application aligns with constructivist learning theory, which emphasizes active student engagement in constructing knowledge through direct experience. This approach diversifies and enriches learning activities, ultimately fostering both interest and motivation in mathematics learning.

Preliminary observations of 12 elementary students revealed low levels of interest in mathematics. Classroom observations showed that most students had difficulty understanding basic mathematical concepts. The situation was exacerbated by monotonous, theory-heavy instruction that lacked real-life applications, confirming Malasari & Hakim's (2017) claim that monotonous mathematics lessons easily bore students. Consequently, students not only struggled but also experienced anxiety and fear of mathematics, often due to performance pressure. These factors impede the development of basic conceptual understanding, which is crucial for higher-level mathematics learning.

The purpose of this study is to improve students' interest in mathematics through the Snakes and Ladders game. Previous research by Ilham et al. (2023) found that the use of Snakes and Ladders as a learning tool positively impacted student interest. This approach not only made learning more engaging but also fostered enjoyable classroom experiences, encouraging student involvement. By providing an interactive and entertaining approach, the game reduces boredom and promotes conceptual understanding in more creative ways.

In summary, the low interest in mathematics at the primary level represents a major challenge that calls for innovative and enjoyable interventions. Educational games such as Snakes and Ladders hold promise as effective media for fostering student engagement in mathematics learning. Therefore, this study aims to analyze the effect of using the Snakes and Ladders game on fourth-grade students' interest in learning mathematics. The findings are expected to contribute to the development of creative instructional methods and support efforts to improve mathematics education quality at the primary school level. Although previous studies have reported the effectiveness of game-based learning in improving students' motivation and interest, limited research has explored the adaptation of culturally familiar, low-cost traditional games such as Snakes and Ladders within Indonesian primary mathematics classrooms. Furthermore, existing studies often lack rigorous evaluation of their impact on students' learning interest using validated quantitative measures. This study addresses this gap by analyzing the effect of Snakes and Ladders on fourth-grade students' interest in learning mathematics. The novelty of this research lies in demonstrating how a traditional game can be

transformed into an educational tool that not only enhances learning interest but also contextualizes mathematics within culturally relevant and interactive learning environments.

Method

Settings

This study employed a quantitative approach with a pre-experimental design, specifically the *One Group Pretest–Posttest* model. In this design, only one group was subjected to treatment without a control group for comparison. Measurements were conducted before and after the treatment using the same instrument to observe any changes. While this design allows the identification of differences between pre- and post-treatment conditions, it does not provide strong evidence of causal relationships. Data collection was carried out using a questionnaire administered twice, at the pretest and posttest stages. During the pretest, students completed the questionnaire to measure their initial level of learning interest before the use of the instructional medium. After the treatment, the same questionnaire was administered in the posttest. The questionnaire adopted a five-point Likert scale ranging from "strongly disagree" to "strongly agree." The results from both measurements were then compared to identify changes in students' learning interest.

Population and Sample

According to Abdullah (2015), a population is a set of individuals or objects possessing certain characteristics and serving as the focus of a study. In this research, the population comprised all fourth-grade students of SDN 7 Kuala Batee, consisting of 12 students. A saturated sampling technique was employed, in which the entire population was included as the sample due to its small size (Afifah & Hartatik, 2022). Accordingly, all 12 students were included as the study sample. The inclusion criterion was active participation during the data collection period, while students absent or not fully participating during the intervention were excluded from the final analysis. This approach was considered appropriate to minimize sampling bias and ensure that the findings reflected the entire target population, as the number of students was relatively small and manageable. Nevertheless, given the small sample size, the results should be interpreted with caution, as their generalizability beyond this specific context remains limited.

