



The Effectiveness of Round Robin Brainstorming Towards Students' Vocabulary

(A Quasi Experiment Research at Seven Grade of SMP Al Alawiyah)

Devi Nuraeni^{1*}, Abdul Muin², Tatu Siti Rohbiah³

¹⁻³English Education Department, Faculty of Education and Teacher Training, Universitas Islam Negeri Sultan Maulana Hasanuddin Banten, Indonesia

E-mail: Devinuraeni2000@gmail.com¹, abdul.muin@uinbanten.ac.id², tatu.siti.rohbiah@uinbanten.ac.id³

*Penulis Korespondensi: Devinuraeni2000@gmail.com

Abstract. The objective of this research is to determine the effectiveness of the Round Robin Brainstorming technique in improving students' vocabulary. This study was conducted at SMP Al Alawiyah Kota Serang using a quantitative approach with a quasi-experimental method. The sample consisted of students from class VII A and VII B, with 30 students in each class, totaling 60 students. Data were collected through pre-test and post-test instruments and analyzed using the Independent Samples t-Test in SPSS because the data were normally distributed and had homogeneous variance. The results showed that the Sig. (p -value) was 0.000, which was lower than $\alpha = 0.05$, indicating that H_a was accepted. The findings revealed that the Round Robin Brainstorming technique was effective in improving students' vocabulary achievement. The experimental class showed an increase in the mean score from 56.00 in the pre-test to 79.83 in the post-test, with the highest post-test score of 95 and the lowest score of 55. There was a significant difference in vocabulary achievement between students taught using the Round Robin Brainstorming technique and those taught without the technique. These results indicate that the technique supports students' vocabulary development through active learning activities.

Keywords: Quasi-Experimental Research; Round Robin Brainstorming; Vocabulary Achievement; Vocabulary Learning; Vocabulary Teaching.

1. INTRODUCTION

English has grown to be a crucial of communication in the world because of its position as the language of technology. English is particularly important as an international language used for global communication.(Faridatunnisa, 2020) In a world that is becoming more connected and where technology is changing quickly, it is clear that knowing English well is important for finding better job opportunities and achieving success. Based on this, Indonesia as part of the world community realizes the importance of English language skills, therefore English language teaching has long been implemented in Indonesian education. English is the first foreign language taught in Indonesia at elementary school, junior high school, high school and college levels. English is the most widely used, taught and studied language, including in indonesia, because of its position as a global language among other languages in the world.

English consists of four skills such as listening, speaking, reading, and writing. Each skills has a different level of difficulty, therefore the skills are taught gradually at the right level. You will develop all of these skills when you have a good vocabulary. Vocabulary is the collection of words that belong to a language (Nurgiyantoro., 2016). Vocabulary is important for learning a new language because how many words a person knows affects how well they can use that language.

Vocabulary is a collection of several words that have been combined so that they have meaning or meaning. It is clear that word choice is crucial for comprehending a sentence or piece of writing when discussing vocabulary, we also address particular definition. A language cannot exist without the inclusion of word. Vocabulary pertains to the abundance of word within a specific language (Iqballulah, 2018).

Vocabulary is one of the essential components of English language learning because it supports students in developing their listening, speaking, reading, and writing skills. However, vocabulary remains one of the biggest challenges for students, especially beginners. Unlike the Indonesian language, English is learned through formal instruction and requires continuous practice. Many students have difficulty understanding and remembering new vocabulary due to their limited active participation during the learning process. In addition, the lack of appropriate learning media and teaching techniques often makes vocabulary learning monotonous, resulting in low student motivation and participation. Therefore, teachers need to apply effective learning techniques that encourage students to be actively involved in classroom activities and help them understand and retain new vocabulary more easily (Kamil, 2025).

One cooperative learning technique that can be applied to improve vocabulary learning is the Round Robin Brainstorming Technique. This technique encourages all students to participate equally in generating ideas through group discussions. Students take turns expressing their opinions or answers to a given topic, allowing them to collaborate and exchange ideas. As a result, students become more actively involved in the learning process, which helps improve their understanding and retention of vocabulary (Zhang, Y., & Wei, 2019). Furthermore, Cross, (2024) states that Round Robin Brainstorming prevents domination during brainstorming sessions, provides equal opportunities for participation, and creates a more interactive and enjoyable learning environment.

