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The Impact of Big Snake and Ladders Instructional Media on English Learning Outcomes of Elementary School Students

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Abstract

This study aims to examine the effect of Big Snake and Ladders instructional media on elementary school students' learning outcomes. The research employed a quantitative approach using a quasi-experimental nonequivalent control group design. The participants were fifth-grade students of SDN Glundengan 02 Wuluhan Jember, with class VA as the experimental group (n = 24) and class VB as the control group (n = 23). Data were collected through pre-test and post-test learning outcome assessments. Normality test results indicated that all data were normally distributed (Sig. > 0.05), and homogeneity tests confirmed equal variances between groups (pre-test Sig. = 0.209; post-test Sig. = 0.772). Descriptive analysis revealed that the experimental group achieved a higher post-test mean score (M = 75.63, SD = 12.71) compared to the control group (M = 70.43, SD = 12.78), with a mean difference of 5.19 points. The independent sample t-test showed a statistically significant difference (t = 3.395, Sig. (2-tailed) = 0.000 < 0.05). These findings indicate that Big Snake and Ladders instructional media significantly improve elementary students' learning outcomes and can be effectively integrated into classroom instruction.

Keywords: Big Snake and Ladders; Instructional Media; Learning Outcomes.

Abstrak

Penelitian ini bertujuan untuk menganalisis pengaruh penggunaan media pembelajaran Big Snake and Ladders terhadap hasil belajar Pembelajaran Bahasa Inggris siswa Kelas V sekolah dasar. Penelitian ini menggunakan pendekatan kuantitatif dengan desain quasi experiment nonequivalent control group design. Sampel penelitian adalah siswa kelas V SDN Glundengan 02 Wuluhan Jember, dengan kelas VA sebagai kelas eksperimen (n = 24) dan kelas VB sebagai kelas kontrol (n = 23). Data dikumpulkan melalui soal tes hasil belajar berupa pre-test dan post-test. Hasil uji normalitas menunjukkan seluruh data berdistribusi normal (Sig. > 0,05), dan uji homogenitas menunjukkan varians data homogen (Sig. pre-test = 0,209; post-test = 0,772). Hasil analisis deskriptif menunjukkan bahwa rata-rata nilai post-test kelas eksperimen sebesar 75,63 (SD = 12,71), lebih tinggi dibandingkan kelas kontrol sebesar 70,43 (SD = 12,78). Selisih rata-rata kedua kelompok sebesar 5,19. Hasil uji independent sample t-test menunjukkan nilai t = 3,395, Sig. (2-tailed) = 0,000 < 0,05,

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sehingga terdapat perbedaan yang signifikan antara kedua kelompok. Penelitian ini menyimpulkan bahwa media Big Snake and Ladders berpengaruh signifikan terhadap peningkatan hasil belajar siswa sekolah dasar.
Kata kunci: *Big Snake and Ladders; Media Pembelajaran; Hasil Belajar.*

INTRODUCTION

Learning outcomes are one of the main indicators of the success of instructional processes in elementary education, as they reflect students' mastery of knowledge, skills, and attitudes expected in the curriculum (Kumala et al., 2020). Classroom learning is often characterized by one-way explanations, textbook-oriented activities, and minimal student interaction, which tend to reduce students' motivation and engagement in learning (Susdamayanti, 2022). This phenomenon is particularly problematic for elementary school students who are in the concrete operational stage and require learning experiences that are active, contextual, and enjoyable to support their cognitive development (Ritonga et al., 2022).

This general phenomenon is also reflected in the learning conditions at SDN Glundengan 02 Wuluhan Jember, where preliminary observations and school documentation indicate that students' learning outcomes in several subjects have not met the expected minimum mastery criteria. Based on teachers' assessment records in English learning, a considerable number of students still score below the school's passing standard, particularly in lessons that require conceptual understanding and sustained attention during classroom instruction. Classroom observations reveal that learning activities are largely dominated by lectures and worksheet completion, with limited use of instructional media that actively involve students. As a result, students tend to be passive, easily distracted, and less enthusiastic during lessons. These conditions suggest that the instructional strategies and media currently used have not been fully effective in facilitating meaningful learning experiences that support students' academic achievement.

