USING MACROMEDIA FLASH APPLICATION TO IMPROVE STUDENTS' VOCABULARY MASTERY

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Abstract

This research aims to determine whether the use of the Macromedia flash application in the learning process can improve vocabulary mastery at the seventh grade of SMPN 4 Mattiro sompe Kab. Pinrang. Using media in teaching has the main aim, namely to make it easier for students to understand the material given, improve students' understanding and mastery of vocabulary effectively and efficiently and can increase student interest in learning English. In this research, the researcher used pre-experimental design comprising pre-test and post-test, which is the different between pre-test and post-test scores is influenced by the treatment given to student. The success of the treatment is determined by comparing pre-test and post-test score. In the collecting data, the researcher used an instrument test that comprises pre-test and post-test. The result showed that Macromedia flash application can improve students' vocabulary mastery. It showed by the students' mean score of post-test (81.91) was greater than pre-test (59.82). Even, for the level significant (p) 0.05 and df: 22, and the value of t-table is 1.717 while the value of t-test is 14.43. It means that the value of t-test is greater than the value of t-table (14.43 ≥ 1.717). Thus, it can be concluded that the students' vocabulary is significantly better after getting treatment by using Macromedia flash application. So, the null hypothesis (H_0) was refused and the alternative hypothesis (H_1) was accepted. The results of the questionnaire show that there are several problems faced by students in increasing their vocabulary, including students having difficulty understanding vocabulary without objects, memorizing vocabulary, making students difficult to understand vocabulary and students having difficulty understanding the pronunciation of words when learning English.

Keywords: *Vocabulary Mastery, Macromedia Flash Application.*

Introduction

There are so many problems in the world of education, one of which is the weakness of the learning process. Students are less encouraged to develop thinking skills. In learning in class, students are directed at the ability to memorize information. Indirectly, students feel burdened because they have to remember and hoard information without understanding it. This results in students being only theoretically smart but weak in application. Learning is an activity in gaining knowledge, skills, and positive values by utilizing resources in learning. There are two parties involved in the learning process, namely students as learners and teachers as facilitators. In addition, the learning process is the most important factor in learning.

The subject taught in junior high is English. This language plays an important role in the world of education. This is because English is an international language. Therefore, students must be able to speak English well in order to communicate with everyone in the

world. English is learned by students ranging from elementary, junior high, high school, to university. The purpose of learning and teaching English, especially in junior high, is to develop students' language skills. There are four language skills that have an important role in mastering English, namely; Listening, speaking, writing and reading.

Vocabulary is one of the main components of learning English. Words are the basic building blocks in language that must be understood, larger units of meaning such as sentences, paragraphs, and all formed text. A good sentence can be formed when we recognize the words that want to be used in communicating and learning vocabulary effectively. In addition, one of the most important elements in understanding and producing language is vocabulary. Therefore, a teacher must be tolerant of improving student competence in all fields of communication. Based on this statement, vocabulary is considered the most important factor in language. Therefore, the vocabulary taught has a very important role for students to master English as their foreign language. Actually, there will be a big problem in learning English if the students' knowledge of vocabulary mastery is still lacking, this will cause students being unable to communicate well. In addition, students must also be able to know the placement of words in sentences because in English, one word has not only one meaning.

In the teaching process, a teacher must know how important vocabulary mastery is . They must be able to create effective supporting media when teaching. The application of instructional media in the teaching process is one of the supporting factors in increasing student interest in learning, so students do not always consider English lessons as boring. To increase the interest, motivation and attention of student learning, teachers must have adequate skills in designing, using, and developing learning media.

Based on the observations of researchers at SMPN 4 Mattiro Sompe, researchers got some information about conditions at SMPN 4 Mattiro Sompe, namely: school facilities are still inadequate, for example, there are still very few English books in the library, researchers also see that the use of instructional media is still very less. Thus, researchers can conclude that the obstacles faced by these schools in improving the quality of their students are in school facilities and the lack of teacher initiative in applying the use of media in the teaching process, especially English teachers.

