

Game-Based Learning for Vocabulary Acquisition: Snake and Ladder and Spelling Bee

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Abstract

This study examines the effectiveness of combining Snakes and Ladders and Spelling Bee games to improve students' English vocabulary learning at SMP Muhammadiyah Aimas, Sorong Regency. The study aims to determine whether the integration of these game-based activities can enhance students' vocabulary mastery, pronunciation, and learning engagement. A quantitative approach was employed using a pre-experimental one-group pre-test and post-test design involving 23 eighth-grade students. Vocabulary mastery was measured using a multiple-choice test administered before and after the treatment. The collected data were analyzed using SPSS version 22 to calculate descriptive statistics and the normalized gain (N-gain) score. The results indicate that students' vocabulary achievement improved after the implementation of the game-based learning activities. The mean score increased from 76.09 in the pre-test to 83.70 in the post-test, showing a positive change in students' vocabulary mastery. The N-gain score of 0.31 falls into the moderate improvement category, indicating that the treatment had a meaningful effect on students' vocabulary learning. These findings suggest that the integration of Snakes and Ladders and Spelling Bee games can support vocabulary acquisition by providing students with opportunities to practice vocabulary in an interactive and engaging learning environment. The Snakes and Ladders game encouraged students' participation, collaboration, and motivation during classroom activities, while the Spelling Bee activity helped students improve their spelling accuracy and pronunciation. The use of these game-based strategies created a more active and enjoyable learning atmosphere, which contributed to increased student engagement and participation in vocabulary learning. Based on these findings, the study concludes that integrating Snakes and Ladders and Spelling Bee games can be an effective instructional strategy for teaching English vocabulary. Therefore, English teachers are encouraged to incorporate interactive game-based activities into their teaching practices to support vocabulary development and create more engaging language learning experiences.

Keywords: Snake and Ladder; Spelling Bee; Game-Based Learning

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Introduction

Vocabulary is a fundamental component of language learning and communication because it serves as the basic element for constructing sentences, expressing ideas, and understanding both written and spoken texts. Without sufficient vocabulary knowledge, learners often experience difficulties in conveying their thoughts and interpreting messages in communication. According to Nurgiyantoro (2014), vocabulary refers to the collection of words in a language that learners must acquire to develop their linguistic competence. In learning English as a foreign language, vocabulary mastery plays a crucial role because it directly supports the development of other language skills such as reading, writing, listening, and speaking. As Tarigan (in Hoerudin, 2023) explains, vocabulary functions as an essential tool for conveying ideas, information, and opinions between speakers and listeners, making it an important focus in English language education.

Previous research has highlighted the importance of vocabulary acquisition for language proficiency. Rachmawati (2021) states that vocabulary knowledge not only helps learners construct sentences but also supports daily communication and practical language use. Learners with strong vocabulary knowledge tend to communicate more confidently and effectively. However, many students still face difficulties in learning and retaining English vocabulary. These challenges often include

problems with pronunciation, spelling, memorization, and understanding word meanings in different contexts.

Several studies have investigated these difficulties. Salam and Nurnisa (2021) found that students' limited vocabulary was related to their struggles with pronunciation, spelling, and memorizing words. These difficulties also affected their listening comprehension, as students often had trouble understanding instructions delivered in English. Similarly, Salawazo et al. (2020) reported that junior high school students frequently forgot newly learned words and had difficulty distinguishing between spoken and written forms because of the differences between English spelling and pronunciation. As a result, many students felt less confident and were reluctant to participate actively in English learning activities.

Based on preliminary observation and interviews conducted in class VIIIA at SMP Muhammadiyah Aimas in Sorong Regency, several problems in vocabulary learning were identified. The teaching process was mostly teacher-centered, relying heavily on lecture methods and written assignments. The use of interactive learning media was limited, which made the learning process less engaging for students. In many cases, the teacher explained the material and then asked students to complete tasks without involving them in active learning activities. This approach often caused students to feel bored and lose interest in the lesson. Some students also appeared inattentive and easily distracted during class. In addition, many students expressed that English was a difficult subject, which reduced their motivation to learn vocabulary.

