

The Effect Of Word Wheel Games On students' Vocabulary Mastery

Pengaruh Penggunaan Permainan Roda Kata Terhadap Penguasaan Kosa Kata Siswa

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ABSTRACT

This study focused on knowing the effect of using word wheel games on students' vocabulary mastery. This research was conducted by applying experimental quantitative research. The research object is class X junior high school students. Students consist of two classes and each class consists of 35 students. Data was taken by giving a vocabulary test. The test is divided into two tests: pre-test and post-test for experimental and control classes. The average value of the pre-test in the experimental class was 48.42%, and the post-test was 87.14%. The average pre-test score in the control class was 49.43 and the post-test was 77.43. This shows that the average score in the experimental class was higher than the control class. The alternative hypothesis (Ha) is accepted and the null hypothesis (Ho) is rejected. It is recommended for English subject teachers to apply the word wheel game as an alternative teaching medium to help vocabulary mastery in the tenth grade of middle school and above.

Keywords : Vocabulary, Word Wheel Games, Middle school

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1. INTRODUCTION

Learning foreign languages, especially English of course is a new learning for students after mother tongue. So there is a need for new ways and familiarization for students in using English. According to Ahmad Izzan's research, learning a second language is difficult, whether the language is spoken common among the wider community but not the language of the family or used by strangers i.e. outside society in a group or nation

Therefore, in learning this second language or foreign language Complete learning methods and teachers are needed. In English learning, material about vocabulary is material that first taught before other material, because of ability Mastering this material is the basis for studying language material England next. An indication that someone has mastered vocabulary can be seen from the ability to pronounce and know the meaning of words spoken so that others can understand it easily. The large number of vocabularies he has will have an influence on his vocabulary abilities. Vocabulary itself is a vocabulary or all words has meaning in a language, which will later be put together into a sentence as a tool to express an idea. Vocabulary is also the words used to express meaning. Therefore, learning vocabulary is very important for develop and improve students' English.

Vocabulary Mastery is to make students have good language skills in language skills. Depends on quality and quantity vocabulary they have mastered. The richer the vocabulary can be mastered by students, they will gain more skills good that can be achieved in using language.

In Lubis (2017: 14). Mastery is the process or act to master something and complete control of knowledge (Hornby, 1995:721), cited in Lubis (2017: 14), vocabulary mastery is the knowledge for understanding the words.

In Law No. 14 of 2005, teachers are educators professional with the main task of educating, training, assessing, and evaluating students on the early childhood education pathway formal education, primary education, and secondary education, So Teachers do not only act as transmitters of lesson material to students, but also act as educators. Teachers must position one-self actively and gain one's position as professional staff.

The Indonesian government has included English in the 2013 curriculum as a subject that must be studied. This is a compulsory subject for junior high schools (SMP) to high schools (SMA) in Indonesia. Therefore, learning vocabulary is very important because vocabulary is the first component that must be mastered in the 2013 curriculum.

Based on observations at the Budi Agung Medan senior high school during the implementation, it was known that there are still many students who find learning English very difficult and very boring, so they are less enthusiastic about learning English. The students do not get used to understand about English reading and pronouncing vocabulary mastery, In addition, the students who have an English dictionary are still few, resulting in a lack of mastery in adding vocabulary mastery. The importance of a learning process in increasing English vocabulary cannot be separated from the use of one of the learning media.

Based on these problems, the researcher intends to conduct research through a learning media using the word wheel game at Swasta Budi Agung Medan High School. The main reason of the researchers uses this game as another learning media is because this media has never been used in Budi Agung Medan senior high school in improving students' vocabulary mastery, besides that because this word wheel game was considered to be able to erase students' way of thinking when learning English is very difficult. . In learning to use the learning media the word wheel game is also able to hone students' memory in increasing vocabulary.

2. LITERATURE REVIEW

A. Vocabulary Mastery

1) Definition of Vocabulary

Hornby (1986:478) in Siregar (2013) stated that vocabulary is collection of word that can be used by a person in profession to express that thought. That means the vocabulary is the total number of the word used someone to express language to be used to communicate.

Cameron, (2001:75) in Rahman Parindungan Rangkuti (2019:13). It means that in learning vocabulary learners have to know the meaning of it and also understand and can use it in sentence context.