In addition, researchers also interviewed teachers and students. According to the teacher's information, there are some problems he faces in teaching English, especially in teaching vocabulary, namely

1. Lack of student motivation in learning English even though some of them have talent in English.

2. Student participation is still very low in class interactions, especially in English classes.

3. Student vocabulary mastery still needs to be improved to get better English standards.

4. Facilities that support the learning process are inadequate, there are only a few English dictionaries available and students may not borrow them to study in class.

One of the student at the seventh grade said that in the delivery of learning material the teacher still relied on verbal language including English lessons in understanding vocabulary. Submission of material is still using the blackboard without the help of other media. This causes students to consider learning vocabulary only focused on memorization and sometimes they only memorize each word without understanding its meaning. Such a method will make students passive and cannot improve their metacognitive abilities and mastery of their concepts. This will cause boredom for students in learning vocabulary. Usually when we teach the alphabet sequence to young children using their songs, it will be easier to memorize because for them it is fun. Likewise, when a teacher gives vocabulary lessons to his students, it must be accompanied by more interesting supporting media so that the lessons they receive are not boring and easy for them to understand.

Therefore, the use of instructional media in learning English is needed to increase students' motivation and understanding of vocabulary material. In understanding vocabulary, visualization is needed so that students easily understand a word when they see the form directly. Macromedia flash application is an audiovisual media that is appropriate to be used as a learning medium. Macromedia flash application is an application that can create a project, such as text, images, videos, simple animations, or other special effects. In addition, Macromedia Flash can also create games interactive, website, and can be used as a media to present learning materials.

The researcher's goal is to use the Macromedia flash application as a learning medium in improving student vocabulary mastery in SMPN 4 Mattiro Sompe is to increase students' interest in learning so that they do not feel bored while studying English and the material provided can be easily understood. In addition, the use of instructional media is expected to motivate students

to be more active in learning English, so students can use vocabulary properly and correctly in communicating using English.

Method

The researcher was used pre-experimental design with one group pre-test and post-test in this research. The student's pre-test before treatment and post-test after treatment. Pre-test was given to determine the students' vocabulary mastery before getting treatment, while the post-test was given to see the increase in students' vocabulary mastery after getting treatment.

The location of this research was SMPN 4 Mattiro Sompe. It is in Jln. Poros Pinrang-Langga, Mattiro Sompe Sub- District, Pinrang Regency. While the duration of this research is eight meetings, namely once in pre-test, six times in treatment, and once in post-test. So, this research was finished at least one month to see the improvement of the students' vocabulary mastery by using Macromedia flash application.

The population of this research is the students in the seventh grade of SMPN 4 Mattiro Sompe, that comprise 2 classes. They are class VII A comprises 24 numbers of students, and class VII B comprises 23 numbers of students. So, there are 47 students in the seventh grade in two classes of SMPN 4 Mattiro sompe. The total number of them can be seen in the table below.

Result

Table 1. The Students' Score in Pre-test.

No	Students	Pre-Test of the students (X1)		X2	Classification
		Max Score	Score X1		
1	2	3	4	5	6
1	S1	100	52	2704	**POOR**
2	S2	100	64	4096	**FAIR**
3	S3	100	68	4624	**FAIR**
4	S4	100	52	2704	**POOR**
5	S5	100	40	1600	**VERY POOR**
6	S6	100	68	4624	**FAIR**
7	S7	100	56	3136	**FAIR**
8	S8	100	64	4096	**FAIR**
9	S9	100	64	4096	**FAIR**
10	S10	100	60	3600	**FAIR**
11	S11	100	60	3600	**FAIR**
12	S12	100	40	1600	**VERY POOR**
13	S13	100	68	4624	**FAIR**
14	S14	100	56	3136	**FAIR**

15	S15	100	64	4096	**FAIR**
16	S16	100	64	4096	**FAIR**
17	S17	100	60	3600	**FAIR**
18	S18	100	68	4624	**FAIR**
19	S19	100	56	3136	**FAIR**
20	S20	100	60	3600	**FAIR**
21	S21	100	68	4624	**FAIR**
22	S22	100	64	4096	**FAIR**
23	S23	100	60	3600	**FAIR**
	Total		**1376**	**83712**	

Based on the data of the students' score in pre-test, the resulted of students' vocabulary mastery score before giving treatment using Macromedia flash application, two students in poor classification, two students in very poor classification, nineteen students in fair classification, then no one in excellent classification. Total score in the pre-test was 1376. It could be seen that almost of the VII.B students' vocabulary mastery was low, because most of the students gained fair score.