To address these problems, teachers need to apply teaching strategies that make vocabulary learning more interactive and enjoyable. One approach that has been widely recommended in language education is game-based learning. Games can create a more engaging classroom atmosphere and encourage students to participate actively in the learning process. In this study, two game-based learning activities were used: the Snakes and Ladders game and the Spelling Bee game. The Snakes and Ladders game is a traditional board game that can be adapted as a learning medium by integrating vocabulary questions or tasks into the game steps. This method encourages students to practice vocabulary while participating in an enjoyable activity (Imaliyah, 2018). Meanwhile, the Spelling Bee game is an oral activity where students spell words aloud, which helps improve their spelling accuracy, pronunciation, and confidence in using English vocabulary (Bagustian, 2022).

Previous studies have shown that both games can support vocabulary learning. The Snakes and Ladders game has been used to increase student motivation and participation in language learning activities, while the Spelling Bee game has been effective in improving students' spelling ability and word recognition. However, most previous research has examined these games separately rather than combining them within a single learning activity. As a result, there is still limited research investigating the potential benefits of integrating these two games in vocabulary instruction.

Combining Snakes and Ladders and Spelling Bee may provide a more comprehensive learning experience. The Snakes and Ladders game encourages interaction, repetition, and collaborative learning, while the Spelling Bee activity focuses on spelling accuracy and pronunciation. When integrated, these two activities can help students practice vocabulary through both receptive and productive language skills. This combination may also create a more engaging and multisensory learning environment that supports students' vocabulary development.

Therefore, this study aims to examine the effectiveness of combining the Snakes and Ladders game with the Spelling Bee activity in improving English vocabulary learning among students in class VIIIA at SMP Muhammadiyah Aimas, Sorong Regency. Specifically, the study investigates whether the integration of these two game-based learning activities can improve students' vocabulary mastery and increase their engagement in the learning process. The findings of this research are expected to provide useful insights for English teachers in implementing interactive learning strategies to improve vocabulary instruction in junior high school contexts.

Literature Review

a. Game-Based Learning in EFL Vocabulary Instruction

Game-based learning has gained significant attention in language education because it promotes motivation, engagement, and active participation. Educational games create meaningful learning

experiences by combining cognitive challenge with enjoyment. Prensky (2017) argues that games support deeper learning by incorporating elements such as goals, feedback, competition, and immediate rewards. These features make games particularly suitable for vocabulary instruction, which requires repeated exposure and practice. In EFL classrooms, game-based learning has been shown to improve vocabulary retention and learner motivation. Fitriana and Setiawan (2022) found that students who learned vocabulary through games demonstrated higher engagement and better test performance than those taught using conventional methods. Similarly, Yusuf and Hidayat (2022) reported that interactive vocabulary games enhanced classroom participation and reduced learner anxiety. These findings suggest that game-based strategies can create a more supportive and enjoyable environment for vocabulary learning, especially among young learners.

b. Snake and Ladder Game in Vocabulary Learning

The Snake and Ladder game is a board-based educational game adapted from the traditional children's game. In language classrooms, it is commonly modified to include vocabulary tasks, questions, or prompts at each step of the board. As students move their tokens, they must answer vocabulary questions or use target words in sentences. This format combines physical movement, chance, and cognitive processing, which can enhance learner engagement. Research indicates that Snake and Ladder games can effectively support vocabulary acquisition. The game encourages repeated exposure to target words, promotes peer interaction, and creates a low-anxiety learning atmosphere. Damayanti (2021) reports that students taught vocabulary through Snake and Ladder activities showed improved motivation and participation compared with traditional instruction. In addition, the competitive yet playful nature of the game helps maintain students' attention and encourages active involvement. For young learners, the visual and kinesthetic elements of Snake and Ladder are particularly beneficial. The board format provides concrete support for understanding, while the turn-taking structure fosters collaborative learning. However, the effectiveness of the game depends on careful design of vocabulary tasks and clear classroom management.

c. Spelling Bee in Vocabulary Development

Spelling Bee is an oral spelling competition in which students spell words aloud letter by letter. In EFL contexts, it is widely used to strengthen learners' spelling accuracy, pronunciation, and word recognition. Spelling Bee activities require learners to retrieve vocabulary from memory, process phoneme-grapheme relationships, and produce accurate word forms, all of which contribute to deeper vocabulary knowledge. Previous studies highlight the benefits of Spelling Bee for vocabulary learning. Hidayati and Prasetyo (2021) found that spelling-based activities improved students' word recognition and orthographic awareness. Similarly, Harmer (2017) notes that spelling practice supports vocabulary retention because it requires careful attention to word form. Spelling Bee also promotes learner confidence and speaking fluency, as students must perform in front of peers. From a pedagogical perspective, Spelling Bee supports productive vocabulary knowledge rather than simple recognition. It encourages repeated retrieval practice, which is known to strengthen long-term memory. However, without engaging classroom design, spelling activities may become stressful for some learners. Therefore, integrating Spelling Bee within a supportive and game-based environment is recommended.

