



**THE EFFECT OF USING SPINNING WHEEL TEACHING MEDIA ON ENGLISH
VOCABULARY MASTERY OF FIFTH GRADE STUDENTS
AT SD N 1 KEROBOKAN**

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ABSTRACT

This study aims to examine the effect of using Spinning Wheel as a teaching media on vocabulary mastery of fifth-grade students at SD Negeri 1 Kerobokan. Spinning Wheel provides an interactive learning activity that allows students to engage with vocabulary through various classroom activities. Using a quantitative pre-experimental research design, this study involved fifth-grade students as the research participants. The population and sample were involved one group containing 37 students. Data collection was conducted using vocabulary test which was formed as multiple-choice questions. The data were analysed using descriptive and inferential statistical analysis through SPSS, including the normality test, paired sample t-test, and effect size analysis. The findings showed an improvement in students' vocabulary mastery score after the treatment, as indicated by the increase in the mean score from the pre-test to the post-test. The paired sample t-test also revealed a significant difference between students' vocabulary scores before and after the treatment ($p < 0.05$). Furthermore, the effect size analysis indicated that the implementation of Spinning Wheel had a substantial practical effect on students' vocabulary mastery. These findings suggest that Spinning Wheel can serve as an interactive teaching media that supports students' vocabulary learning and encourages active participation during the English learning process.

Keywords: English vocabulary; Spinning Wheel, teaching media; vocabulary mastery

BACKGROUND OF THE RESEARCH

In this globalized era, education that prepares students to participate and be able to communicate across cultures and can access international sources of knowledge has become very important (Yamada et al., 2025). Therefore it becomes a crucial part for mastering an international language especially English language (Zhang, 2023). English is one of the foreign languages that taught from the elementary level in the school to help them for global challenges (Siregar et al., 2025). Furthermore the development of overall language abilities is significantly influenced by vocabulary mastery which related to other language skills such as reading, listening, writing and speaking (Noviarini, 2026). However Indonesia's English proficiency is relatively low, it can be showed in the EF English Proficiency Index 2024, Indonesia is categorized as the "low proficiency" group, that indicate limited ability in using and understanding English vocabulary in communication (EPI, 2024). Without enough vocabulary as the foundation of language learning, it can be difficult for learners to express and understand the idea well in English (Aulia et al., 2025). Therefore, teachers need to find suitable and interesting media to help students learn English vocabulary in an easy and also fun way (Wijaya & Juliana, 2024). Learning media plays a crucial role in supporting the learning and teaching process, particularly in English learning. Agbayani (2025) explains that in the vocabulary

learning, the use of learning media for students need to be more encourage them, making the learning process more enjoyable and easier to remember the vocabulary.

Based on the primarily observation that conducted at SD Negeri 1 Kerobokan, it was found that most of the fifth-grade students' English vocabulary mastery level was still relatively low. In addition, interactive learning media has not been widely applied in the classroom, the teacher only rely on conventional learning media. By facing this problem, one of the learning media that can be used to support student's vocabulary in learning English is Spinning wheel. Tian & Umar (2025) mention that this media can encourage students engagement and create enjoyable learning environment that support participation. According to Novela & Muryanti (2023), Learning activities that use spinning wheel can make children more curious and enthusiastic during learning because they are learning through play, it helps students to easily memorize vocabulary. Similarly, Oktafia & Susilawati (2025) found that the use of Spinning wheel can improve vocabulary mastery in third-grade students at SD N 64 Sungai Raya. These research show that students who learned vocabulary using spinning wheel media had different result than those who learned using conventional methods. Therefore, in teaching and learning process this media combines audio, visual and kinesthetic elements in one activity so this media is suitable for young learners (Chamalia et al., 2024) .

Although innovative learning media is touted as having great potential, its use in English learning in elementary schools has not been optimally utilized. A review of previous studies indicates that the application of the Spinning wheel teaching media remains quite limited, especially in student's vocabulary learning, in elementary school for fifth-grade students who face increasing linguistic demands. Many existing studies highlighted the use of Spinning wheel learning media activities at the early level in order to develop and optimize student's literacy skills particularly in reading comprehension. Spinning wheel media used in activities that related to letter recognition, reading and any other early reading skills activities (Dalimunthe et al., 2024). More over several studies have explored spinning wheel learning media focused on research and development (R&D) which emphasize how the process of creating and developing innovative learning products where then tested and adapted. For example, Rahmawati et al., (2022) study to develop and to validate the Spinning wheel as a learning media to improve reading comprehension and word recognition among second grade students in elementary. Similarly, Chamalia et al., (2024) also conduct a research and development study of Spinning wheel to improve students' learning outcomes in Indonesian language learning. Most of the research also dominance practiced for Indonesian language learning, while in English learning at the upper elementary school level is still less explored. This raises uncertainty about whether the Spinning wheel media produces similar improvements for fifth-grade students at SD N 1 Kerobokan.