After the researcher calculated the total score of pre-test, the mean score of the pre-test was 59.8. Lowest achievement gained a score 40. The standard deviation got from the pre-test was 7.95. From the analyzing, it could be seen that almost of the 23 students' vocabulary mastery were still low category.

Table 2. The Students' Score in Post-test

No	Students	Post-Test of the students (X_2)		$(X_2)^2$	Classification
		Max Score	Score X_2		
1	**2**	**3**	**4**	**5**	**6**
1	S1	100	88	7744	**Excellent**
2	S2	100	80	6400	**Good**
6	S6	100	88	7744	**Excellent**
7	S7	100	88	7744	**Excellent**
8	S8	100	80	6400	**Good**
9	S9	100	88	7744	**Excellent**
10	S10	100	84	7056	**Good**
11	S11	100	88	7744	**Excellent**
12	S12	100	72	5184	**Good**
13	S13	100	68	4624	**Fair**
14	S14	100	88	7744	**Excellent**
15	S15	100	88	7744	**Excellent**
16	S16	100	80	6400	**Good**
17	S17	100	88	7744	**Excellent**

18	S18	100	80	6400	**Good**
19	S19	100	56	3136	**Fair**
20	S20	100	88	7744	**Excellent**
21	S21	100	88	7744	**Excellent**
22	S22	100	80	6400	**Good**
23	S23	100	84	7056	**Good**
	Total		**1884**	**155824**	

Based on the data of the students' score of post-test, there was an improvement of students' score after giving treatment through Macromedia flash application, eleven students in excellent classification, ten students in good classification, two students in fair classification, no one in poor and very poor classification. It means that the students' vocabulary mastery has improved using Macromedia flash application. The total score in the post-test is 1884. It proved that there was an increasing of students' score in post-test.

After the researcher calculated the total score of post-test, the mean score of the post-test was 81.91. Lowest achievement gained score 56. The standard deviation got from the post-test was 8.25. From the analyzing, it could be seen that almost of the 23 students' vocabulary mastery were in excellent category.

Table 3. The Result of Pre-test and Post-test.

Test	**Mean score**	**Standard Deviation (SD)**
Pre – Test	59.82	7.95
Post – Test	81.91	8.25

Based on the data in the mean score and standard deviation of the pre-test and post-test, shows that there was an improvement while doing pre-test up to post-test. In pre-test had score was 59.82 and the post-test score increased become 81.91. The standard deviation of pre-test was 7.95 while the standard deviation of post-test was 8.25.

From the result have been achieved, the mean score of post-test is better than the mean score of pre-test. It means that the students' vocabulary mastery had improvement after doing online learning process through Macromedia flash application.

Table 4. The Rate Percentage of the Frequency of the Pre-test and Post-test

No.	Classification	Score	Frequency		Percentage	
			Pre - Test	Post -Test	Pre – Test	Post- Test
1	Excellent	86-100	0	11	0	48%
2	Good	71-85	0	10	0	43%
3	Fair	56-70	19	2	82%	9%
4	Poor	41-55	2	0	9%	0
5	Very Poor	≤40	2	0	9%	0
	Total		23	23	100%	100%

Based on the rate percentage of the frequency of the pre-test and post-test, shows the students' percentage of pre-test was most common in fair score, namely nineteen students and it was the high percentage 82%. Then there were no students who are an excellent score. It means that students' vocabulary mastery was still low. While in post-test there was an increasing percentage a great majority of the students in vocabulary mastery because there were eleven students had gotten excellent score with 48%, ten students had gotten good score with 43%, two students had gotten fair with 9%, there was no in poor and very poor score. It means that there was an increasing percentage after doing pre-test up to post-test.