e. Integrating Snake and Ladder and Spelling Bee in Vocabulary Instruction

Recent trends in EFL pedagogy emphasize combining multiple interactive strategies to address different dimensions of learning. Snake and Ladder primarily supports vocabulary practice through movement, repetition, and peer interaction, while Spelling Bee strengthens spelling accuracy, pronunciation, and retrieval. When integrated, these two approaches can complement each other by addressing both receptive and productive aspects of vocabulary knowledge. Widodo and Nurhayati (2023) argue that multimodal and interactive instruction is most effective when learners engage cognitively, socially, and physically. The combination of board games and oral spelling activities aligns with this principle. Snake and Ladder provides contextualized exposure and collaborative practice, whereas Spelling Bee reinforces precision and individual accountability. Despite the potential benefits, empirical studies examining the combined use of Snake and Ladder and Spelling Bee in EFL vocabulary instruction remain limited, particularly for young learners in Indonesian contexts. Most previous

research investigates these strategies separately rather than as an integrated instructional model. Therefore, further classroom-based research is needed to explore how the combination of these game-based approaches can enhance vocabulary acquisition more effectively. The present study addresses this gap by examining the effectiveness of integrating Snake and Ladder and Spelling Bee in teaching vocabulary to EFL learners.

Methodology

This study employed a quantitative approach using a pre-experimental design, specifically the one-group pre-test and post-test design, to investigate the effectiveness of combining the Snakes and Ladders game with the Spelling Bee activity in improving students' English vocabulary. In this design, students were given a pre-test to measure their initial vocabulary knowledge before the treatment and a post-test after the treatment to determine whether there was improvement in their vocabulary mastery.

The population of this study consisted of 46 eighth-grade students at SMP Muhammadiyah Aimas, Sorong Regency, who were divided into two classes, namely class VIII A and class VIII B. The researcher used purposive sampling to select class VIII A as the research sample. This class consisted of 23 students and was selected because the students showed relatively low vocabulary achievement and the teaching process rarely used interactive learning media. Therefore, this class was considered appropriate for implementing the game-based learning treatment.

The main research instrument used in this study was a vocabulary test consisting of 20 multiple-choice questions. The test focused on English nouns that were relevant to students' daily contexts. The same test format was used for both the pre-test and post-test. The pre-test was administered before the treatment to identify students' initial vocabulary knowledge, while the post-test was conducted after the treatment to measure students' improvement in vocabulary mastery.

The research procedure consisted of three stages: pre-test, treatment, and post-test. The pre-test was conducted during the first meeting to assess students' initial vocabulary knowledge. After that, the treatment was carried out during four meetings using the combination of the Snakes and Ladders game and the Spelling Bee activity as the learning method. In each meeting, the teacher first introduced the target vocabulary related to specific themes, such as classroom objects, animals, kitchen items, and living room objects. Students then practiced spelling and pronunciation of the words through Spelling Bee activities. After that, students played the adapted Snakes and Ladders game in small groups. In this game, each square on the board contained vocabulary tasks or questions that required students to spell, pronounce, or identify the meaning of the words correctly before moving forward. This activity encouraged active participation, repetition, and collaborative learning among students.

The post-test was conducted in the final meeting to measure students' vocabulary improvement after the treatment. The students' scores from both tests were collected and analyzed quantitatively. The mean scores of the pre-test and post-test were calculated to identify the overall improvement in vocabulary mastery. In addition, the Normalized Gain (N-Gain) score was used to determine the effectiveness of the treatment. The gain score was then interpreted using standard criteria. A gain score above 0.3 indicates moderate improvement, while a higher score indicates greater effectiveness of the treatment. The data analysis was conducted using SPSS version 22 to calculate descriptive statistics such as mean score and standard deviation. The results were then used to determine whether the combination of Snakes and Ladders and Spelling Bee games effectively improved students' English vocabulary mastery.