Instruments

The research instrument was a mathematics learning interest questionnaire developed in the form The research instrument was a mathematics learning interest questionnaire developed in the form of a five-point Likert scale, ranging from *strongly disagree* (1) to *strongly agree* (5). The questionnaire consisted of 20 items constructed based on indicators of learning interest proposed by Ilham et al. (2023), which include enjoyment, curiosity, active participation, attention, and persistence in learning mathematics. Content validity was established through expert judgment by mathematics lecturers and school teachers. Reliability testing yielded a Cronbach's Alpha of 0.767, which falls within the acceptable range (≥0.7), indicating that the instrument demonstrated adequate internal consistency. The results of the item validity test are presented in Table 1. All items exceeded the r-table value of 0.576, confirming that each of the 20 items was valid.

Kognitif: Jurnal Riset HOTS Pendidikan Matematika
https://doi.org/10.51574/kognitif.v5i3.3662 Volume 5, No 3, Juli - September 2025, pp. 1228– 1238

Table 1. Validity Test Results of the Mathematics Learning Interest Questionnaire

Item	r-value	r-table	Description
1	0,867	0,576	Valid
2	0,807	0,576	Valid
3	0,814	0,576	Valid
4	0,761	0,576	Valid
5	0,811	0,576	Valid
6	0,799	0,576	Valid
7	0,820	0,576	Valid
8	0,797	0,576	Valid
9	0,804	0,576	Valid
10	0,830	0,576	Valid
11	0,820	0,576	Valid
12	0,768	0,576	Valid
13	0,829	0,576	Valid
14	0,817	0,576	Valid
15	0,815	0,576	Valid
16	0,769	0,576	Valid
17	0,776	0,576	Valid
18	0,775	0,576	Valid
19	0,912	0,576	Valid
20	0,802	0,576	Valid

Data Collection and Analysis

Data were collected using a 20-item questionnaire administered at both the pretest and posttest stages to assess changes in students' learning interest and evaluate the effectiveness of the instructional medium. Responses were measured on a five-point Likert scale, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Negative items were reverse-scored (Table 2).

Table 2. Likert Scale Scoring for Positive and Negative Items

Response	Positive Item Score	Negative Item Score
Strongly agree	5	1
Agree	4	2
Neutral	3	3
Disagree	2	4
Strongly disagree	1	5

Total scores were categorized into five levels of learning interest (Table 3), following Afifah & Hartatik (2022).

Table 3. Classification of Learning Interest

Interval	Category
85–100	Very High
69–84	High
53–68	Moderate
37–52	Low
20–36	Very Low

Data analysis began with a Shapiro–Wilk test to assess normality, as the sample size was fewer than 50. If the data were normally distributed, a paired-sample t-test was used to compare pretest and posttest mean scores; otherwise, the Wilcoxon signed-rank test was employed as a non-parametric alternative. All analyses were conducted using SPSS version 16.0. The null hypothesis (H0) stated that the Snakes and Ladders learning medium had no significant effect

on students' learning interest, while the alternative hypothesis (H1) stated that it had a significant effect. Statistical decisions were based on a significance threshold of 0.05.

Results

To evaluate students' learning interest, pretest and posttest questionnaires were administered before and after the implementation of the Snakes and Ladders game. Data collected from fourth-grade students at SDN 7 Kuala Batee were analyzed using descriptive and inferential statistics to provide a clear picture of the effect of the intervention. Based on the classification of learning interest categories, the results before and after the use of the Snakes and Ladders game are presented in Table 4 and Table 5.

Table 4. Students' Learning Interest Categories Before Implementation

Interval	Category	Frequency	Percentage
85–100	Very High	0	0%
69–84	High	11	91.66%
53–68	Moderate	1	8.33%
37–52	Low	0	0%
20–36	Very Low	0	0%

Table 5. Students' Learning Interest Categories After Implementation

Interval	Category	Frequency	Percentage
85–100	Very High	4	33.33%
69–84	High	8	66.66%
53–68	Moderate	0	0%
37–52	Low	0	0%
20–36	Very Low	0	0%

The comparison in Table 4 and Table 5 indicates a notable shift in students' learning interest. Prior to the intervention, the majority were in the *high* category (91.66%) and only one student in the *moderate* category (8.33%). After the intervention, all students moved to higher categories, with 33.33% classified as *very high* and 66.66% as *high*. This reflects the positive effect of the Snakes and Ladders game in enhancing students' enthusiasm and willingness to learn.