Rahman Parindungan Rangkuti (2019:15), stated that vocabulary mastery is also very important for the acquisition process. Acquisition depends significantly on the comprehensible input. The comprehensibility is dependent directly on the ability to recognize the meaning of key elements in the utterance.

Based on the above definition, the researcher concludes that vocabulary is a list or series of words used to express ideas or in another sense it is used for general communication. Vocabulary is defined as a large number of words that students must know, not only memorizing the form of the word but also understanding its meaning.

2) Types of Vocabulary

According to Nation (2001, p. 37) in Nur'Aini (2019:10), there are two types of vocabulary, they are as following:

a. Receptive

Receptive carries the idea that we receive language input from others through listening or reading and try to comprehend it.

b. Productive

Vocabulary Productive carries the idea that we produce language forms by speaking and writing to convey messages to others.

B. Word Wheel Games

- Definition Word Wheel

1. According to Erlina, et al (2013), the word wheel game can improve students' vocabulary skills because this game encourages students to understand the words contained in the text or sentences by circling the letters contained in the word wheel.
2. According to Sari (2014), the word wheel game can be a fun learning medium because this game has an interesting shape so that it can motivate students in learning. In addition, this game can also help students understand the words in the text or sentences by circling the letters on the wheel.

C. Advantages Of The Word Wheel

1. Helps one understand abstract or complex concepts: Word wheels can help one understand abstract or complex concepts more easily, as word wheels visualize the relationship between the concepts.
2. Helping someone to remember information: Word wheels can help someone remember the information that has been learned, because one has to remember the related concepts and the relationships between these concepts.
3. Encourage critical and analytical thinking: The word wheel encourages one to consider the relationship between related concepts and organize information appropriately, so as to enhance one's critical and analytical thinking skills.
4. Improving communication skills: Word wheels help someone explain and present the information contained in word wheels to others, so that one can improve one's communication skills.
5. Easy to understand and use: The word wheel is easy to understand and use, because it only uses a simple visual scheme and is easy for anyone to understand.

D. Previous studies

1. Study by Nur afni salnia et . al (2022) Using the swivel wheel game media to increase students' vocabulary at the second grade of SMA YP PGRI 2 Makasar, This study used the pre-experimental method, the population of this study were 2nd grade high school students in the 2022/2023 academic year. with a sample of 20 students, and using the total sampling technique research method and media instruments playing the wheel. the results of the study showed that there was a significant difference in the average score of students in the pre-test and post-test, where the average post-test score was higher than the pre-test score ($87.4 > 49.8$) and the T value - the test is greater than the t-table value ($24.375 > 1.729$). Based on the results of data analysis, it can be said that the use of the spin wheel game media can increase students' vocabulary.

3. METHOD

This research was conducted by applying a quantitative. Sugiyono (2018: 14) quantitative research methods can be interpreted as research methods based on the philosophy of positivism, used to research certain populations or samples, sampling techniques are generally carried out by means of quantitative/statistical data analysis with the aim of testing predetermined hypotheses. In the experimental class, researcher will use Word Wheel games, while in the control class, researcher will use conventional methods.

A. Population

Sugiyono (2018: 117) population is a generalized area consisting of objects or subjects that have well-ordered qualities and characteristics that are applied by researchers to study and then draw conclusions. The population of this study was students of class X SMA Budi Agung Medan.

Table 1.

NO	CLASS	POPULATION
1.	X Ibnu Sina	35
2.	X Abu bakar	35
3.	X Al Battani	35
4.	X Isaac Newton	32
5.	X Aristoteles	32
6.	X Jendral Sudirman	32
7	X aguste comte	32
	Total	233

B. Sample

Sugiyono (2018:37) the sample is part of the number and characteristics of the population. Sample in this research decides with total sampling and from that technique acquires two classes of 70 students, that each class is separated into experimental class and (word wheel) and control class (teaching vocabulary using conventional method).

Table 2.

No	Class	Sample
1	x – Ibnu Sina	35
2	X –Abu Bakar	35
	Total	70

C. Treatment

The researcher divided the control class and the experimental class, namely class X Abu Bakar as the control class and class X Ibnu sina as the experimental class. Before giving treatment, the researcher first gave a pre-test to assess students' vocabulary tests. The pre-test was conducted to find out the students' vocabulary before being given treatment. Experimental and control classes was used the same materials with different instruments. After the researcher has done the treatment, the researcher was gave a post-test for both classes.