Several previous studies have reported that cooperative learning techniques positively affect students' vocabulary mastery and classroom participation. However, most of these studies focused on other cooperative learning strategies or were conducted in different educational contexts. Studies investigating the effectiveness of the Round Robin Brainstorming Technique in improving vocabulary mastery among seventh-grade students at junior high schools, particularly at SMP Al Alawiyah Kota Serang, remain limited. Therefore, further research is needed to provide empirical evidence regarding the effectiveness of this technique in improving students' vocabulary achievement.

Based on interviews with an English teacher at SMP Al Alawiyah, many seventh-grade students still experience difficulties in learning English, particularly in mastering vocabulary. Most students scored below the school's Minimum Learning Achievement Criteria (KKTP) of 70, indicating low vocabulary achievement. Students often perceive English as a difficult subject because they have to memorize many new words, which decreases their motivation to learn. Although the teacher commonly applies the translation technique, many students still struggle to remember vocabulary. These conditions indicate the need for a more interactive and student-centered learning technique to improve vocabulary mastery.

The novelty of this study lies in the implementation of the Round Robin Brainstorming Technique as a cooperative learning strategy to improve students' vocabulary mastery among seventh-grade students at SMP Al Alawiyah Kota Serang. Unlike previous classroom practices that mainly relied on translation techniques, this study emphasizes equal student participation, collaborative discussion, and active idea sharing during vocabulary learning. This approach is expected to provide an alternative teaching strategy that enhances students' vocabulary achievement and classroom engagement.

Therefore, the objective of this study is to determine the effectiveness of the Round Robin Brainstorming Technique in improving the vocabulary mastery of seventh-grade students at SMP Al Alawiyah Kota Serang.

2. LITERATURE REVIEW

Vocabulary is one of the fundamental components of English language learning because it plays a crucial role in communication. Learners with sufficient vocabulary are able to understand texts, express ideas, and communicate effectively both orally and in writing. Thornbury, (2002) emphasizes that vocabulary is more essential than grammar in achieving communicative competence because learners can express almost anything with words, whereas grammar alone cannot support meaningful communication. Likewise, Michael.L.Kamil, (2005) define vocabulary as the collection of words whose meanings are understood and used in speaking, reading, and writing. Therefore, vocabulary mastery is considered a key factor in developing students' listening, speaking, reading, and writing skills.

In this study, vocabulary focuses on nouns and verbs. According to Frank (1972), nouns are words used to name people, places, objects, animals, and ideas, while verbs express actions, events, or states of being. Mastering these two categories of vocabulary enables students to construct meaningful sentences and communicate more effectively in English.

One cooperative learning strategy that can facilitate vocabulary learning is the Round Robin Brainstorming Technique. According to Barkley (2024), Round Robin Brainstorming is a collaborative learning technique in which students work in small groups and take turns sharing ideas without criticizing or evaluating other members' responses. Similarly, Kagan (2004) explains that this technique encourages equal participation by giving every student an opportunity to contribute ideas within a predetermined time. Through structured turn-taking, students actively exchange ideas, develop communication skills, and collaborate in solving learning tasks.

The implementation of the Round Robin Brainstorming Technique in vocabulary learning includes dividing students into small groups, assigning vocabulary tasks, allowing each student to contribute vocabulary items in turn, discussing the results, and presenting group answers to the class. This structured procedure encourages students to participate actively while improving vocabulary understanding through discussion and collaboration.

According to Hazmi (2019), the Round Robin Brainstorming Technique has several advantages, including ensuring equal participation, promoting teamwork, reducing students' anxiety, generating ideas efficiently, and creating a more collaborative learning atmosphere. However, the technique also has several limitations, such as restricting spontaneous responses, limiting deeper discussion, and potentially leading to groupthink if not managed effectively.

Several previous studies have demonstrated the effectiveness of the Round Robin Technique in English language learning. Hasrina (2018) reported that the Round Robin Technique significantly improved students' reading comprehension. Maulida (2017) found that the Round Robin Writing Strategy positively affected students' writing achievement. Furthermore, Anisa et al. (2022) concluded that the Round Robin Brainstorming Technique effectively improved students' vocabulary achievement. However, previous studies mainly employed pre-experimental designs and focused on reading, writing, or vocabulary involving nouns and adjectives. Therefore, this study differs by employing a quasi-experimental design and focusing on vocabulary mastery of nouns and verbs among seventh-grade students of SMP Al Alawiyah Kota Serang.