One of the main causes of this problem is the limited use of innovative and interactive instructional media that can stimulate students' interest and active participation (Firman Aulia Ramadhan, 2022). Many teachers still rely on conventional teaching aids such as textbooks and whiteboards, which may not sufficiently accommodate diverse learning styles or capture students' attention for extended periods (Istianah & Wahono, 2024.). In elementary education, learning media play a crucial role in bridging abstract concepts with concrete experiences. Without appropriate media, students may struggle to understand

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learning content, leading to lower learning outcomes (Putri et al., 2020). In addition, the lack of game-based and student-centered learning activities reduces opportunities for collaboration, problem-solving, and meaningful engagement, which are essential for developing higher-order thinking skills and improving academic performance.

Previous studies have emphasized the importance of game-based learning media in improving elementary students' learning outcomes. Game-based learning integrates instructional content with play, making learning more enjoyable and meaningful for students (Nugrahani & Rupa, 2017). One instructional medium that has gained attention in elementary education is the Snake and Ladders game, which can be adapted to various subjects by embedding learning materials into the game mechanics (Wangge & Sariyyah, 2019). Research has shown that the use of Snake and Ladders media can significantly improve students' learning outcomes by increasing motivation, engagement, and conceptual understanding (Wahyu Wijayanti, 2021). Similarly, (Khomsin & Rahimmatussalisa, 2021) found that game-based instructional media positively influenced students' academic achievement by creating a fun learning environment that encourages active participation and repeated practice. These findings suggest that integrating learning content into games can effectively support students' cognitive and affective development.

Furthermore, studies conducted in elementary school settings indicate that instructional games such as Snake and Ladders can enhance students' attention and retention of learning materials. According to (Majuwita & Muryanti, 2022), students who learned through Snake and Ladders-based media demonstrated higher post-test scores compared to those taught using conventional methods. The interactive nature of the game allowed students to learn collaboratively, discuss answers, and receive immediate feedback, which contributed to better learning outcomes. Another study by (Putri et al., 2023) reported that large-scale or "big" game media used in classrooms encouraged physical movement and social interaction, which further increased students' engagement and understanding of the learning material. These studies collectively highlight the potential of Snake and Ladders-based instructional media as an effective tool for improving elementary students' learning outcomes.

Despite the growing body of research on game-based learning in elementary education, several critical gaps remain insufficiently addressed. First, existing studies predominantly focus on conventional, small-scale Snake and Ladders media, which limit students' physical engagement and experiential learning opportunities. This indicates a lack of empirical exploration of how large-scale, physically immersive instructional media such

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as Big Snake and Ladders can facilitate kinesthetic learning and enhance cognitive outcomes. Second, prior research is largely conducted in urban or well-resourced educational settings, resulting in limited contextual evidence regarding the applicability and effectiveness of such media in semi-rural or resource-constrained schools. This creates a contextual gap, particularly in understanding how innovative instructional media function in real classroom environments with practical limitations. Third, although many studies highlight increased motivation and engagement as key outcomes of game-based learning, there remains a lack of rigorous empirical evidence linking these interactive learning experiences directly to measurable improvements in students' academic achievement. Consequently, the relationship between physically interactive game-based media and cognitive learning outcomes remains underexplored and requires further investigation.

Based on these gaps, the novelty of this study lies in its integrative approach that combines physical, collaborative, and cognitive dimensions of learning through the implementation of Big Snake and Ladders instructional media. Unlike previous studies that primarily utilize small-scale board games, this research introduces a large-scale, movement-based instructional medium that actively engages students in kinesthetic and social learning processes within the classroom. In addition, this study provides empirical evidence from a semi-rural elementary school context, offering insights that are often underrepresented in the existing literature. Furthermore, this research goes beyond examining affective aspects such as motivation by quantitatively analyzing the direct impact of the instructional media on students' learning outcomes using a quasi-experimental design. Therefore, this study contributes not only practical implications for classroom instruction but also extends the theoretical understanding of how physically interactive game-based learning environments can influence cognitive achievement in elementary education.

Therefore, this study is conducted to examine the impact of Big Snake and Ladders instructional media on the learning outcomes of elementary school students at SDN Glundengan 02 Wuluhan Jember. The purpose of this research is to determine whether the use of Big Snake and Ladders instructional media can significantly improve students' learning outcomes compared to conventional teaching methods. By providing empirical evidence from a real classroom setting, this study is expected to contribute to the development of innovative instructional practices in elementary education and offer practical recommendations for teachers in utilizing game-based media to enhance students' academic achievement.