Therefore, the researcher intends to examine whether the use of Spinning wheel teaching media has a significant effect on English vocabulary mastery of fifth grade students at SD Negeri 1 Kerobokan. Where researcher interested in knowing and trying to implement this media on vocabulary learning. Since this strategy has not been applied or experimented in this school before. From there this research can dive into further understanding on how such media can contribute to English learning in elementary education. It can gain a deeper insight on the role of interactive teaching media in vocabulary mastery learning in order to broaden the understanding of effective vocabulary learning strategy. Thus, the researcher hopes to provide theoretical and practical contributions to the development of vocabulary teaching media in classroom, particularly for English language learner at elementary levels in the Indonesian context.

RESEARCH METHOD

This research conducted pre-experimental design, especially the one-group pre-test and post-test design as proposed by Campbell & Stanley (1963) to examine the impact of an educational intervention where randomization or control groups are not feasible. This design

was selected because there's only one fifth-grade available at the setting of SD N 1 Kerobokan. it allows the researcher to determine whether the Spinning wheel teaching media produces a significant effect on students' English vocabulary master. This design structure involves three main stages: a pre-test to measure students' initial vocabulary mastery, the application of the spinning wheel as a learning media during the treatment phase and a post-test to identify improvements in students' vocabulary scores after the treatment. The independent variable in this study is the use of Spinning wheel as a teaching media and the dependent variable is the student's vocabulary mastery as the learning outcome that measured before and after the treatment.

The population of this study consists all of the fifth-grade students at SD Negeri 1 Kerobokan. Moreover, the sample of this study using total sampling where all the member of fifth-grade students, in total counted 37 students, with 22 of males and 15 are females. The data collection process in this study included several steps that help the researcher gathering data systematically in quantitative design that related in students' vocabulary mastery aspect. These techniques involved test administration, implementation of the treatment and documentation where each of these are contributes to ensure to collect organized and accurate data. Researcher conducted two testing stages, firstly the pre-test that administered before the treatment given. After completed the treatment, researcher conducted the post-test. The purpose of the post-test here is to measure students' vocabulary mastery after the treatment given. Here the researcher checks student's answers and records the results in a data table to ensures that all students' responses are documented properly and can be used for further statistical analysis

The research instruments that effectively employed by the researcher in this study includes: test administration instruments and treatment instruments. This study used pre-test and post-test instruments in the form of worksheets containing vocabulary text analysis related to the topic of clothes vocabulary mastery. The items presented in several formats that are suitable for fifth-grade learners, such as multiple-choice questions that was developed in line with Nation, (2022)'s framework which is involve of knowledge of vocabulary mastery with three different dimensions. Other instruments are the spinning wheel teaching media about clothes vocabulary and lesson plan which include introduction, main learning and closing activities. In this research, the lesson plan designed in alignment with the fifth-grade school's syllabus and the current curriculum known as the "Merdeka Curriculum".

RESULT AND DISCUSSION

Findings

The sub-chapter will present the findings of this study where this section reports the analysis of the student's vocabulary test data, which included pre-test and post-test result to analyse the significant effect of Spinning wheel on fifth-grade students' vocabulary mastery at SD Negeri 1 Kerobokan, then analysed using statistics analysis. This research used descriptive and inferential analysis. The descriptive statistics analysis results can be seen below:

Table 1: Descriptive Statistics Analysis Results

Descriptive	Pre-test	Post-test
Mean	66.35	82.43
Median	65.00	80.00
Mode	60 ^a	80
Variance	99.512	92.530
Range	40	35
Maximum	85	100
Minimum	45	65
Standard Deviation	9.976	9.619

Based on the table above, a histogram is provided in order to illustrate the frequency distribution and variability of the pre-test scores visually