Result

This study was conducted for six meetings with class VIII A students of SMP Muhammadiyah Aimas. The aim was to measure the effectiveness of combining Snakes and Ladders media with the Spelling Bee game in teaching English vocabulary. A pre-test was administered during the first meeting to assess the students' initial vocabulary knowledge, while a post-test was given during the final meeting to evaluate improvement after the intervention.

During the treatment phase, from the second to the fifth meetings, students were engaged in vocabulary learning activities using the game-based method. Each session introduced a specific vocabulary theme, such as classroom objects, animals, kitchen items, and living room objects. The researcher began by explaining the vocabulary and then involved students in spelling activities to

familiarize them with English nouns. The students were divided into small groups to play the adapted Snakes and Ladders game, integrated with Spelling Bee tasks. The games encouraged active participation, repetition, and collaborative learning. Random questioning and repeated spelling exercises were used to reinforce understanding and retention.

The students' vocabulary performance was evaluated using the pre-test and post-test scores. As shown in Table 1, there was a noticeable improvement. In the pre-test, only 30.4% of students achieved a "very good" score, and 39.1% scored "good." After the treatment, 39.1% reached the "very good" category, and 47.8% scored "good." The number of students in the "poor" and "fair" categories decreased significantly.

Table 1. Classification of Frequency and Percentage of Pre-test and Post-test Score

Classification	Score Range	Pretest (%)	Posttest (%)
Very Good	90-100	30.4%	39.1%
Good	70-89	39.1%	47.8%
Fair	50-69	8.7%	4.3%
Poor	30-49	21.7%	8.7%
Very Poor	10-29	0%	0%

The descriptive statistics confirmed this trend. The mean pre-test score was 76.09, while the post-test mean rose to 83.70, indicating a gain in students' vocabulary mastery. The range of scores remained between 45 and 100.

Table 2. Mean Score and Standard Deviation in Pretest and Posttest

Test	Mean Score	Stand. Deviation
Pre-test	76.09	17.035
Post-test	83.70	14.319

To measure the effectiveness of the intervention, the Normalized Gain (N-Gain) score was calculated:

$$\begin{aligned}
 N - \text{gain} &= \frac{83,70 - 76,09}{100 - 76,09} \\
 &= \frac{7,61}{23,91} \\
 &= 0,31
 \end{aligned}$$

The result of the calculation shows that the N-Gain value was 0.31. According to the standard interpretation of N-Gain scores, a value between 0.3 and 0.7 indicates a moderate level of improvement. Therefore, the result suggests that the use of the combined Snakes and Ladders and Spelling Bee games had a positive effect on students' vocabulary learning. Based on the gain score analysis, the alternative hypothesis (Ha) was accepted, while the null hypothesis (Ho) was rejected. This result indicates that the integration of the Snakes and Ladders game and the Spelling Bee activity was effective in improving students' English vocabulary mastery, particularly in learning English nouns.

Discussion

The results of this study indicate that the integration of the Snakes and Ladders game and the Spelling Bee activity contributed to the improvement of students' vocabulary mastery. The increase in students' scores from the pre-test to the post-test suggests that the use of game-based learning activities helped students learn and practice English vocabulary more effectively. The improvement also indicates that interactive learning strategies can support students in remembering and using new vocabulary.

One possible explanation for this improvement is that game-based learning creates a more engaging and motivating classroom environment. During the treatment sessions, students were actively involved in spelling, answering vocabulary questions, and participating in group activities. These activities required students to repeatedly recall and use vocabulary, which is an important process in vocabulary acquisition. Thornbury (2002) explains that repeated exposure and retrieval of vocabulary

help strengthen memory and improve word retention. Through the combination of spelling practice and board game participation, students had multiple opportunities to practice vocabulary in an enjoyable way.

The use of the Snakes and Ladders game also encouraged active participation and collaboration among students. When students played the game in small groups, they were required to interact with their peers, discuss answers, and correct mistakes together. This collaborative learning environment helped students feel more comfortable using English vocabulary during classroom activities. Previous studies have also shown similar findings. For example, Damayanti (2021) reported that the use of Snakes and Ladders in vocabulary learning increased students' participation and motivation during English lessons. The visual and interactive nature of the board game also helped maintain students' attention and reduced boredom during the learning process.

In addition, the Spelling Bee activity played an important role in improving students' spelling accuracy and pronunciation. When students were asked to spell words aloud, they had to recall the correct sequence of letters and pronounce the words clearly. This activity strengthened students' awareness of word forms and pronunciation patterns. According to Harmer (2017), spelling practice can help learners develop a deeper understanding of vocabulary because it requires them to pay attention to both the written and spoken forms of words. In this study, students became more careful when spelling and pronouncing words, which helped them remember the vocabulary more effectively.