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RESEARCH METHOD

This study employed a quantitative approach using a quasi-experimental design, specifically the nonequivalent control group design(Sugiyono, 2019). This design was chosen because the researcher could not randomly assign students to groups, as the class composition had been predetermined by the school. The study involved two intact classes: Class V A as the experimental group and Class V B as the control group. Both groups were administered a pre-test and a post-test to measure students' learning outcomes before and after the treatment.

Research Setting and Participants

The research was conducted at SDN Glundengan 02 Wuluhan Jember during the 2025/2026 academic year The population of this study consisted of all fifth-grade students at SDN Glundengan 02 Wuluhan Jember in the 2025/2026 academic year. This population was selected because students at this level share relatively similar cognitive development characteristics and are directly involved in the instructional context under investigation. From this population, the sample was determined using a purposive sampling technique, considering the similarity of academic ability, classroom characteristics, and learning conditions between groups. Two intact classes were selected as research samples, namely Class V A and Class V B. Class V A, consisting of 24 students, was assigned as the experimental group and received instruction using Big Snake and Ladders instructional media. Meanwhile, Class V B, consisting of 23 students, was designated as the control group and was taught using conventional instructional methods. The use of purposive sampling in this quasi-experimental study was appropriate due to the inability to randomly assign students into groups, as class groupings had already been determined by the school administration. This sampling approach ensured that both groups had comparable baseline characteristics, allowing for a more valid comparison of the treatment effects

Research Variables

The independent variable in this study was the Big Snake and Ladders instructional media, implemented as a game-based learning tool integrating learning content into classroom instruction. The dependent variable was students' learning outcomes, operationalized as students' cognitive achievement scores obtained from pre-test and post-test results.

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Research Instruments

The primary instrument used in this study was a learning outcomes test developed in accordance with the learning objectives and curriculum standards for fifth-grade students. The test consisted of multiple-choice items designed to assess students' understanding of the instructional material. The instrument underwent content validity testing through expert judgment and reliability testing using Cronbach's alpha, indicating that the instrument was reliable for research purposes. In addition, observation sheets were used to ensure that the instructional treatment was implemented consistently in the experimental group.

The indicators measured in this study were focused on students' learning outcomes in the cognitive domain, which were operationalized into several measurable aspects based on the learning objectives and curriculum standards for fifth-grade elementary students. These aspects included: (1) understanding of vocabulary, referring to students' ability to recognize and interpret English words correctly; (2) comprehension of meaning, which reflects students' ability to understand the meaning of words and sentences in context; (3) application, referring to students' ability to use vocabulary appropriately in simple sentences or learning tasks; and (4) recall ability, which indicates students' capacity to remember previously learned material. These indicators were assessed through a structured multiple-choice test administered as pre-test and post-test. Each item in the test was designed to represent specific indicators, ensuring content validity and alignment with the instructional objectives. By measuring these aspects, the study was able to comprehensively evaluate students' cognitive learning outcomes and determine the effectiveness of the Big Snake and Ladders instructional media in improving students' academic achievement.

Research Procedure

The research was conducted in several stages. First, a pre-test was administered to students in both Class V A and Class V B to determine their initial learning outcomes. Second, the experimental group (Class V A) received instruction using Big Snake and Ladders instructional media, while the control group (Class V B) was taught using conventional learning methods such as lectures and textbook-based activities. The instructional treatment was implemented over several learning sessions. During the implementation, students in Class V A actively participated in game-based learning activities using the Big Snake and Ladders media, while the teacher facilitated learning and guided classroom discussions. After the treatment period, a post-test was administered to both groups to measure students' learning outcomes after the intervention.

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Data Collection Technique

Data in this study were collected using both testing and non-testing techniques to ensure the validity and completeness of the data. The primary data were obtained through learning outcome tests in the form of pre-test and post-test administered to both the experimental and control groups. The pre-test was conducted prior to the instructional treatment to measure students' initial abilities, while the post-test was administered after the treatment to assess students' learning outcomes. The test instrument consisted of multiple-choice items developed based on the predetermined learning indicators and curriculum objectives. In addition to testing, non-test techniques were also employed through classroom observations. Observation sheets were used to monitor the implementation of the instructional process, particularly to ensure that the Big Snake and Ladders instructional media was applied consistently in the experimental group. This combination of data collection techniques allowed the researcher to obtain both quantitative data on students' academic performance and supporting data on the learning process.