Figure 1 Pre-test Histogram

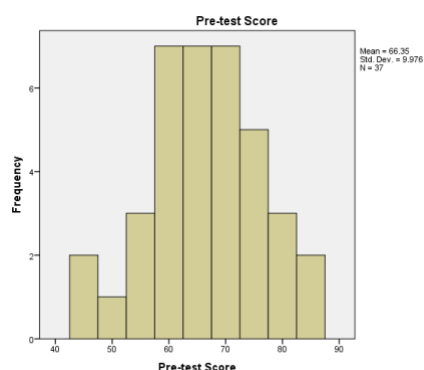
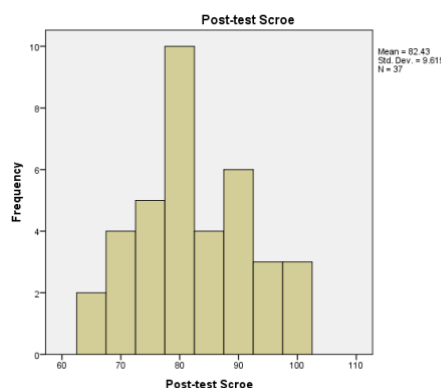


Figure 2 Post-test Histogram



a. Mean

The mean, represents the average score that obtained by students. The pre-test mean score was 66.35, while in the post-test average score increased to 82.43. This improvement reflects that students achieved higher vocabulary mastery scores after the treatment using the Spinning Wheel teaching media.

b. Median

The median represents the middle value of the ordered data. The median score increased from 65.00 in the pre-test and rose to 80.00 in the post-test. This indicates that the overall distribution of students' scores achieved higher level following the implementation of the treatment, demonstrating a significant effect.

c. Mode

The mode which refers to the most frequently occurring score in the data set. it was 60 In the pre-test, while in the post-test it increased to 80. This change indicates that the score most commonly achieved by the students became higher after the treatment. Finding the significant effect of the intervention on students' performance levels.

d. Variance

Variance describes the degree of score dispersion from the mean, was 99.51 in the pre-test and 92.530 in the post-test. This result indicates that the variability of students' scores became lower after the intervention, which indicates that the post-test scores were more consistent.

e. Range

The range represents the span of the score, shows the difference between the highest and the lowest scores. The pre-test range score was 40, while the post-test had a range of 35. This result indicates the different became slightly smaller after the implementation of the Spinning Wheel teaching media, this finding shows that the distribution of students' scores became narrower after the treatment, suggesting a more balanced distribution of students' vocabulary achievement.

f. Maximum

The maximum score increased from 85 in the pre-test to 100 in the post-test. Indicating that several students achieved the highest possible scores following the intervention, after participating in the learning activities using Spinning Wheel teaching media.

g. Minimum

The minimum score also improved from 55 in the pre-test to 60 in the post-test. This improvement suggests that after the treatment even the lowest performing students obtained higher scores, indicating a significant effect from the treatment.

h. Standard Deviation

The standard deviation indicates to which student's scores varied around the mean. Found that after the treatment, the standard deviation decreased slightly from 9.976 to 9.619 in the post-test. result indicates that the students' scores were slightly more homogeneous in the post test. This reflects that the overall performance showed a significant effect and a more consistent level of vocabulary mastery after the treatment.

In addition, the Inferential statistical analysis was employed to examine how Spinning wheel teaching media impact students' vocabulary mastery. This analysis is conducted to know the difference before and after the intervention whether the pre-test and post-test was statistically significant.

a. Normality Test

The normality test was conducted to confirm that whether the pre-test and post-test scores were distributed normally. Since this study involved 37 participants, the Shapiro Wilk test was employed using IBM SPSS Statistics version 26 and the results of the normality test are presented in Table 2 below:

Table 2 Normality Test Results

N	Saphiro Wilk		
	Statistics	Df.	Sig.
Pre-test	.968	37	.363
Post-test	.954	37	.134

The results of the Shapiro Wilk test in this normality test show that the pre-test and post-test data are considered to be normally distributed, since both significance values are greater than 0.05.

b. Paired Sample t-test

The hypothesis was tested at a significance level of 0.05 and to be considered statistically significant, the value (p-value) must be less than 0.05 for the result. The null hypothesis (H_0) is rejected If the significance value (p-value) is less than 0.05 where the alternative hypothesis (H_a) is accepted. The results of the paired sample t-test are presented in Table 3 below:

Table 3
Paired Sample t-test Results

Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		T	Df.	Sig (2-tailed)
			Upper	Lower			
-16.081	5.545	.912	-17.930	-14.232	-17.642	36	.000

The paired sample t-test generate a significance value (Sig. (2-tailed)) of 0.000, which is lower than the standard level of 0.05. This result shows that there was a statistically significant difference between the students' pre-test and post-test scores. Therefore, the alternative hypothesis (H_a) was accepted while the null hypothesis (H_0) was rejected. These

findings suggest that there is a significant effect of using Spinning Wheel teaching media on students' vocabulary mastery.