3. RESEARCH METHOD

This study employed a quantitative approach using a quasi-experimental design with a pre-test and post-test control group design. The design referred to Sugiyono (2018) & Creswell (2012). The research method consisted of the following components:

Research Design

This study used a quasi-experimental design involving two groups: an experimental class that received the Round Robin Brainstorming Technique and a control class that was taught using the conventional teaching method. Both groups were given a pre-test before the treatment and a post-test after the treatment to measure students' vocabulary mastery.

Population and Sample

The population of this research consisted of all seventh-grade students of SMP Al Alawiyah Banjar Agung, Serang City, totaling 60 students. The sample was selected using purposive sampling, in which Class VII A (30 students) served as the experimental class and Class VII B (30 students) served as the control class.

Research Variables

The independent variable (X) was the Round Robin Brainstorming Technique, while the dependent variable (Y) was students' vocabulary mastery.

Data Collection Technique and Instrument

Data were collected through pre-test and post-test using multiple-choice questions. The test was designed to measure students' vocabulary mastery, particularly noun and verb vocabulary, before and after the implementation of the treatment.

Instrument Validity and Reliability

The research instrument was tested using ANATES software. The validity test showed that 19 items were valid, while 16 items were invalid and excluded from the final test. The reliability coefficient was 0.95, indicating that the instrument had very high reliability and was suitable for data collection.

Data Analysis Technique

The collected data were analyzed using IBM SPSS. The normality test and homogeneity test were conducted before hypothesis testing. Since the data met the assumptions of normality and homogeneity, the hypothesis was tested using the Independent Samples t-test at a significance level of 0.05 to determine whether there was a significant difference between the experimental and control groups.

4. RESULTS AND DISCUSSION

This research was conducted at SMP Al Alawiyah Banjar Agung, Serang City, during the 2025/2026 academic year. The study involved 60 seventh-grade students, consisting of 30 students in the experimental class and 30 students in the control class. Data were collected

through pre-test and post-test to measure students' vocabulary mastery before and after the implementation of the Round Robin Brainstorming Technique.

The researcher obtained the research's outcome after doing the study. They were the outcome of both the pre-test and the post-test. Two classes the experimental class and the control class were used for the test.

Table 1. The Score of Pre Test and Post Test of Experiments Class (VII A).

NO	Students'	Pre Test	Post Test	Gain
1	VA	65	90	25
2	AF	70	90	20
3	AS	50	75	25
4	DD	53	75	22
5	AR	45	55	10
6	MRD	65	85	20
7	NS	60	60	0
8	NF	65	85	20
9	PO	55	70	15
10	RA	65	85	20
11	RR	65	70	5
12	MA	60	90	30
13	SS	60	80	20
14	TA	40	60	20
15	WS	45	65	20
16	ZI	40	70	30
17	MD	40	70	30
18	KU	50	90	40
19	MF	55	90	35
20	BN	40	90	50
21	BO	45	85	40
22	NA	65	85	20
23	RA	55	80	25
24	LAF	55	80	25
25	RA	35	65	30
26	AL	55	80	25
27	AK	60	95	35
28	AD	60	70	10
29	FA	70	95	25
30	SY	70	90	20
Jumlah Total		1658	2370	712
Median		57,50	82,50	
High Score		70	95	
Low Score		35	55	
Mean		56,00	79,83	
Standard Deviation		10,034	11,483	

Based on the pre-test and post-test results for the experimental class VII A, which consists of 30 students. The mean score on the pre-test was 56.00, while the mean score on the post-test increased to 79.83. The median score also increased from 57.50 on the pre-test to 82.50 on the post-test. This indicates that the majority of students achieved higher scores after participating in the instruction. In terms of the highest score (high score), there was an increase from 70 on the pre-test to 95 on the post-test. Meanwhile, the lowest score (low score) increased

from 35 to 55. This improvement in the lowest score indicates that students with lower abilities also made academic progress. The total score gain obtained was 730, with an average gain of approximately 24.33 points per student. Nearly all students showed an improvement in their scores. The standard deviation increased from 10.034 on the pre-test to 11.483 on the post-test. This indicates that the variation or distribution of student scores after the learning process was slightly more diverse compared to before the learning process. Nevertheless, the significant increase in the average score indicates that, overall, students' learning outcomes showed positive development.

Table 2. The Score of Pre Test and Post Test of Control Class (VII B).