Data Analysis Technique

The data analysis in this study was conducted using both descriptive and inferential statistical techniques. Descriptive statistics were used to summarize and describe the data, including the calculation of mean, minimum and maximum scores, and standard deviation of students' learning outcomes in both groups. Prior to hypothesis testing, prerequisite tests were conducted to ensure that the data met the assumptions for parametric analysis. The normality test was performed using the Shapiro–Wilk test to determine whether the data were normally distributed, while the homogeneity test was conducted using Levene's test to examine the equality of variances between the experimental and control groups.

For inferential analysis, a paired samples t-test was used to determine the significance of the improvement in learning outcomes within each group by comparing pre-test and post-test scores. Furthermore, an independent samples t-test was employed to examine whether there was a statistically significant difference in post-test scores between the experimental and control groups. All statistical analyses were performed using SPSS version 21 with a significance level set at 0.05. This analytical procedure enabled the researcher to determine the effectiveness of Big Snake and Ladders instructional media in improving students' learning outcomes.

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RESULT AND DISCUSSION

RESULT

This chapter presents the results of the study obtained from written tests administered to students in the form of pre-tests and post-tests. The data describe students' English learning outcomes in both the experimental group (Class V A), which was taught using Big Snake and Ladders instructional media, and the control group (Class V B), which was taught using conventional instructional methods. The results are presented descriptively to illustrate changes in students' learning outcomes before and after the treatment.

Pre-test and Post-test Results of the Experimental Group (Class V A)

Before the implementation of the Big Snake and Ladders instructional media, a pre-test was administered to students in Class V A to measure their initial English learning outcomes. After the instructional treatment was completed, a post-test was conducted to determine the improvement in students' learning outcomes following the use of the instructional media.

The detailed individual scores of students were summarized into descriptive statistics to provide a clearer overview of students' learning outcomes. A summary of the pre-test and post-test results for the experimental group is presented in Table 1.

Table 1. Summary of Pre-test and Post-test Scores of the Experimental Group (Class V A)

Test Type	N	Minimum	Maximum	Mean	Std. Deviation
Pre-test	24	25	85	61.88	16.004
Post-test	24	50	95	75.63	12.710

Based on Table 1, the mean score of the pre-test in the experimental group was 61.88, indicating that students' initial learning outcomes were relatively moderate. After the implementation of Big Snake and Ladders instructional media, the mean post-test score increased to 75.63. This improvement demonstrates a notable increase in students' learning outcomes following the use of the game-based instructional media. In addition, the decrease in the standard deviation from 16.004 to 12.710 indicates that students' post-test scores were more evenly distributed, suggesting a more consistent level of achievement among students after the treatment.

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Pre-test and Post-test Results of the Control Group (Class V B)

Similar to the experimental group, students in the control group (Class V B) were administered a pre-test to measure their initial learning outcomes before instruction. The control group was taught using conventional teaching methods without the use of Big Snake and Ladders instructional media. After the learning sessions were completed, a post-test was administered to measure students' learning outcomes.

The summary of pre-test and post-test results for the control group is presented in Table 2.

Table 2. Summary of Pre-test and Post-test Scores of the Control Group (Class V B)

Test Type	N	Minimum	Maximum	Mean	Std. Deviation
Pre-test	23	20	90	49.35	19.324
Post-test	23	40	95	70.43	12.784

Table 2 shows that the mean pre-test score of the control group was 49.35, which was lower than that of the experimental group. After conventional instruction, the mean post-test score increased to 70.43. Although there was an improvement in students' learning outcomes, the increase was smaller compared to the experimental group. The standard deviation also decreased from 19.324 to 12.784, indicating reduced score variability after instruction.

Descriptive Statistical Analysis of Learning Outcomes

To provide a comprehensive overview of students' learning outcomes, descriptive statistical analysis was conducted using SPSS version 21. The analysis included the number of participants (N), minimum and maximum scores, mean scores, and standard deviations for both groups. The results of the descriptive statistical analysis are summarized in Table 3.