D. Research Instruments

The data collection instrument in this study is a test consisting of 20 items. In data collection, pre-test and post-test was carried out in both the experimental and control groups. Students was gave a test

consisting of 20 items. In assessing the test, the researcher used a score range of 0-100 by calculating the correct answers and applying the following formula:

$$S = R \times 100$$

Where:

S : The score

R : The number of the correct answer

N : The number of test item

E. Reliability and Validity of Instruments

1. Reliability

Wahyono (2012), in Nurjnah (2013:32). A measuring instrument has good reliability if the measuring instrument has a reliable consistency even if it is done by anyone (at level the same), at any time. To measure the reliability of the questions using the formula:

$$r_{11} = \left(\frac{n}{n-1} \right) \left(\frac{S^2 - \sum pq}{S^2} \right)$$

Where:

N = Sample size for the test.

P = Proportion of people passing the item.

Q = Proportion of people failing the item.

S² = Variant total.

R11 = Reliabilities instrument.

2. Validity

Arikunto (2010:211) stated validity is a measurement that indicates the level of validity instrument. In this research, the researcher will use content validity. To test the content validity, the researcher uses Pearson Moment Products with the formula adopted from Arikunto (2010) as followed:

$$r_{xy} = \frac{N \sum XY - (\sum X)(\sum Y)}{\sqrt{\{N \sum X^2 - (\sum X)^2\} \{N \sum Y^2 - (\sum Y)^2\}}}$$

rx_y = The product of the total amount variable X and Y

N = The number of data pairs X and Y

ΣX = The total of variable Y

ΣY = The total of variable X

ΣX² = The squared total amount of variable X

ΣY² = The squared total amount of variable Y

F. Technique of Data Collection

Researcher collected data using the pre-test and post-test experimental class and control class. The results of the pre-test and post-test of the two classes was compared to see a significant difference between students' vocabulary mastery abilities with word stem games. In collecting data, researcher was used pretest, treatment, and post-test.

G. Technique of Data Analysis.

The researcher used Statistical Package for the Social Science (SPSS) for analyzing the data. Alan Bryan and Duncan Cramer (2005:21) stated SPSS is a manipulating, analyzing, and presenting

data program which used in the social and behavior science. After the data is collected from the pre-test and post-test, the researcher analyze the data with the T-test formulation. The analysis of the data using the T-test formulation is in the following

$$t = \frac{ma - mb}{\left(\frac{da^2 + db^2}{na + nb - 2}\right) \left(\frac{t}{na} + \frac{t}{nb}\right)}$$

Where:

- T : Total score
 Ma : The mean of experimental group
 Mb : The mean of control group
 Da : The standard deviation of experiment group
 db : The standard deviation of control group
 Na : The total number sample of experiment group
 Nb : The total number sample of control group.

4. RESULT AND DISCUSSION

This research is expected to provide results in the application of word wheel media to students' vocabulary mastery in class X SMA Budi Agung Medan. Students are given a test in the form of 20 test items with multiple choice types.

Table 3.

No.	Rating	Characteristics,
1.	87- 100	very good
2.	77-86	Good
3.	67-76	Enough
4.	57-66	Very enough
5.	46-56	Low
6.	0-45	Very low

The pre-test and post-test in the experimental group and the control group aimed to determine the score of students' ability in mastering the students' vocabulary before the researcher gave the treatment and after giving the treatment. The results showed that students had different levels of vocabulary mastery based on the scores collected. This can be seen in the table below:

A. Pre-test and post-test scores of experimental group.

Table 4.

NO.	Name	Pre-test	Post-test
1.	AFH	65	80
2.	AD	40	75
3.	AN	50	90
4.	AA	65	100
5.	AA	50	90
6.	DA	50	75
7.	DKW	45	75

8.	FI	70	90
9.	FDA	40	80
10.	HR	65	95
11.	KA	40	80
12.	KRM	55	80
13.	LAM	55	85
14.	MFDI	55	80
15.	MFH	30	75
16.	MHR	70	100
17.	MZ	50	75
18.	NAS	65	100
19.	NM	65	85
20.	NUH	60	80
21.	NA	40	80
22.	NA	45	75
23.	PA	50	80
24.	PH	50	75
25.	PAPS	45	75
26.	PRA	50	75
27.	RAS	35	80
28.	RH	40	75
29.	RA	60	80
30.	RAP	60	90
31.	RR	35	85
32.	SB	45	80
33.	SL	40	75
34.	YK	65	85
35.	JH	45	75
	Total	1790	2875
	Mean	51.143	82.143

B. Pre-test and post-test scores of control group.

Table 5.