NO	Students'	Pre Test	Post Test	Gain
1	AL	50	60	10
2	AM	75	75	0
3	AS	55	80	25
4	BS	65	70	5
5	CA	60	65	5
6	CN	40	70	30
7	DA	45	80	35
8	DD	60	75	15
9	DM	65	65	0
10	DE	50	70	20
11	DI	70	80	10
12	DIL	80	85	5
13	FA	45	60	15
14	FH	40	40	0
15	FA	65	70	5
16	GI	70	80	10
17	HU	45	55	10
18	KA	40	65	25
19	KU	50	55	5
20	MA	80	75	-5
21	MU	80	65	-15
22	MUH	60	55	-5
23	MS	60	70	10
24	MT	65	50	-15
25	NU	60	65	5
26	PR	35	45	10
27	SE	75	80	5
28	SI	35	45	10
29	SA	60	65	5
30	VI	55	80	25
Jumlah Total		1735	1995	350
Median		60,00	67,50	
High Score		80	85	
Low Score		35	40	
Mean		57,83	66,50	
Standard		13,499	141,64	
Deviation				

Based on the pre-test and post-test results for the control class VII B, which consists of 30 students. The mean score on the pre-test was 59.83, while the mean score on the post-test increased to 66.50. This represents an increase of 6.67. In terms of the median, the students'

median score increased from 60.00 on the pre-test to 67.50 on the post-test. The highest score on the pre-test was 80, which increased to 85 on the post-test. Meanwhile, the lowest score also increased from 35 to 40. Based on gain scores, most students showed an improvement in their scores. The highest gain reached 35 points, while a few students experienced a decline in their scores with the lowest gain of 15 points. The total gain for all students was 200 with an average gain of 6.67, indicating an improvement in learning outcomes, although not a significant one. In terms of data distribution, the pre-test standard deviation was 14.14 and the post-test standard deviation was 11.79. This decrease in standard deviation indicates that students' scores after the learning process became more evenly distributed compared to before the learning process. In other words, the differences in ability among students tended to decrease after the learning process.

To provide a clearer overview of the differences between the two classes, the average scores from the placement and final exams are presented in a graph. This visual representation is helpful because it allows readers to easily identify patterns of improvement and compare performance trends between the experimental and control classes.

Result of the Pre-test

At the first meeting, the researcher administered a pre-test to determine the students' initial vocabulary achievement before the treatment was given. The pre-test was conducted in both the experimental class and the control class. After administering the pre-test, the researcher collected and analyzed the students' scores to identify their initial vocabulary ability and to determine whether the two groups had relatively similar levels of vocabulary mastery prior to the implementation of the treatment. The results of the pre-test served as baseline data for measuring students' improvement after the learning process. The distribution of the pre-test scores in both the experimental and control classes is presented in the following histogram.

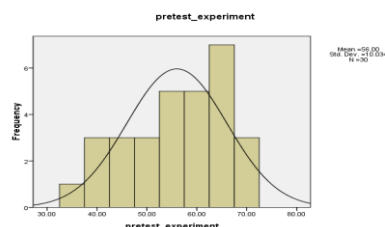


Figure 1. The result of pretest in experimental class.

From the figures presented above, the results of the pre-test in the experimental class indicated that the total number of students (N) was 30. The statistical analysis showed that the mean score of the students was 56.00, which reflected the average level of students' achievement before the treatment was implemented. In addition, the standard deviation was

10.034, indicating that the students' scores varied moderately from the mean score. The median score was 57.50, meaning that half of the students obtained scores above 57.50 while the other half scored below it. Furthermore, the variance of the scores was 100.69, which also demonstrated the spread of the students' performance in the pre-test. The highest score achieved by the students was 70, whereas the lowest score was 35.

Based on these findings, it can be concluded that the students' achievement in the experimental class prior to receiving the treatment was still relatively low. The average score had not yet reached the expected benchmark or minimum standard of achievement. This result suggests that the students still faced difficulties in mastering the material before the implementation of the treatment. Therefore, the pre-test data indicated the need for an appropriate teaching strategy or instructional treatment to improve the students' learning outcomes and overall academic performance in the experimental class.

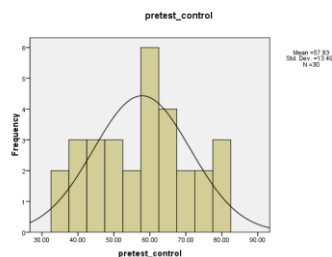


Figure 2. The result of pretest in control class.