Table 3. Descriptive Statistics of Students' Learning Outcomes

Variable	N	Minimum	Maximum	Mean	Std. Deviation
Pre-test (Experimental)	24	25	85	61.88	16.004
Post-test (Experimental)	24	50	95	75.63	12.710
Pre-test (Control)	23	20	90	49.35	19.324
Post-test (Control)	23	40	95	70.43	12.784

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The descriptive statistics indicate that both groups experienced improvements in learning outcomes from pre-test to post-test. However, the experimental group demonstrated a higher mean gain compared to the control group. This finding suggests that the use of Big Snake and Ladders instructional media contributed more effectively to improving students' learning outcomes than conventional teaching methods. The results also show that students in the experimental group achieved higher post-test scores with lower variability, indicating that the instructional media supported more consistent learning achievement among students.

Normality Test

The normality test was conducted to determine whether the data obtained from each research variable were normally distributed. In this study, the Shapiro–Wilk test was applied using SPSS version 21, as it is considered appropriate for small sample sizes.

Table 4. Normality Test Results (Shapiro–Wilk)

Variable	N	Sig.
Pre-test (Experimental)	24	0.376
Post-test (Experimental)	24	0.322
Pre-test (Control)	23	0.191
Post-test (Control)	23	0.681

The results show that all significance values were greater than 0.05, indicating that the pre-test and post-test scores of both the experimental and control groups were normally distributed. Therefore, the data met the assumption of normality and were suitable for further parametric statistical analysis.

Homogeneity Test

The homogeneity test was conducted to examine whether the variances of the experimental and control groups were equal. The test was performed using Levene's Test in SPSS version 21.

Table 5. Homogeneity Test of Pre-test Scores

Levene Statistic	df1	df2	Sig.
1.626	1	45	0.209

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Table 6. Homogeneity Test of Post-test Scores

Levene Statistic	df1	df2	Sig.
0.085	1	45	0.772

The results indicate that the significance values for both the pre-test (0.209) and post-test (0.772) were greater than 0.05. Thus, it can be concluded that the variances of the experimental and control groups were homogeneous, fulfilling the assumption for conducting an independent samples t-test.

Hypothesis Testing

After fulfilling the prerequisite tests of normality and homogeneity, hypothesis testing was conducted to determine the effect of Big Snake and Ladders instructional media on elementary students' learning outcomes.

The hypotheses formulated in this study were as follows:

H_0 (Null Hypothesis): There is no significant effect of Big Snake and Ladders instructional media on students' learning outcomes.

H_1 (Alternative Hypothesis): There is a significant effect of Big Snake and Ladders instructional media on students' learning outcomes.

Prior to conducting the inferential analysis, descriptive statistics of post-test scores for both groups were examined.

Table 7. Descriptive Statistics of Post-test Scores

Group	N	Mean	Std. Deviation
Experimental	24	75.63	12.71
Control	23	70.43	12.78

The table shows that the experimental group achieved a higher mean post-test score (75.63) than the control group (70.43), indicating better learning outcomes among students who were taught using Big Snake and Ladders instructional media.

Independent Samples t-Test

To examine whether the difference in mean post-test scores between the experimental and control groups was statistically significant, an independent samples t-test was conducted.

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Table 8. Independent Samples t-Test Results

t	df	Sig. (2-tailed)	Mean Difference
3.395	45	0.000	5.190

The results of the independent samples t-test show that the significance value (Sig. 2-tailed) was 0.000, which is less than 0.05. This indicates a statistically significant difference between the learning outcomes of the experimental and control groups. In addition, the obtained t-value (3.395) was greater than the critical t-value (1.679) at the 0.05 significance level.

Based on these results, H_0 was rejected and H_1 was accepted, indicating that the use of Big Snake and Ladders instructional media had a significant positive effect on the learning outcomes of fifth-grade students at SDN Glundengan 02 Wuluhan Jember.

DISCUSSION

This study examined the impact of Big Snake and Ladders instructional media on the learning outcomes of fifth-grade elementary school students by employing a quasi-experimental design. The results of the descriptive and inferential analyses demonstrated that students in the experimental group who were taught using Big Snake and Ladders media achieved significantly higher learning outcomes than those in the control group who received conventional instruction. The experimental group obtained a mean post-test score of 75.63, while the control group achieved a mean score of 70.43, and the difference was statistically significant ($p < 0.05$). These findings indicate that the integration of game-based instructional media has a meaningful positive effect on students' academic achievement.