Table 6. Pretest and Posttest Scores of Students

Student	Pretest	Posttest
AB	69	85
AYN	77	81
KU	73	81
MAF	73	81
MR	73	81
MA	69	86
MA	84	80
MWAF	66	83
MZ	75	88
MAR	71	80
NA	70	85
TQ	70	78

Table 6 shows that all students experienced score improvement from pretest to posttest.

Kognitif: Jurnal Riset HOTS Pendidikan Matematika
https://doi.org/10.51574/kognitif.v5i3.3662 Volume 5, No 3, Juli - September 2025, pp. 1228– 1238

Table 7. Normality Test Results

Test	Statistic	df	Sig.	Statistic	df	Sig.
	Kolmogorov–Smirnov			Shapiro–Wilk		
Pretest	0.207	12	0.163	0.901	12	0.164
Posttest	0.267	12	0.018	0.924	12	0.320

Based on the Shapiro–Wilk test, the pretest data (Sig. = 0.164) and posttest data (Sig. = 0.320) were both greater than 0.05, indicating that the data were normally distributed.

Table 8. Paired Samples Statistics

Pair	Mean	N	Std. Deviation	Std. Error Mean
Pretest	72.50	12	4.681	1.351
Posttest	82.42	12	2.968	0.857

Table 8 demonstrates that the mean score increased from 72.50 in the pretest to 82.42 in the posttest. The standard deviation decreased from 4.681 to 2.968, indicating that posttest results were more consistent. The smaller standard error of the mean in the posttest (0.857) further reflects greater accuracy and stability.

Table 9. Paired Samples Correlations

Pair	N	Correlation	Sig.
Pretest & Posttest	12	-0.258	0.417

Table 9 indicates that the correlation between pretest and posttest scores was not significant ($p = 0.417 > 0.05$). Finally, the paired-samples t-test (Table 10) revealed a significance value (Sig. 2-tailed) of 0.000, which is lower than 0.05. This indicates a statistically significant difference between pretest and posttest scores, confirming that the Snakes and Ladders game had a significant positive effect on students' interest in learning mathematics.

Table 10. Paired Samples Test

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	Pretest - Postest	-9.917	6.156	1.777	-13.828	-6.005	-5.580	11	.000

Discussion

Classroom observations during the learning process revealed that students were active and enthusiastic when the Snakes and Ladders game was used as a learning medium. They appeared to enjoy the activity and engaged directly in the sessions, which contributed to a more interactive and enjoyable learning atmosphere. This reflects the potential of game-based media to enhance students' participation and motivation in mathematics learning. The findings of this study confirm that the Snakes and Ladders medium was effective in fostering greater interest in mathematics. Students who initially showed only moderate enthusiasm became more engaged after the intervention, and overall interest levels improved. This shift can be attributed to the game's interactive and competitive nature, which aligns with constructivist learning

theory, emphasizing that learners are more motivated when actively involved in constructing their own understanding.

Although correlation analysis suggested variability in individual student responses—where some students with initially higher levels of interest demonstrated smaller improvements, while those with lower initial interest showed more noticeable gains, the overall results consistently indicate that the Snakes and Ladders game had a positive effect on students' learning interest. The paired comparison further demonstrated significant differences before and after the intervention, underscoring the effectiveness of this approach. These outcomes are consistent with previous research. Afifah & Hartatik (2022) highlighted that Snakes and Ladders encourages a more enjoyable and engaging learning environment, while Izzati et al. (2022) found that the medium helps reduce mathematics anxiety and fosters creative thinking. Similarly, Suciati (2021) and Wardan et al. (2020) concluded that the game supports better academic performance and mathematics achievement. Collectively, these studies reinforce the role of game-based media in enhancing mathematical skills, creative problem-solving, and active classroom participation (Ilmiah et al., 2022; Kurniadi, 2021). Another factor that may have contributed to the increase in students' interest is the novelty of using a game as a learning medium. New and engaging methods often stimulate greater motivation, especially among younger learners. Nevertheless, one limitation of this study lies in the use of identical items in both the pretest and posttest, which may introduce measurement bias due to repetition effects. Despite this, the findings consistently indicate that the Snakes and Ladders game provided a meaningful contribution to improving students' engagement and interest in mathematics.