The result of pretest in control class showed that the result of N was 30, mean was 57.83, standard deviation was 13.499, median was 60.00, variance was 182.21, the highest score was 80 and the lowest score was 35. The gap between the highest and lowest scores demonstrates that there were significant differences in students' understanding and performance at the beginning of the study. Some students had already achieved a fairly good level of understanding, while others still faced difficulties in comprehending the material being tested.

Based on these findings, it can be concluded that the students' achievement in the pre-test in the control class, was still low before the treatment was conducted. The low mean scores indicate that the students had not yet mastered the material adequately. Therefore, an appropriate teaching strategy or learning method was needed to improve the students' understanding and learning outcomes. The pre-test results also served as the initial measurement to determine the effectiveness of the treatment that would be applied during the research process.

Result of the Post-test

After conducting three treatment sessions, the researcher administered a post-test to both the experimental and control classes. The post-test was conducted to determine whether there was an improvement in the students' vocabulary achievement after the implementation of the treatment. Following the administration of the post-test, the researcher collected and analyzed the students' scores to identify the effect of the treatment on their vocabulary achievement. The results of the post-test were then compared with the pre-test scores to measure the students' progress and to evaluate the effectiveness of the Round Robin Brainstorming technique. The distribution of the post-test scores in both the experimental and control classes is presented in the following histogram.

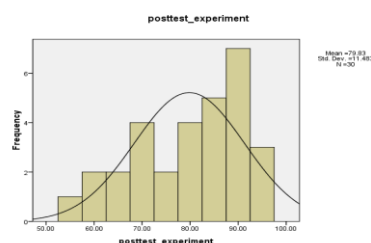


Figure 3. The result of posttest in experimental class.

From the figures above, the result of post-test in experimental class showed that the score was N was 30, mean was 79.83, standard deviation was 11.483, median was 82.50, variance was 131.87. The highest score achieved by the students in the post-test was 95, while the lowest score was 55. These results indicate that most students were able to achieve satisfactory scores after receiving the treatment in the experimental class. Overall, the post-test results in the experimental class can be categorized as highly significant because there was a substantial increase in students' performance compared to the pre-test results.

This improvement can clearly be seen from the comparison between the mean score of the pre-test and the post-test. Before the treatment, the mean score of the students in the pre-test was only 56.00, which indicated that students' understanding and mastery of the material were still relatively low. However, after the treatment was applied, the mean score increased significantly to 79.83 in the post-test. The increase of 23.83 points demonstrates that the treatment given in the experimental class had a positive effect on students' learning outcomes and contributed significantly to the improvement of their academic performance.

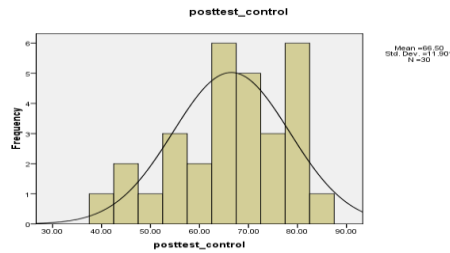


Figure 4. The result of posttest in control class.

The result of post-test in control class showed that the result of N was 30, mean was 66.50, standard deviation was 11.901, median was 67.50, variance was 141.64. The highest score achieved by the students in the control class was 85, while the lowest score was 40. These results indicate that there was a considerable gap between the highest and lowest achievers in the class. When comparing the students' performance in the pre-test and post-test, the mean score in the pre-test was 57.83, whereas the mean score in the post-test increased to 66.50. Although there was a slight improvement in the average score after the treatment, the increase was not significant enough to indicate substantial progress in students' achievement. Therefore, it can be concluded that the students' scores in the control class did not show a meaningful increase after the implementation of the learning process.

Result of Data Analysis

After collecting the data, the researcher analyzed the data by using independent test to know the result of data analysis. There were two assumptions that must be done before the researcher analyzed the data by using independent sample t-test.

Fulfillment of the Assumption

Before knowing the result of data analysis by using independent sample t-test, firstly there were two assumptions that must be done and known. They were the normality test and homogeneity test. a) Result of Normality Test, the normality test was used to measure whether the data in both control class and experimental class were normally distributed or not. In this case, the researcher used SPSS to calculate the Levene's test. Formula to test the normality of the data The hypotheses for normality test are formulated as follows:

H_0 = the data have normal distribution

H_a = the data do not have normal distribution

The criteria of acceptance of data hypothesis for normality test are follows:

H_0 is accepted if Sig. (pvalue) $> \alpha = 0.05$

H_a is accepted if Sig. (pvalue) $< \alpha = 0.05$

Table 3. Normality of the Control and Experimental Class.