Discussion

The Improvement of Students' Vocabulary Mastery Using Macromedia Flash Application

From the data provided in the classification table is based on the vocabulary, based on the test found. Cleary to see that in the pre-test no one student who got excellent, no one student who got good score, nineteen (82%) students got fair score, two (9%) students got poor score and two (9%) students got very poor score. While in the post-test eleven (48%) students got excellent score, ten (43%) students got good score, two (9%) students got fair score, no one students got poor and very poor score. From the result, the researcher concluded that the students' vocabulary mastery from very poor up poor, fair, and excellent classification.

In addition, the mean score of pre-test was and the mean score of post-test was. As conclusion, the mean score of post-test (81.91) was greater than pre-test (59.82). Even, for the level significant (p) 5% and df = 22 and the value of t-table is 1,717 while the value of t-test is 14.43. It means that the t-test value is greater than t-table (14.43 ≥ 1.171). Thus, it can be

concluded that the students' vocabulary mastery is significantly better after getting treatment using Macromedia flash application. So, the null hypothesis (H_0) is refused and the alternative hypothesis (H_1) is accepted.

In the preface study, the researcher did in SMPN 4 Mattiro Sompe Kab. Pinrang that in the delivery of learning material, the teacher still relied on verbal language, including English lessons, in understanding vocabulary. Submission of material is still using the blackboard without the help of other media. This causes students to consider learning vocabulary only focused on memorization and sometimes they only memorize each word without understanding its meaning. Such a method will make students passive and cannot improve their metacognitive abilities and mastery of their concepts. This will cause boredom for students in learning vocabulary.

Based on the explanation above, the researcher concluded that the main factor that caused students to have difficulty understanding vocabulary was because the delivery of material by the teacher was less attractive, so that it made students feel bored. In addition, the use of learning media in the teaching process is still lacking, so that the level of student understanding of vocabulary is difficult to increase.

The Ways of the Implementation Macromedia Flash Application to Improve Students' Vocabulary Mastery.

To find out how the implementation of Macromedia flash application can improve students' vocabulary mastery, the researcher got some information about students' activity in the learning process.

There were eight meetings for doing this research. Two meetings for doing the test and six meeting for doing the treatment to prove that is the implementation of Macromedia flash application can improve students' vocabulary mastery. At the first meeting, the researcher gave a pre-test to students. Then, the students were asked to answer the pre-test. The –test comprised 15 multiple choice numbers and 10 matching item numbers. It aims to see students' vocabulary mastery before being given treatment. Here, the researcher gave score to the students' work at home based on scoring rubric of vocabulary.

In the second meeting, the researcher distributed the link to the students through via Whatsapp, then the researcher directed the students to open the link and watch the video related

to the first material, namely cardinal numbers. When the students watched the video, the students must follow every instruction in the video. After the students watched the video, the researcher gave the students the opportunity to ask what part of the material they did not understand. Next, the researcher gave a question regarding the material that has been given through the video. Besides that, students are also required to understand every vocabulary that has been given through the video.

In the Third meeting, the researcher distributed the link to the students through via whatsapp, then the researcher directed the students to open the link and watch the video related to the first material, namely ordinal numbers. When the students watched the video, the students must follow every instruction in the video. After the students watched the video, the researcher gave the students the opportunity to ask what part of the material they did not understand. Next, the researcher gave a question regarding the material that has been given through the video. Besides that, students are also required to understand every vocabulary that has been given through the video.

In the fourth meeting, the researcher distributed the link to the students through via Whatsapp. Then, the researcher directed the students to open the link and watch the video related to the first material, namely days. When the students watched the video, the students must follow every instruction in the video. After the students watched the video, the researcher gave the students the opportunity to ask what part of the material they did not understand. Next, the researcher asked students to create conversations related to the days, then looked for partners to have these conversations with. Then, the researcher asked the students to send the conversation through via Whatsapp.