From the table above, the paired sample t-test generate a significance value (Sig. (2-tailed)) of 0.000, which is lower than the standard level of 0.05. This result shows that there was a statistically significant difference between the students' pre-test and post-test scores. Therefore, this indicates that the alternative hypothesis (H_a) was accepted while the null hypothesis (H_0) was rejected. These findings suggest that there is a significant effect of using Spinning Wheel teaching media on students' vocabulary mastery. From the analysis, the mean difference between the pre-test and post-test scores was -16.081, the degrees of freedom (df) were 36. In addition, the 95% confidence interval of the mean difference ranged from -17.930 to -14.232. The negative mean difference indicates that the post-test scores were higher than the pre-test scores because the analysis was calculated by subtracting the post-test scores from the pre-test scores, showing that the students' scores improved after the treatment given.

To further support and confirm the hypothesis testing, the obtained t-value was compared to the critical t-table value. With $df = 36$ at a 95% confidence level (two-tailed), the t-table value is approximately ± 2.028 . Since the absolute value of the obtained t-value (17.642) is much greater than the t-table value (2.028), which supports the alternative hypothesis (H_a) is accepted while the null hypothesis (H_0) is rejected. This can be shown from the result that the implementation of the Spinning Wheel teaching media significantly improved the students' English vocabulary mastery.

c. Effect Size Analysis

The effect size analysis was calculated to determine the magnitude of the difference between students' English vocabulary scores before and after the implementation of the Spinning Wheel teaching media. In this research, Cohen's d was used to measure the strength of the treatment effect since the sample consisted of more than 20 participants. allow an appropriate measurement for comparison between the same group before and after the treatment. The results of the effect size analysis are presented in table 4 below:

Table 4 Effect Size Results

N	Pre-test	Post-test
Mean	66.35	82.43
Std. Deviation	9.976	9.619
Correlation	.840	
Cohen's D Effect Size	2.90	

Discussion

The finding has discovered that the use of the Spinning wheel teaching media positively affected students' learning process in English vocabulary mastery. From the descriptive statistics, it is revealed that the mean score increased from 66.35 in the pre-test to 82.43 in the post-test, reflects that students achieved higher scores after the intervention. The paired sample t-test analysis also confirmed that the improvement along students was statistically significant, where it was lower than the significance level of 0.05 which the significance value was 0.000. Therefore, while the null hypothesis (H_0) was rejected, the alternative hypothesis (H_a) was accepted. Other than that, the effect size test produced a Cohen's d value of 2.90, suggesting that the implementation of Spinning wheel teaching media had a strong practical effect on students' English vocabulary mastery.

This can be seen on the jump in the mean score suggest that students were able to understand, recognize and use more vocabulary after participating in the learning activities. This improvement was not only shown in the statistical analysis results but also indicated that the learning activities provided meaningful opportunities for students to practice repeatedly.

Students demonstrated better vocabulary mastery in the post-test, moreover they became more familiar with the target words through the continuous exposure to vocabulary learning during the three treatment sessions.

One of the main factors behind this significant effect on students' English vocabulary mastery that contributing to the improvement in students' score was the interactive character of the Spinning wheel teaching media. The Spinning Wheel transformed vocabulary activities into an engaging classroom learning. Students become more actively participated by taking turns spinning the wheel, analyse and identifying pictures, answering vocabulary questions, as well as using the vocabulary in simple sentences. As a result, every student had more opportunities to practice English vocabulary during the learning process.

In addition, The Spinning wheel teaching media also incorporate multimedia elements such as Images, audio and spin tasks, accommodating different learning styles (visual, auditory, and kinesthetic). This media was presented in colourful visual designs, effects sound and voice instructions that made the vocabulary learning activities more attractive to students. For instance, this auditory support can assist with pronunciation and vocabulary acquisition. The spin movement on the spinning wheel also helped attract their attention when they took turns spinning the wheel in front of the class, guessing when the wheel stopped and what image or task they got. While one student was taking a turn, the other students remained focused on looking the screen because they were also interested in seeing which vocabulary question would appear. This practice helped students remember vocabulary more easily while used the words in different contexts.

The findings of this study support the view of Nation (2022), who explains that knowing a word or to master a vocabulary involves different aspects of vocabulary knowledge, including form, meaning and use. The implementation of the Spinning wheel facilitates opportunities for students to develop these aspects in the clothes vocabulary lesson more effectively. The findings also support Thornbury's (2002) view on vocabulary mastery with the importance of repeated exposure in learning process. During the implementation of the Spinning wheel in three treatment sessions, students repeatedly practiced the target clothes vocabulary in several times that gave them the opportunities to become familiar with the vocabulary and recall the clothes words, which may have contributed to the improvement observed in their post-test scores.