Kelompok	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Experimental	.189	30	.008	.957	30	.254
Control	.188	30	.008	.951	30	.182

The normality of the data was tested using two statistical approaches, namely the Kolmogorov–Smirnov test and the Shapiro–Wilk test. These tests are commonly used to determine whether a dataset follows a normal distribution. However, each test has different levels of sensitivity depending on the sample size. In this study, the sample size of each group was 30 participants, which is less than 50. According to statistical guidelines, the Shapiro–Wilk test is more appropriate and more powerful for small sample sizes compared to the Kolmogorov–Smirnov test. Therefore, the Shapiro–Wilk test was used as the main reference in determining the normality of the data, while the Kolmogorov–Smirnov test was considered only as additional information.

The results of the Shapiro–Wilk test showed that the significance value (Sig.) for the experimental group was 0.254, while the significance value for the control group was 0.182. Both values are greater than the significance level of 0.05 ($\alpha = 0.05$). In hypothesis testing for normality, if the significance value is greater than 0.05, the null hypothesis (H_0), which states that the data are normally distributed, is accepted. Conversely, if the significance value is less than or equal to 0.05, the null hypothesis is rejected, indicating that the data are not normally distributed.

Based on these results, it can be concluded that both the experimental and control groups have data that are normally distributed. This indicates that the assumption of normality has been fulfilled, meaning that the data are suitable for further statistical analysis using parametric tests. Therefore, subsequent analyses such as hypothesis testing can be conducted with greater confidence in the validity of the statistical assumptions. b) Result of Homogeneity test After the researcher got the conclusion of normality test, the researcher did the homogeneity test to know whether the data were homogeneity or not. The researcher used Levene Test using SPSS (Statistical Program for Social Science). The hypotheses for the homogeneity test are formulated as follows:

H_0 = The variances of the data are homogenous

H_a = The variances of the data are not homogenous

While the criteria for the homogeneity test are as follows:

H_0 is accepted if Sig. (pvalue) $> \alpha = 0.05$

H_a is accepted if Sig. (pvalue) $< \alpha = 0.05$

Table 4. The Homogeneity Test of Experimental and Control Class.

Levene Statistic	df1	df2	Sig.
.327	1	58	.570

Based on the results of the Test of Homogeneity of Variances using Levene's test, a significance value (Sig. or p-value) of 0.570 was obtained with a significance level of $\alpha = 0.05$. Because the significance value is greater than α ($0.570 > 0.05$), the null hypothesis (H_0) is accepted and the alternative hypothesis (H_1) is rejected.

This indicates that there is no significant difference in the variance of the gain data between the experimental and control classes. In other words, both data groups have the same variance, or are homogeneous. This homogeneity condition indicates that the distribution of data in both classes is relatively balanced, so there is no significant difference in data diversity between the experimental and control groups.

These results also indicate that the research data meets one of the important assumptions in parametric statistical analysis, especially before conducting tests of mean differences, such as the independent sample t-test. Because the homogeneity assumption is met, further analysis can be conducted using parametric statistical procedures that assume equality of variance between groups.

Thus, it can be concluded that the student gain data in the experimental class and the control class have homogeneous variance, so that the two groups are worthy of being compared in the next analysis to determine the effect of the treatment given in the study.

Result of Hypothetical Test

After the researcher knew that the data are normal and homogeneous, the data was analyzed by using independent sample t-test in order to know the significance of the treatment effect. The hypotheses were :

H_0 : There is no significant effect of using Round Robin Brainstorming on students' vocabulary achievement.

H_a : There is a significant effect of using Round Robin Brainstorming on students' vocabulary achievement.

The following were the requirements for accepting the hypothesis in a hypothetical test:

If Sig. (ρ value) $> \alpha = 0.05$, then H_0 is accepted

If Sig. (ρ value) $< \alpha = 0.05$, then H_a is accepted

Table 5. Independent Samples Test.

Gain Score	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Equal variances assumed	.327	.570	5.298	58	.000	15.16667	2.86293	9.43589	20.89744
Equal variances not assumed	-	-	5.298	57.164	.000	15.16667	2.86293	9.43411	20.89923

Based on the results of the Levene's test on the Independent Samples Test output in SPSS, a significance value (Sig.) was obtained of 0.500. This value is greater than the significance level used, which is 0.05 ($0.500 > 0.05$). This indicates that the data variances of the two groups being compared are homogeneous or equal. Therefore, the assumption of homogeneity of variance in the Independent Sample t-test has been met, allowing the analysis to proceed using the Equal Variances Assumed row.