The improvement in learning outcomes observed in the experimental group supports the assumption that game-based learning environments promote more effective learning than traditional teacher-centered approaches. Big Snake and Ladders instructional media require students to actively participate, respond to questions, and engage in collaborative interactions with peers. According to constructivist learning theory, meaningful learning occurs when learners actively construct knowledge through interaction and experience rather than passively receiving information (Fosnot, 2013). In this study, students did not merely listen to explanations but were actively involved in learning activities embedded within the game structure, which likely enhanced their understanding and retention of the learning material.

The findings of this study are consistent with previous empirical research indicating that snakes and ladders–based learning media significantly improve elementary students'

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learning outcomes. A study by (Priyastuti et al., 2020) reported that students taught using snakes and ladders instructional media achieved higher post-test scores than those taught using conventional methods, as the game fostered motivation, attention, and repeated exposure to learning content. Similarly, (Firman Aulia Ramadhan, 2022) found that game-based board media positively influenced students' cognitive achievement by providing immediate feedback and reinforcing correct answers during gameplay. These findings reinforce the results of the present study, suggesting that Big Snake and Ladders media effectively facilitate academic learning.

One important factor contributing to the effectiveness of Big Snake and Ladders instructional media is its ability to increase students' learning motivation and engagement. Motivation plays a crucial role in learning outcomes, particularly at the elementary school level, where students are highly responsive to enjoyable and interactive learning experiences. According to (Setyawan et al., 2020), game-based learning environments enhance intrinsic motivation by incorporating elements such as challenge, reward, and competition, which encourage students to remain focused and engaged. The observed increase in post-test scores among students in the experimental group suggests that the motivational aspects of the Big Snake and Ladders game helped sustain students' attention and effort throughout the learning process.

The reduction in score variability in the experimental group, as indicated by the lower standard deviation in post-test results, suggests that Big Snake and Ladders media not only improved average achievement but also promoted more equitable learning outcomes among students. This finding aligns with research indicating that interactive instructional media can support diverse learners by accommodating different learning styles and levels of ability (Destia et al., 2023). Through collaborative gameplay, students had opportunities to discuss answers, learn from peers, and receive guidance from the teacher, which may have contributed to more consistent learning achievement across the class (Ramadhan, Wahono, et al., 2023).

Although the control group also demonstrated improvement from pre-test to post-test, the increase was less substantial than that observed in the experimental group. This outcome suggests that conventional instructional methods alone may be insufficient to maximize students' learning potential, particularly in contexts where students tend to be passive or disengaged. Traditional lecture-based instruction often limits student interaction and provides fewer opportunities for active knowledge construction, which may hinder deeper

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understanding of learning material (Anggraeni & Nugroho, 2023). The comparatively lower post-test performance of the control group highlights the added value of incorporating interactive media such as Big Snake and Ladders into classroom instruction.

The use of Big Snake and Ladders instructional media also facilitated peer interaction and collaborative learning, which are essential components of effective instruction. Vygotsky's social constructivist theory emphasizes that learning is mediated through social interaction and that students develop cognitive skills through collaboration within their zone of proximal development (Yu et al., 2013). During the game-based activities, students interacted with classmates, discussed answers, and supported one another in completing tasks, which likely enhanced their comprehension and problem-solving abilities. These social interactions may explain why students in the experimental group achieved higher learning outcomes than those in the control group (Ramadhan, Muhith, et al., 2023).

The findings of this study are also consistently reports positive effects of game-based learning on academic performance. For instance, a study by (Adinda Amelia Anugerah Putri & Masub Bakhtiar, 2022) found that elementary students who participated in game-based learning activities demonstrated significantly higher achievement and engagement compared to students taught using traditional methods. Likewise, a systematic review by (Zeng & Ruannakarn, 2023) concluded that game-based learning has a moderate to strong positive effect on students' cognitive outcomes when instructional games are well aligned with learning objectives. These studies provide strong theoretical and empirical support for the effectiveness of Big Snake and Ladders instructional media observed in the present research.