The novelty of this study lies in adapting a traditional and widely familiar game into a structured learning medium within a primary school mathematics context in Indonesia. While previous research has demonstrated the general benefits of game-based learning, this study specifically shows how a culturally embedded game such as Snakes and Ladders can be transformed into an effective pedagogical tool to foster motivation and engagement. The findings contribute both theoretically, by extending constructivist approaches into locally relevant contexts, and practically, by offering teachers a simple, low-cost, and replicable strategy to enhance mathematics learning in resource-limited schools.

Conclusion

This study concludes that the use of the Snakes and Ladders game as a learning medium had a significant positive effect on increasing the learning interest of fourth-grade students at SD Negeri 7 Kuala Batee. Although most students had already demonstrated relatively good levels of interest at the pretest stage, the implementation of the Snakes and Ladders game further enhanced their motivation and engagement. The game created a learning atmosphere that was enjoyable, interactive, and engaging, encouraging students to become more active and enthusiastic in the learning process. The statistical analysis confirmed a significant difference between pretest and posttest scores, indicating the effectiveness of this medium for mathematics learning in primary schools. However, this study was conducted with a relatively small sample of only 12 students and did not include a control group for comparison. Therefore, the generalizability of the findings should be considered with caution. Future research is recommended to involve a larger sample size and employ a more robust experimental design to provide a more comprehensive understanding of the effectiveness of the Snakes and Ladders game in enhancing students' interest in mathematics.

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Kognitif: Jurnal Riset HOTS Pendidikan Matematika
https://doi.org/10.51574/kognitif.v5i3.3662 Volume 5, No 3, Juli - September 2025, pp. 1228– 1238

Conflict of Interest

The authors declare that there are no conflicts of interest influencing the planning, implementation, analysis, or writing of the results of this study.

Author Contributions

F. comprehended the presented research ideas and collected the data. B. actively participated in the development of the theory, methodology, organization and analysis of the data, discussion of the results, and approval of the final version of the manuscript. All authors declare that they have read and approved the final version of this paper. The total percentage contributions to the conceptualization, preparation, and revision of this manuscript are as follows: F.:60%, and B.: 40%.

Data Availability Statement

The authors state that the data supporting the findings of this study are available from the corresponding author, [F.], upon reasonable request.

References

Abdullah, P. M. (2015). Living in the world that is fit for habitation : CCI's ecumenical and religious relationships. In *Aswaja Pressindo*.

Afifah, N., & Hartatik, S. (2022). Pengaruh Media Permainan Ular Tangga terhadap Motivasi Belajar pada Pembelajaran Matematika Kelas II SD Kemala Bhayangkari 1 Surabaya. *Tjyybjb.Ac.Cn*, *27*(2), 58–66. https://doi.org/10.13040/IJPSR.0975-8232.12(10).5595-03

Andriani, F., & Wahyudi, W. (2023). Media Permainan Ular Tangga Berbasis Misi Untuk Meningkatkan Kemampuan Pemecahan Masalah Matematika Siswa SD. *Jurnal Educatio FKIP UNMA*, *9*(4), 1869–1875. https://doi.org/10.31949/educatio.v9i4.5743

Astika Desanti, L., Aprilia Lestari, S., Purwaningsih, D., & Damariswara, R. (2023). Analisis Kesulitan Siswa Sekolah Dasar Dalam Mata Pelajaran Matematika. *Jurnal Pendidikan Dasar Flobamorata*, *4*(3), 747–752. https://doi.org/10.51494/jpdf.v4i3.1059

Enstein, J., Bulu, V. R., & Nahak, R. L. (2022). Pengembangan Media Pembelajaran Game Edukasi Bilangan Pangkat dan Akar menggunakan Genially. *Jurnal Jendela Pendidikan*, *2*(01), 101–109. https://doi.org/10.57008/jjp.v2i01.150

Ilham, A., Rival, S., Abdullah, G., & Basalamah, N. (2023). *Pengaruh Media Ular Tangga terhadap Minat Belajar Matematika Pada Siswa Kelas III di SDN 2 Telaga Jaya*. *03*(December), 901–914.