Furthermore, based on the results of the Independent Sample t-test, the Sig. (2-tailed) value was obtained of 0.000. This value is less than the significance level of 0.05 ($0.000 < 0.05$), so the null hypothesis (H_0) is rejected and the alternative hypothesis (H_1) is accepted. These results indicate that there is a significant difference in the averages between the two groups tested. In other words, the treatment or conditions given to each group produced a statistically significant difference.

The results of this test also indicate that the differences were not due to chance alone, but rather indicate a genuine influence or difference between the two research groups. Therefore, it can be concluded that the variables studied significantly influenced the results obtained in each group.

Discussion

In this discussion, based on the research results obtained, it can be concluded that the use of the Round Robin Brainstorming technique has a significant positive impact on students' vocabulary. This can be seen from the data collected based on pretest and posttest scores. The purpose of this interpretation is to determine whether the use of the round robin brainstorming technique is effective in improving students' vocabulary.

This research was conducted to answer the question in accordance with the formulation of the problem: "Is there a significant difference in vocabulary achievement between students who use the round robin brainstorming technique and students who do not use this technique?". The findings showed that the students in the experimental class achieved better improvement compared to the students in the control class. This can be seen from the increase in the mean

score of the experimental class from 56.00 in the pre-test to 79.83 in the post-test. Meanwhile, the control class only improved from 57.83 in the pre-test to 66.50 in the post-test. These results show that there are differences in implementation using the Round Robin Brainstorming technique which is more effective in improving students' vocabulary achievement compared to conventional teaching methods. The improvement in the experimental class occurred because the *Round Robin Brainstorming* technique encouraged students to participate actively during the learning process. Through this technique, each student had the opportunity to express ideas, answer questions, and share vocabulary knowledge with their group members in turns. As a result, students became more involved in the classroom activities and were not only dependent on the teacher's explanation. This active participation helped students understand and remember vocabulary more effectively.

The collaborative learning atmosphere created through the *round robin brainstorming* technique also contributed to students' vocabulary improvement. During the learning activities, students worked together in groups and interacted with one another to discuss vocabulary items. This interaction enabled students to exchange ideas and learn new vocabulary from their peers. The discussion process also helped students feel more confident in using English vocabulary because they could receive support and feedback from their group members. Therefore, the learning process became more interactive, communicative, and enjoyable. The findings of this research revealed that students showed positive responses toward the implementation of the *Round Robin Brainstorming* technique. During the research process, students appeared more enthusiastic and motivated to participate in the classroom activities. They showed curiosity and interest in learning vocabulary through group discussion activities. The classroom atmosphere became more active and enjoyable, which reduced students' boredom during the lesson. This condition positively influenced students' learning motivation and helped them improve their vocabulary.

The findings of this research are consistent with the theory proposed by Spencer Kagan, who states that the *Round Robin* Brainstorming technique is one of the simplest yet most flexible cooperative learning techniques. According to Kagan, this technique allows students to participate equally in group discussions and encourages teamwork among students. (Spencer, 2009) In this research, the implementation of the *Round Robin Brainstorming* technique successfully created active interaction among students and provided opportunities for all students to contribute during the learning process. Consequently, students became more engaged and motivated in learning vocabulary. Barkley has stated, Round Robin is a strategy in which students generate ideas without providing extensive explanations, evaluations, or

questions. Group members take turns responding to a question with a word, phrase, or remark.(Barkkley, 2004)

Moreover, the results of this research are also supported by previous studies conducted by Rizki Tia Maudina, which found that the use of the *Round Robin Brainstorming* technique improved students' language skills. Similar to the previous research, the present study also found that students' vocabulary achievement significantly increased after being taught using the *Round Robin Brainstorming* technique. Therefore, the findings of this research strengthen the evidence that the *Round Robin Brainstorming* technique is an effective teaching strategy for improving students' vocabulary.

In addition, the statistical analysis also supported the effectiveness of the technique. The normality test showed that the data were normally distributed, while the homogeneity test indicated that the variances of the two groups were homogeneous. Furthermore, the result of the *Independent Sample t-test* showed that the significance value was 0.000, which was lower than the significance level of 0.05. This means that there was a significant difference between the experimental class and the control class. Therefore, the alternative hypothesis (H_a) was accepted, while the null hypothesis (H_o) was rejected. The experimental hypothesis H_a and the null hypothesis H_o are formulated as follows:

Experimental Hypothesis (H_a): There is a significant difference in vocabulary improvement between students who use the round-robin brainstorming technique and those who do not use it.