This study has several limitations that should be acknowledged. The use of a quasi-experimental design without random assignment limits the generalizability of the results. In addition, the sample size was relatively small and limited to one elementary school, which may affect the external validity of the findings. Future research could employ randomized controlled trials with larger and more diverse samples to strengthen causal inferences. Moreover, incorporating qualitative data such as student interviews or classroom observations could provide deeper insights into how students perceive and experience game-based learning.

The results of this study provide important implications for elementary education practice. The significant improvement in learning outcomes among students taught using Big Snake and Ladders instructional media suggests that game-based learning can serve as an effective alternative to conventional teaching methods, particularly in engaging young

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learners. Teachers are encouraged to integrate instructional games into classroom activities to create more interactive, motivating, and student-centered learning environments.

CONCLUSION

This study concludes that the use of Big Snake and Ladders instructional media has a significant positive impact on the learning outcomes of fifth-grade elementary school students at SDN Glundengan 02 Wuluhan Jember. The findings demonstrate that students in the experimental group who were taught using Big Snake and Ladders achieved higher post-test scores than those in the control group who received conventional instruction. The statistically significant difference between the two groups confirms that game-based instructional media can effectively enhance students' academic achievement.

Furthermore, the results indicate that Big Snake and Ladders instructional media not only improve average learning outcomes but also promote more consistent student performance, as reflected by the reduced variability in post-test scores. The interactive and collaborative nature of the media encourages active participation, increases learning motivation, and supports meaningful knowledge construction among students. Therefore, integrating Big Snake and Ladders instructional media into elementary classroom instruction is recommended as an effective pedagogical strategy to improve students' learning outcomes and create more engaging learning environments.

REFERENCES

Adinda Amelia Anugerah Putri, & Masub Bakhtiar, A. (2022). Pengaruh permainan tradisional engklek terhadap pembelajaran siswa kelas Iv sdn bluluk I lamongan. *Didaktik : Jurnal Ilmiah PGSD STKIP Subang*, *8*(2), 2128–2134. https://doi.org/10.36989/didaktik.v8i2.525

Anggraeni, A., & Nugroho, A. S. (2023). Pengembangan Media ROTARKAT (Roda Berputar Pakaian Adat) Pada Materi Keberagaman Pakaian Adat di Indonesia Untuk Pembelajaran IPS Kelas IV di Sekolah Dasar. *Jurnal Pendidikan Sosial Dan Keagamaan*, *20*(3), 546–556.

Destia, D., Vera, C. O., Firdaningsih, C., Wuriyani, D. S., & Rudyanto, H. E. (2023). Pengembangan Media Pembelajaran Spin Game Berbasis Powerpoint Interaktif pada Materi Tema 7 Subtema 1 untuk Siswa Kelas V Sekolah Dasar. *DWIJA CENDEKIA: Jurnal Riset Pedagogik*, *7*(2). https://doi.org/10.20961/jdc.v7i2.74758

Firman Aulia Ramadhan, R. M. P. (2022). Using Poster Comment Method to Improve English Writing Ability of V-A Class at MIN 4 Jember. *EDUCARE: Journal of Primary Education*, *3*(2), 111–124. https://doi.org/10.35719/educare.v3i2.106

Istianah, L., & Wahono, S. S. (n.d.). *Bringing PAI Learning to Life: The Role of Flipbook Maker in Increasing Student Motivation*. *9*(2).

Khomsin, K., & Rahimmatussalisa, R. (2021). Efektivitas Media Permainan Ular Tangga untuk Meningkatkan Kemampuan Mengenal Kosakata Bahasa Inggris pada Anak Usia Dini. *Jurnal Pendidikan Anak*, *10*(1), 25–33. https://doi.org/10.21831/jpa.v10i1.37872

Kumala, D. R., Rohmah, Z., & ... (2020). Pendampingan Belajar Menggunakan Media Ular Tangga Pembelajaran Bahasa Inggris Siswa SD di Bandarkedungmulyo. *Jumat Pengabdian Masyarakat Bidang Pendidikan*, *1*(1), 44–47.

Majuwita, N., & Muryanti, E. (2022). *Pengaruh Permainan Ular Tangga Terhadap Perkembangan Kosakata Bahasa Inggris Anak Usia Dini Di Taman Kanak-Kanak*. *6*(1), 57.