In the fifth meeting, the researcher distributed the link to the students through via Whatsapp. Then, the researcher directed the students to open the link and watch the video related to the first material, namely months. When the students watched the video, the students must follow every instruction in the video. After the students watched the video, the researcher gave the students the opportunity to ask what part of the material they did not understand. Next, the researcher asked students to create conversations related to the months, then looked for partners to have these conversations with. Then, the researcher asked the students to send the conversation through via Whatsapp.

In the sixth meeting, the researcher distributed the link to the students through via whatsapp. Then, the researcher directed the students to open the link and watch the video related to the first material, namely telling the time. When the students watched the video, the students must follow every instruction in the video. After the students watched the video, the researcher gave the students the opportunity to ask what part of the material they did not understand. Next, the researcher gave a question regarding the material that has been given through the video. Besides that, students are also required to understand every vocabulary that has been given through the video.

In the seventh meeting, the researcher asked students to make video related vocabulary mastery during the learning process. Then, students asked to send the video through via whatsapp.

In the last meeting, the researcher gave a post-test to students. Post-test comprise 15 multiple choice numbers and 10 matching item numbers. The test given is related to the material that has been given. It aims to see the increase in students' vocabulary mastery after giving treatment.

Table 5. The Problem Faced by the Students in Improving their Vocabulary

RESPONDENT	PERNYATAAN									
	1	2	3	4	5	6	7	8	9	10
R1	5	4	3	3	4	2	4	1	2	4
R2	4	3	2	2	5	1	2	2	3	2
R3	5	2	1	2	4	1	2	2	1	2
R4	2	4	2	2	4	2	4	1	2	4
R5	4	2	1	2	5	4	1	1	2	4
R6	2	4	2	2	3	2	4	2	1	3
R7	5	2	3	3	4	4	1	3	2	4
R8	4	4	2	4	2	4	4	1	3	2
R9	2	2	2	3	3	2	2	2	2	4
R10	3	4	4	3	4	2	3	4	2	4
R11	5	2	1	2	4	1	2	2	1	2
R12	4	2	1	2	5	4	1	1	2	4
R13	5	2	2	3	4	2	4	2	4	4

R14	4	3	2	2	5	1	2	2	3	2
R15	4	3	4	2	5	4	3	2	2	4
R16	2	2	2	3	3	2	2	2	2	4

Based on students' responses to the questionnaire that had been given, researchers found several problems faced by students in increasing their vocabulary. The opinions of several students regarding this matter are described:

In the item 1 more than half students agree with that statement, they are 78%, where 90 is the total of score from the statement to us from maximum score. So, it can be categorized strong. In the item 2 almost half students disagree with that statement, they are 45%, where 52 is the total of score from the statement to us from the maximum score. So, it can be categorized low. In the item 3 almost half students disagree with that statement, they are 42%, where 48 is the total of score from the statement to us from maximum score. So, it can be categorized low. In the item 4 almost students disagree with that statement, they are 51%, where 59 is the total of score from the statement to us from the maximum score. So, it can be categorized neutral. In the item 5 more than half students agree with that statement, they are 80%, where 92 is the total of score from the statement to us from the maximum score. So, it can be categorized strong. In the item 6 more than half students disagree with that statement, they are 69%, where 80 is the total of score from the statement to us from maximum score. So, it can be categorized strong. In the item 7 more than half students agree with that statement, they are 72%, where 83 is the total of score from the statement to us from the maximum score. So, it can be categorized strong. In the item 8 half students agree with that statement, they are 59%, where 92 is the total of score from the statement to us from the maximum score. So, it can be categorized neutral. In the item 9 more than half students agree with that statement, they are 79%, where 91 is the total of score from the statement to us from the maximum score. So, it can be categorized strong. In the item 10 half students agree with that statement, they are 55%, where 63 is the total of score from the statement to us from maximum score. So, it can be categorized neutral.