Null Hypothesis (H_o): There is no significant difference in vocabulary improvement between students who use the round-robin brainstorming technique and those who do not use it.

Overall, the discussion of the findings indicates that the *Round Robin Brainstorming* technique is an effective technique for teaching vocabulary. The technique not only improved students' vocabulary achievement but also increased students' participation, motivation, confidence, and interaction during the learning process. Therefore, this technique can be considered as an alternative teaching strategy for English teachers, especially in teaching vocabulary to junior high school students.

5. CONCLUSION AND SUGGESTIONS

The findings of this study indicate that the Round Robin Brainstorming Technique is effective in improving students' vocabulary mastery. The experimental class showed a significant improvement after receiving the treatment, with the mean score increasing from

56.00 on the pre-test to 79.83 on the post-test, while the control class improved from 57.83 to 66.50. Furthermore, the result of the Independent Samples t-test showed a significance value of 0.000, which was lower than the significance level of 0.05, indicating that the alternative hypothesis (H_a) was accepted. These findings demonstrate that there was a significant difference in vocabulary achievement between students who were taught using the Round Robin Brainstorming Technique and those who were taught using the conventional teaching method. Therefore, the Round Robin Brainstorming Technique can be considered an effective alternative strategy for teaching vocabulary because it promotes students' active participation, collaboration, and engagement during the learning process.

Based on these findings, English teachers are encouraged to implement the Round Robin Brainstorming Technique as an alternative teaching strategy to increase students' participation, motivation, and vocabulary achievement. Students are also encouraged to actively participate in classroom discussions and collaborative learning activities to strengthen their vocabulary mastery and confidence in learning English.

This study was limited to seventh-grade students at SMP Al Alawiyah Kota Serang and focused only on vocabulary mastery using a quasi-experimental design. Therefore, the findings cannot be generalized to all educational contexts. Future researchers are recommended to investigate the effectiveness of the Round Robin Brainstorming Technique in other English language skills, such as speaking, reading, writing, or listening, and to involve larger samples and different educational levels in order to obtain more comprehensive findings.

REFERENCES

- Anisa, A., et al. (2022). *The effectiveness of Round Robin Brainstorming technique on students' vocabulary achievement*.
- Barkley, E. F. (2004). *Collaborative learning techniques: A handbook for college faculty*. Jossey-Bass.
- Cross, E. B., McKinnon, M. K., & Pritchard, P. (2024). *Collaborative learning techniques*. Jossey-Bass.
- Faridatunnisa, I. (2020). *Kebijakan dan pelaksanaan pembelajaran bahasa Inggris untuk SD di Indonesia*. Prosiding Seminar Nasional.
- Frank, M. (1972). *Modern English: A practical reference guide*. Prentice Hall.
- Hasrina. (2018). *The effectiveness of Round Robin technique toward students' reading comprehension*.
- Hazmi. (2019). *Round Robin Brainstorming as a cooperative learning technique*.
- Hiebert, E. H., & Kamil, M. L. (2005). *Teaching and learning vocabulary: Bringing research to practice*. Lawrence Erlbaum Associates. <https://doi.org/10.4324/9781410612922>

- Iqballulah, M. (2018). Vocabulary mastery and grammar mastery impact on EFL high school student writing skills. *Journal of English Language Teaching*.
- Kagan, S. (2004). *Kagan cooperative learning*. Kagan Publishing.
- Kamil, M. L., & Hiebert, E. H. (2005). *Teaching and learning vocabulary: Bringing research to practice*. Lawrence Erlbaum Associates. <https://doi.org/10.4324/9781410612922>
- Maulida. (2017). *The effect of Round Robin writing strategy on students' writing achievement*.
- Nurgiyantoro, B. (2016). *Penilaian pembelajaran sastra berbasis kompetensi*. BPFE Yogyakarta.
- Spencer, K. (2009). *Kagan cooperative learning*. Kagan Publishing.
- Thornbury, S. (2002). *How to teach vocabulary*. Longman.
- Zhang, Y., & Wei, W. (2019). The impact of Round Robin Brainstorming on vocabulary acquisition in ESL classroom. *TESOL Journal*, 10(3), 507–523.