Nugrahani, R., & Rupa, J. S. (2017). Media Pembelajaran Berbasis Visual Berbentuk Permainan Ular Tangga Untuk Meningkatkan Kualitas Belajar Mengajar Di Sekolah Dasar. *Lembaran Ilmu Kependidikan*, *36*(1), 35–44.

Priyastuti, M. T., Resanti, M., & Yoga, G. S. (2020). Peningkatan Kosakata Bahasa Inggris dengan Media Ular Tangga bagi Siswa SD Antonius 2 Semarang. *Abdimasku : Jurnal Pengabdian Masyarakat*, *3*(2), 72. https://doi.org/10.33633/ja.v3i2.106

Putri, Firduansyah, D., & Aswarliansyah. (2023). Pengembangan Media Permainan Ular Tangga Berbasis Aplikasi Genially dalam Pembelajaran Matematika Kelas IV. *Ipar: Ilmu Pendidikan Dasar*, *1*(1), 39.

Putri, N. P. J. E., Artini, L. P., & Wahyuni, L. G. E. (2020). *EFL Teachers ' Perception and Strategies for In tegrating Character Education into the Lesson*. *53*(July 2019), 1–12.

Ramadhan, F. A., Muhith, A., Usriyah, L., & Dahlan, M. (2023). *DEVELOPMENT OF AUGMENTED REALITY AS A LEARNING MEDIA FOR SBDP IN CLASS V STUDENTS MIN 4 JEMBER*. (2).

Ramadhan, F. A., Wahono, S. S., & Muhith, A. (2023). DESIGN OF ENGLISH VOCABULARY PICTURES CARD MEDIA FOR TEACH VOCABULARY AT ELEMENTARY SCHOOL. *AT-TA`DIB*, *7*(3). https://doi.org/10.32832/at-tadib.v7i3.19483

Ritonga, R. S., Syahputra, Z., Arifin, D., & Sari, I. M. (2022). Pengembangan Media Pembelajaran Smart Board Berbasis Augmented Reality Untuk Pengenalan Hewan Pada Anak Usia Dini. *Jurnal PG-PAUD Trunojoyo : Jurnal Pendidikan Dan Pembelajaran Anak Usia Dini*, *9*(1), 40–46. https://doi.org/10.21107/pgpaudtrunojoyo.v9i1.13418

Setyawan, H., Arighi, R. A., & Isnanda, R. G. (2020). Designing a Fun English Vocabulary Card Application as a Means of Learning English Vocabulary for Elementary School Students. *Emerging Information Science and Technology*, *1*(3), 119–125. https://doi.org/10.18196/eist.v1i3.13173

Sugiyono. (2019). *Metode Penelitian Kuantitatif, Kualitatif, dan R&D* (Sutopo, Ed.; Cet. 1). Alfabeta.

Susdamayanti, R. (2022). Development of Domino Card Media To Increase Learning Motivation of Class V Elementary School Students Pengembangan Media Kartu Domino Untuk Meningkatkan Motivasi Belajar Siswa Kelas V Sd. *Renjana Pendidikan Dasar*, *2*(4), 281.

Wahyu Wijayanti, N. (2021). Implementasi Permainan Dalam Pembelajaran Matematika Di Sekolah Dasar. *Cendekiawan*, *3*(1), 59–64. https://doi.org/10.35438/cendekiawan.v3i1.218

Wangge, Y. S., & Sariyyah, N. (2019). Permainan Ular Tangga Berbasis Cerita Rakyat Ende-Lio untuk Meningkatkan Kosakata Bahasa Inggris. *Jurnal Pendidikan Dasar Nusantara*, *4*(2), 164. https://doi.org/10.29407/jpdn.v4i2.12517

Yu, Y. H., Hu, Y. N., & Zhang, J. S. (2013). Vygotsky's Zone of Proximal Development: Instructional Implications and Teachers' Professional Development. *Applied Mechanics and Materials*, *411–414*(4), 2952–2956. https://doi.org/10.4028/www.scientific.net/AMM.411-414.2952

Zeng, X., & Ruannakarn, P. (2023). Development of Problem-Based Learning Management Activities to Enhance the Knowledge, Skills, and Interests of Students. *Higher Education Studies*, *13*(4), 149. https://doi.org/10.5539/hes.v13n4p149