Based on the statement above, the researcher can conclude that some students at SMPN 4 Mattiro Sompe still have problems in improving their vocabulary mastery, including students are still low in understanding vocabulary and students are still constrained in writing and pronouncing vocabulary. However, after the researcher used the learning media, namely Macromedia flash, during conducting research in class VII B by online, it turned out to be very helpful for students in dealing with problems faced in understanding vocabulary. Therefore, teachers at SMPN 4 Mattiro Sompe must be able to increase the use of learning media in the teaching process in order to make it easier for students to understand and master vocabulary properly past and can make students more enthusiastic in English learning.

Vocabulary is the component of English which is very important to learn because when someone has at a lot of vocabulary, it can make easier for them to make sentences and communicate with other people. However, understanding vocabulary is still an obstacle in learning English, because there are still many students who can only memorize vocabulary, but cannot understand vocabulary well, this is because the teacher is too stressful students memorize vocabulary without providing a good understanding of the vocabulary, so students sometimes feel overwhelmed in learning vocabulary. Therefore, in the vocabulary learning process, a teacher needs to apply the use of learning media in order to help improve students' understanding and mastery of vocabulary.

One of the learning media that can help increase vocabulary is the Macromedia flash application. Macromedia flash application is an application that can be used in the learning process, because there is a combination of audio-visual technology such as text, images, sounds, animation and others in this application. The researcher has used this application in the teaching process at SMPN 4 Mattiro Sompe in class VII B. The use of the Macromedia flash application aims to help improve students, mastery, and understanding of vocabulary. During the use of the Macromedia flash application in the teaching process has an increase in the vocabulary mastery of students at SMPN 4 Mattiro Sompe. This can be proven from the data that has been got by researcher.

Conclusion

Based on the discussion in the previous chapter, the results found showed a positive impact on students in the online learning process through Macromedia flash. This study used a pre-experimental research design comprising pre-test, treatment, and post-test. This study aims to

see whether the use of the macromedia flash application is able or not to improve students' vocabulary mastery. In addition, this study also uses quantitative research. The results of the data description: the mean score of pre-test (59.82) and standard deviation (7.95).The mean score of post-test (81.91) and standard deviation (8.25). T-test result in which the value of t-test was 14.43 it was greater than t-table was 1.717at the level significance 5% and degree of freedom (df) was 22. It means that the null hypothesis (H_0) was rejected and the alternative hypothesis (H_1) was accepted.

The result show that the use Macromedia flash application can improve students' vocabulary mastery, can increase students' knowledge of vocabulary, know how to pronounce vocabulary properly and understand vocabulary related to cardinal number, ordinal numbers, days, months, and telling the time. Understanding vocabulary can help students in make sentences and make it easier for students to communicate using English. Based on explanation above, it proved that the using Macromedia flash application in teaching vocabulary can improve students' vocabulary mastery.

In addition, the results of the questionnaires that have been given to students show that there are still many problems faced by students of seventh grade of SMPN 4 Mattiro Sompe in increasing their vocabulary, including those in item 7 (menghafal kosakata membuat saya kesulitan memahami kosakata) more than half students agree with that statement, they are 72%, where 83 is the total of score from the statement to us from the maximum score. So, it can be categorized strong. In the item 8 (saya sulit memahami penyebutan kata ketika belajara bahasa inggris) half students agree with that statement, they are 59%, where 92 is the total of score from the statement beside us from maximum score. So, it can be categorized neutral. In the item 9 (saya kesulitan memahami kosakata tanpa objek) more than half students agree with that statement, they are 79%, where 91 is the total of score from the statement to us from the maximum score. So, it can be categorized strong.

References

Arsyad, Azhar. 2004. *Media Pembelajaran.* Jakarta: PT. Grafindo Persada.

Afrianty, Selvy. 2018. "The Use of Card Sort to Improve Sudents' Vocabulary at MTsN Parepare". Unpublish Scripts; English Department: Parepare.

Alkhuli, Muhammad Ali. 2006. *Methodes of Teaching English.* Jordan: Dar Alfalah.