NO	NAME	PRE-TEST	POST-TEST
1	AFH	65	80
2	AD	40	75
3	AN	50	85
4	AA	45	75
5	AZA	55	80
6	DA	35	75
7	DKW	40	75
8	FI	40	85
9	FDA	40	75

10	HR	45	80
11	KA	40	75
12	KRM	45	75
13	LAM	45	80
14	MFDI	40	80
15	MFH	45	75
16	MHR	45	75
17	MZ	50	75
18	NAS	50	80
19	NM	55	85
20	NUH	55	80
21	NBA	60	85
22	NA	45	75
23	PA	60	80
24	PH	65	75
25	PAPS	45	75
26	PRA	50	75
27	RAS	35	75
28	RH	65	75
29	RA	45	75
30	RPA	50	75
31	RR	45	75
32	SB	70	75
33	SL	55	75
34	YK	65	80
35	JH	50	75
	MEAN	1730	2710
	TOTAL	49.43	77.43

The lowest pretest score in the experimental group was 30 and the highest score was 85. The lowest post-test score was 75 and the highest score was 100, while in the control group the lowest score in the pre-test was 30 and the highest was 65, while in the post-test the lowest score is 75 and the highest is 85.

C. Table validity test "Pre-test

Table 6.

No	R count	R table	Status
1	0.396	0.344	Valid
2	0.348	0.344	Valid
3	0.635	0.344	Valid
4	0.376	0.344	Valid
5	0.467	0.344	Valid

6	0.442	0.344	Valid
7	0.590	0.344	Valid
8	0.418	0.344	Valid
9	0.539	0.344	Valid
10	0.735	0.344	Valid
11	0.431	0.344	Valid
12	0.551	0.344	Valid
13	0.397	0.344	Valid
14	0.627	0.344	Valid
15	0.504	0.344	Valid
16	0.415	0.344	Valid
17	0.467	0.344	Valid
18	0.423	0.344	Valid
19	0.735	0.344	Valid
20	0.545	0.344	Valid

D. Table validity test "Post-test

Table 7.

No	R count	R table	Status
1	0.665	0.344	Valid
2	0.351	0.344	Valid
3	0.513	0.344	Valid
4	0.462	0.344	Valid
5	0.446	0.344	Valid
6	0.446	0.344	Valid
7	0.449	0.344	Valid
8	0.445	0.344	Valid
9	0.591	0.344	Valid
10	0.701	0.344	Valid
11	0.495	0.344	Valid
12	0.496	0.344	Valid
13	0.385	0.344	Valid
14	0.611	0.344	Valid
15	0.496	0.344	Valid
16	0.436	0.344	Valid
17	0.494	0.344	Valid
18	0.480	0.344	Valid
19	0.694	0.344	Valid
20	0.555	0.344	Valid

From the result of the table above, if $r \text{ count} > r \text{ table}$ so the test was valid. But, if $r \text{ count} < r \text{ table}$ the test was invalid. So, from 20 tests that have been tested, 20 valid tests. So, the researcher took 20 tests as the research instrument. It can be concluded that the instrument used in the study was valid.

E. Reliability of Pre-Test

Table 8.

Reliability Statistics	
Cronbach's Alpha	N of Items
.832	20

If $r \text{ count} > r \text{ table}$ so the instrument of test was reliable. But, if $r \text{ count} < r \text{ table}$ the instrument of the test unreliable. So from the result above, $r \text{ count } 0,832 > 0,344$ so the instrument of the post-test was reliable.

F. Reliability of Post-Test

Table 9.

Reliability Statistics	
Cronbach's Alpha	N of Items
.852	20

From the result of reliability, if $r \text{ count} > r \text{ table}$ so the instrument of test was reliable. But, if $r \text{ count} < r \text{ table}$ the instrument of the test unreliable. So from the result above, $r \text{ count } 0,852 > 0,344$ so the instrument of the post-test was reliable.