Multiple prior studies have consistently reported similar findings regarding the effectiveness of Spinning wheel teaching media in English language education. Oktafia and Susilawati (2025) who analysed the effect of Spinning wheel media on the vocabulary mastery of third-grade students found a significant improvement. This finding aligns with research by Novela and Muryanti (2023), who investigated that Spinning Wheel used to introducing English vocabulary to young learners at the kindergarten level. Their findings showed that this media helped them recognize and remember English vocabulary more easily while encouraging their attention and participation in classroom activities. Laila et al. (2023) likewise showed that Spinning wheel increased their participation and motivation during vocabulary lesson. These findings also support the present study, as students were exposed to clothes vocabulary repeatedly through understanding, identifying and using the target words during the treatment. where the interaction provided opportunities for students to practice using words in an enjoyable environment.

The findings of this study suggest that the Spinning Wheel teaching media has a significant positive effect on elementary students' learning experiences, where it can serve as an effective tool of vocabulary teaching media for improving students' English vocabulary mastery at the elementary school level. The implementation of Spinning wheel teaching media encouraged students to participate actively in classroom activities while creating a more enjoyable learning environment. Through Spinning wheel, students became more active and

motivated to identify vocabulary, answer questions and use target words during the learning activity. Therefore, Teacher may consider integrating the Spinning Wheel into vocabulary instruction, leveraging its interactive features as an alternative teaching media alongside the conventional media in classroom activities.

Despite the promising results and positive findings, this study has several limitations that should be acknowledged. For future investigations, researcher recommended to adopt an experimental design that involving a control group, allowing stronger comparison between the Spinning wheel teaching media and other instructional approaches. Future research might also involve a larger sample or number of participants from multiple schools and various grade levels to obtain findings with broader applicability. Further studies could explore the use of the Spinning wheel teaching media with other English topics and assess students' vocabulary retention over a longer period. Overall, these findings strengthen the view that digital teaching media can support English vocabulary learning in elementary education.

CONCLUSION

This study was conducted because of the need to find out and examine the Spinning wheel effects in students' vocabulary mastery. In this case, the use of spinning wheel teaching media in digital media. Therefore, the research aims to investigate whether the use of Spinning wheel as a learning media had a significant effect on English vocabulary mastery of fifth grade students at SD Negeri 1 Kerobokan. Based on the results and statistical analysis, it can be revealed that the implementation of the Spinning Wheel teaching media had a significant positive effect on the English vocabulary mastery of fifth-grade students at SD Negeri 1 Kerobokan. The increase in the mean score in pre-test from 66.35 to 82.43 in the post-test suggesting that students achieved better vocabulary mastery after receiving the intervention. The paired sample t-test further confirmed this improvement, the null hypothesis (H_0) was rejected and the alternative hypothesis (H_a) was accepted, as the significance value of 0.000 was lower than the 0.05 significance level. Therefore, the effect size also revealed that the treatment produced a meaningful improvement in students' vocabulary mastery. These findings showed that Spinning wheel can be used as an interactive teaching media to support English vocabulary learning, particularly for elementary school student level.

Based on the findings of this study, several suggestions are proposed. English teachers are encouraged to consider using Spinning wheel as an instructional teaching media in vocabulary in language learning. The media can be adjusted to different topics and learning objectives. Teachers can also combine Spinning Wheel with conventional teaching methods to provide students with many learning experiences. Clear instructions and appropriate vocabulary activities should be provided so that students can participate actively and understand the learning objectives. Students are encouraged to actively participate during the lesson and make the opportunities provided through Spinning Wheel to practice the target words. Students should also continue reviewing and using the vocabulary outside the classroom so that the words that learned during the intervention can be applied and remembered in different contexts.

The school is encouraged to support teachers in conducting appropriate digital teaching media into English instruction lesson activities. Adequate facilities, such as a smart TV, LCD projector, computer laptop or computer and reliable technological support can help teachers implement interactive digital learning effectively. Future researchers are recommended to expand the study by analysing more aspects, with a larger number of participants and involve students from several schools or different grade levels. An experimental design with a control group can also be considered to provide a stronger comparison between Spinning Wheel and other teaching media. Future studies may examine different English vocabulary topics, investigate vocabulary retention over a longer period and explore in a more in-depth study on

students' motivation and perceptions toward the use of Spinning Wheel in English learning to gain broader perspective on its practices in teaching media.

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