Another important finding of this study is related to students' motivation and classroom engagement. The use of games created a more enjoyable learning atmosphere compared to traditional lecture-based instruction. Students appeared more enthusiastic and confident when participating in the learning activities. Many students showed excitement when playing the Snakes and Ladders game, especially when competing with other groups to move forward on the board. Similarly, during the Spelling Bee activity, students were motivated to spell words correctly in order to gain points for their teams. This finding is consistent with the study conducted by Fitriana and Setiawan (2022), which reported that game-based learning can increase students' motivation and reduce anxiety in language learning.

In addition to improving vocabulary learning, the activities also encouraged the development of students' social interaction skills. Since the Snakes and Ladders game required students to work in groups, they needed to cooperate, take turns, and support each other during the game. When a student made a mistake while spelling or answering a question, other group members often helped by providing corrections or encouragement. This supportive learning environment helped students build confidence and reduced their fear of making mistakes. Similar findings were reported by Novia et al. (2021), who found that interactive games can promote cooperation and positive social interaction among students during classroom activities.

Despite the positive findings, several limitations were observed during the implementation of the game-based learning activities. One challenge was classroom management. The use of games sometimes made the classroom atmosphere noisy because students were excited and enthusiastic while playing the games. Although this enthusiasm reflected high engagement, it occasionally made it difficult to maintain focus in the classroom. Therefore, teachers need to provide clear instructions and classroom rules when implementing game-based learning to ensure that the activities remain organized and effective.

Another limitation is related to the research design and sample size. The study involved only one class consisting of 23 students and did not include a control group. As a result, the findings cannot be generalized to a wider population. In addition, the treatment was conducted for a relatively short period of time. Future research could involve larger samples, longer treatment periods, and experimental designs with control groups to obtain more comprehensive results. The findings of this study support the idea that game-based learning can be an effective strategy for vocabulary instruction. The combination of the Snakes and Ladders game and the Spelling Bee activity provided students with opportunities to practice vocabulary through interactive, collaborative, and enjoyable learning experiences. This approach not only improved students' vocabulary mastery but also increased their motivation and participation in the learning process. Therefore, integrating educational games into English language teaching can be a useful strategy for creating a more engaging and effective learning environment.

Conclusion

Based on the results of this study, the researcher concludes that the use of the Snakes and Ladders method combined with the Spelling Bee game is effective in enhancing vocabulary mastery among students of Class VIIIA at SMP Muhammadiyah Aimas, Sorong Regency. This conclusion is strongly supported by the N-gain score of 0.31, which is higher than the benchmark value of 0.3, indicating a meaningful improvement in students' vocabulary performance after the treatment. Consequently, the alternative hypothesis (H_a), which proposes the effectiveness of this combined media approach, is accepted, while the null hypothesis (H_0) is rejected. This statistical evidence confirms that the integration of these two interactive learning methods positively influences students' vocabulary acquisition. Moreover, the combination of the Snakes and Ladders game with the Spelling Bee activity offers more than just measurable improvements in test scores; it significantly contributes to creating a dynamic and enjoyable learning atmosphere. This approach makes the learning process more engaging by blending educational content with game-based elements, which encourages students to participate actively and enthusiastically. By turning vocabulary learning into a fun and competitive activity, students are more motivated to focus, practice spelling and pronunciation, and retain new words effectively. This active involvement also helps reduce learning anxiety, as students learn collaboratively in a supportive environment.

Additionally, the use of these games allows students to experience vocabulary learning through multisensory engagement combining visual, auditory, and kinesthetic learning styles which benefits diverse learners by catering to different preferences and strengths. The social aspect of group interaction in the Snakes and Ladders game also fosters cooperation, patience, and communication skills among students, further enriching their overall learning experience. These findings suggest that using such innovative and interactive methods not only improves academic performance but also promotes positive attitudes towards learning English. In conclusion, the researcher recommends the continued use and further development of combined media like Snakes and Ladders and Spelling Bee games in vocabulary instruction. Such approaches can effectively support vocabulary mastery while increasing student motivation and participation, ultimately contributing to a more productive and enjoyable classroom environment. This study highlights the importance of integrating creative and student-centered teaching methods to enhance language learning outcomes.

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