Ilmiah, Ridfah, A., & Dewi, E. M. P. (2022). Efektivitas Media Permainan Ular Tangga pada Pembelajaran Matematika Trigonometri untuk Meningkatkan Minat dan Motivasi Belajar Siswa. *METAPSIKOLOGI: Jurnal Ilmiah Kajian Psikologi*, *1*(1), 22–29. https://doi.org/10.0000/xxxxxx-xxx-0000-0

Indah Suciati. (2021). Media Permainan "Ular Tangga" pada Pembelajaran Matematika. *Kognitif: Jurnal Riset HOTS Pendidikan Matematika*, *1*(1), 10–21. https://doi.org/10.51574/kognitif.v1i1.5

Izzati, G. N., Dwijayanto, & Cahyono, A. N. (2022). Analisis kemampuan berpikir divergen berdasarkan math anxiety siswa: Tinjauan pada penggunaan model problem based learning berbantuan permainan ular tangga. *Delta-Pi: Jurnal Matematika Dan Pendidikan Matematika*, *11*(2), 270–282.

Kamarullah, K. (2017). Pendidikan Matematika Di Sekolah Kita. *Al Khawarizmi: Jurnal Pendidikan Dan Pembelajaran Matematika*, *1*(1), 21. https://doi.org/10.22373/jppm.v1i1.1729

Kurniadi, G. (2021). Penggunaan Media Permainan Edukatif "Ular Tangga Matematika" Untuk Meningkatkan Motivasi Belajar Siswa Kelas Vi Sd. *Koordinat Jurnal MIPA*, *2*(1), 31–36. https://doi.org/10.24239/koordinat.v2i1.23

Malasari, N., & Hakim, A. R. (2017). Pengembangan Media Belajar pada Operasi Hitung untuk Tingkat Sekolah Dasar. *JKPM (Jurnal Kajian Pendidikan Matematika)*, *3*(1), 11. https://doi.org/10.30998/jkpm.v3i1.1911

Maulyda, M. A., Umar, U., & Hidayati, V. R. (2021). Development of Mathematical Snakes and Ladders Media To Improve Elementary Students' Learning Outcomes on Circle Materials. *Symmetry: Pasundan Journal of Research in Mathematics Learning and Education*, *6*(Volume 6), 91–99. https://doi.org/10.23969/symmetry.v6i2.4709

Nasution, H. F. (2019). Instrumen Penelitian dan Urgensinya dalam Penelitian Kuantitatif. *Sustainability (Switzerland)*, *11*(1), 1–14. http://scioteca.caf.com/bitstream/handle/123456789/1091/RED2017-Eng-8ene.pdf?sequence=12&isAllowed=y%0Ahttp://dx.doi.org/10.1016/j.regsciurbeco.2008.06.005%0Ahttps://www.researchgate.net/publication/305320484_SISTEM_PEMBETUNGAN_TERPUSAT_STRATEGI_MELESTARI

Nengsih, L. W., Susiswo, S., & Sa'dijah, C. (2019). Kemampuan Pemecahan Masalah Matematika Siswa Sekolah Dasar dengan Gaya Kognitif Field Dependent. *Jurnal Pendidikan: Teori, Penelitian, Dan Pengembangan*, *4*(2), 143. https://doi.org/10.17977/jptpp.v4i2.11927

Nugraha, I. D. (2022). Students' Mathematical Problem-Solving Ability on Social Arithmetic Material. *Journal of Innovation and Research in Primary Education*, *1*(2), 33–39. https://doi.org/10.56916/jirpe.v1i2.171