G. Normality test

Respondents	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
Pretest Eksperimental	.125	35	.181	.933	35	.035
Posttest Eksperimental	.206	35	.092	.902	35	.014
Pre-test Control	.142	35	.073	.947	35	.093
Post-test Control	.265	35	.007	.819	35	.025

H. Lilliefors Significance Correction

It is said to be normality distributed if the data obtained is > 0.05 . In the Kolmogorov – Smirnov table above it can be seen that the significant value in the pre-test control is 0.142, in the post-test 0.265. In the pre-test experiment 0.125 and the post-test experiment 0.206. All significant results were obtained. > 0.05 , then the Kolmogorov smirnov result are normality distributed. In the Shapiro- Wilk table, the significant value obtained in the pre-test control was 0.093 in the post-test control 0.025, in the pre-test experiment it was 0.035 and in the post-test experiment it was 0.014, so it can be seen in the Shapiro- Wilk table that the result was > 0.05 , so it can be concluded the results are normally distributed.

I. Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Vocabulary Test	Based on Mean	.366	1	68	.547
	Based on Median	.433	1	68	.513
	Based on Median and with adjusted df	.433	1	66.889	.513

	Based on trimmed mean	.567	1	68	.454
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In homogeneity the data is said to be homogeneity if > 0.05 . From the table above it can be seen that significant value is based on mean 0.547 based on median 0.513 based on median with adjusted df 0.513 and based on trimmed mean 0.454. The overall result obtained > 0.05 , it can be concluded that the data is homogeneous.

J. Research Finding

Based on data analysis, it was found that teaching vocabulary mastery with the word wheel game at Budi Agung Medan High School was effective. There is a significant difference between the experimental class taught using word wheel games and the control class taught using conventional methods. This can be seen from all the test results. The reliability test results show that everything is reliable because the test results are higher than 0.05. The results of the validity test show that they are completely valid because they are greater than the r table (0.344). The results of the normality and homogeneity tests show normal and homogeneous. Based on the T-test, the calculated t -value is 2,652.

The Word Wheel Game was successful when researcher used it to master students' vocabulary. It can be said that by using the Word Wheel Game, the learning process in the experimental class is more effective than the control class. This was seen after the author gave a post-test and calculated the scores.

K. Research Discussion

From the data analysis, the aim of this research is to find out whether there is a significant effect of used the Word wheel Games on class X students at Budi Agung High School, Medan. Researcher divided students into two classes, namely X-IB and X-AB. In this research, X-AB is the control class and X-IB is the experimental class. The researcher gave a pre-test for both classes and after the next meeting the researcher taught the control class used the convention method and in the experimental class the researcher used the Word Wheel Game as a treatment and at the last meeting students can increase their vocabulary with the word wheel game. Based on the explanation above, using the word wheel game can students' affect vocabulary vocabulary mastery. After they were taught using the word wheel game, during the learning process, students became more active in learning vocabulary. This can be seen in their post-test scores which have increased compared to the pre-test scores. During the pre-test, the students' average score were low with an average of 35 and with the total of 48.42 after played the Word Wheel Games, the scores 85 with the total mean 87.14. So, it can be concluded that the Word Wheel Games that effective to students' vocabulary mastery in class.

5. CONCLUSION

After doing the research, the researcher concluded that the application of the word wheel game media had a significant effect on students' vocabulary mastery. The average score of the experimental group which was taught by applied the word wheel game 48.42 The average score of the control group which was taught without the word wheel game media was 87.14. Based on the T-test, the calculated t -value is 2,652. This shows that the alternative hypothesis (H_a) is accepted and the null hypothesis (H_o) is rejected. The conclusion from this research is that the use of word wheel game media influences the vocabulary mastery of students X – SMA Swasta Budi Agung Medan.

Word wheel is a medium that can support the learning process in the form of a circle containing interesting writing. In the learning process, the word wheel is created to attract students' attention so that student can follow the learning well. Word Wheel Games can motivate students to learn and have a positive effect on students, because Word Wheel has interesting and funny illustration. Apart from that, by learning with the Word Wheel Games, students look more active and have high enthusiasm in

answering question. Word Wheel Games is a recommended learning medium because it is very easy to prepare and makes learning more interesting and students more active.

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