Andrisa. 2007. *Macromedia Flash 8.* Jakarta: PT Elex Media Komputindo.

Andrisa. 2007. *Student Guide Series Macromedia Flash 8.* Jakarta: PT. Elex Media Komputindo.

Andini, Dita. 2017. "Pengembangan Media Animasi Menggunakan Macromedia Flash Berbasis Pemahaman Konsep Peserta didik Pokok Bahasan Persegi dan Persegi Panjang". Skripsi Sarjana: Jurusan Tarbiyah IAIN Raden Intan: Lampung.

Gairns, Ruth and Stuart Redman. 1986. *Working with Word a Guide to Teaching and Learning Vocabulary.* United Kingdom at University Press: Cambridge.

Gay, L. R. 1981. *Educational Research, Competencies for Analysis and Application Second Edition.* Colombus: Charles E. Merrill Publishing Co.

Haeruddin. 2017. *Membuat Media Presentasi & Game Quiz Berbasis Flash.* Yogyakarta: Deepublish.

Jackson, Howard. 1982. *Analyzing English an Introduction to Descriptive Linguistic.* New York: Pergamon Press.

Jones, Tamara. 2013. *50 Ways to Teach Vocabulary.* United Stated: Wayzgoose Press.

Lisa. 2003. *Content-Area Vocabulary Strategies.* Portland: Weston Walch.

Montgomery, Judy. K. 2007. *The Bridge of Vocabulary.* Pearson Assessment.

Muazzinah, Busratun. 2016. " Pengaruh Penggunaan Media Pembelajaran Macromedia Flash terhadap Pemahaman Konsep Siswa pada Materi Asam Basa di Kelas XI IPA SMAN 1 Indrapuri Aceh Besar". Skripsi Sarjana: Jurusan Tarbiyah UIN Ar-Raniry Darussalam: Aceh.

Prameswa, Ajeng Prahasta. 2018. " Penerapan Media Pembelajaran Macromedia Flash dalam Meningkatkan Kreativitas Siswa pada Mata Pelajaran PAI di SMP Muhammadiyah 2 Kalijero Lampung Tengah". Skripsi Sarjana: Jurusan Tarbiyah UIN Raden Intan: Lampung.

Putri, Yosi Intan. 2018/2019. "The Effectiveness of Self Collection Strategy on Students' Vocabulary Mastery at SMPN 16 Kota Bengkulu". Unpublish Undegraduate Thesis.

Read, John. 2000. *Assesing Vocabulary.* Cambridge: Cambridge University Press.
Rasinski, Timothy. 2007. *Building Vocabulary from Word Roots.* Huntington Beach, USA: Rachelle Cracchiolo.
Riduwan. 2016. *Pengantar Statistika Sosisal.* Bandung : Alfabeta.

Ridwan,dkk. 2005. *Rumus dan Data dalam Analisis Statistika.* Bandung: Alfabeta.

Sugiyono. 2015. *Metode Penelitian Pendidikan Kuantitatif Kualitatif dan R & D.* Bandung: Alfabeta.

Sudijon, Anas. 2006. *Pengantar Statistik Pendidikan.* Jakarta: Raja Grafindo Persada.
Stahl, Steven. A, William E. Nagy. 2006. *Teaching Word Meaning.* New Jersey: Lawrence Erlbaum Associates.

Siregar, Syofian. 2010. *Statistika Deskriptif untuk Penelitian*. Jakarta: Rajawali Pers.

Thornbury, Scout. 2007. *How to Teach Vocabulary*. England: Pearson Longman.

Triyono. 2017. *Metodologi Penelitian Pendidikan*. Yogyakarta: Penerbit Ombak.

Wahyono, Teguh. 2006. *36 Jam Belajar Komputer Animasi dengan Macromedia Flash 8*. Jakarta: PT. Elex Media Komputindo.

Yauni, Muhammad. 2018. *Media & Teknologi Pembelajaran*. Jakarta: Prenadamedia.