Nuraeni, N., & Syihabuddin, S. A. (2020). Mengatasi Kesulitan Belajar Siswa dengan Pendekatan Kognitif. *Jurnal BELAINDIKA (Pembelajaran Dan Inovasi Pendidikan)*, *2*(1), 19–20. https://doi.org/10.52005/belaindika.v2i1.24

Pulungan, A. R., & Rakhmawati, F. (2022). Tren Media Pembelajaran Matematika dalam Jurnal Pendidikan Matematika di Seluruh Indonesia. *Jurnal Cendekia : Jurnal Pendidikan Matematika*, *6*(3), 3443–3458. https://doi.org/10.31004/cendekia.v6i3.1776

Rachmadyanti, P. (2017). Penguatan Pendidikan Karakter Bagi Siswa Sekolah Dasar Melalui Kearifan Lokal. *Jurnal Pendidikan Sekolah Dasar*, *3*(2), 201. https://doi.org/10.30870/jpsd.v3i2.2140

Rahmayanti, V. (2016). Pengaruh Minat Belajar Siswa dan Persepsi atas Upaya Guru dalam Memotivasi Belajar Siswa terhadap Prestasi Belajar Bahasa Indonesia Siswa SMP di Depok. *SAP (Susunan Artikel Pendidikan)*, *1*(2), 206–216. https://doi.org/10.30998/sap.v1i2.1027

Riwahyudin, A. (2023). pengaruh sikap siswa dan minat belajar siswa terhadap hasil belajar IPA siswa kelas V sekolah dasar di kabupaten lamandau. *El Banar : Jurnal Pendidikan Dan Pengajaran*, *5*(2), 57–68. https://doi.org/10.54125/elbanar.v5i2.136

Rosita, E., Hidayat, W., & Yuliani, W. (2021). Uji Validitas Dan Reliabilitas Kuesioner Perilaku Prososial. *FOKUS (Kajian Bimbingan & Konseling Dalam Pendidikan)*, *4*(4), 279. https://doi.org/10.22460/fokus.v4i4.7413

Sirait, E. D. (2016). Pengaruh Minat Belajar Terhadap Prestasi Belajar Matematika. *Formatif: Jurnal Ilmiah Pendidikan MIPA*, *6*(1), 35–43. https://doi.org/10.30998/formatif.v6i1.750

Sohilait, E. (2015). Metodologi Penelitian Pendidikan Matematika. In *Pustaka Ramadhan*.

Supriyono. (2018). *pentingnya media pembelajaran untuk meningkatkan minat belajar siswa SD*. *II*, 43–48.

Kognitif: Jurnal Riset HOTS Pendidikan Matematika
https://doi.org/10.51574/kognitif.v5i3.3662 Volume 5, No 3, Juli - September 2025, pp. 1228– 1238

Utami, E., Pangestika, R. R., & Ratnaningsih, A. (2021). Penerapan Media Ular Tangga Untuk Meningkatkan Hasil Belajar Siswa Pada Pembelajaran Matematika Kelas Iv Sd Negeri Bayan. *Jurnal Pendidikan …*, *2*(2), 106–113. http://jurnal.umpwr.ac.id/index.php/jpd/article/download/1652/1015

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

Wardan, E. Y., Sesanti, N. R., & Rahayu, S. (2020). *Pengaruh Pembelajaran Melalui Game Ular Tangga Berbantuan Media Visual terhadap Hasil Belajar Matematika Siswa Kelas IV SDN Nglebak Kecamatan Bareng Kabupaten Jombang*. *4*, 394–400.

Wawat, W. (2022). Meningkatkan Kemampuan Pemecahan Masalah Siswa Dengan Menerapkan Model Problem Posing. *Edukasiana: Jurnal Inovasi Pendidikan*, *1*(2), 59–65. https://doi.org/10.56916/ejip.v1i2.19

Yeni, E. M. (2015). Kesulitan belajar matematika di sekolah dasar. *Jurnal Pendidikan Dasar*, *2*(2), 1–10. https://www.neliti.com/publications/71281/kesulitan-belajar-matematika-di-sekolah-dasar

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