

CHAPTER IV

RESULT AND DISCUSSION

This chapter presents the research result, hypothesis testing, and discussion. The research finding discusses the result of data analysis. It also discusses the data description.

A. Result

The results of this research are divided into five steps: (1) Data Description, (2) The result of pretest and posttest of Control group, (3) The result of pretest and posttest of Experimental groups, (4) the result of analysis using t-test for Independent Sample to know the significant difference between students' vocabulary mastery of experimental group and control group,

To make ease in analyzing statistically the result of the research, the alternative hypotheses which say that the students who learned using WhatsApp Group Chat significantly have better or greater vocabulary mastery than those who are taught with conventional strategy and the conversely put into null hypotheses. The null hypothesis is formulated as the students who learned using WhatsApp and those who are taught with conventional strategy have less achievement on vocabulary mastery.

A.1. Data Description

The objective of this research is to know the effectiveness of using WhatsApp Group Chat on students' vocabulary mastery. The researcher researched by conducting the pretest and posttest. It WhatsApps XI IPS 2 as Control group consisted of 32 students and XI IPS 3 as the Experimental group consisted of 32 students.

The instrument of this research is the test. This test consists of a vocabulary test. The vocabulary test is about synonym, antonym, finding the meaning / matching word. Moreover, the test is divided into two; pretest and posttest. The pretest is given both in and control class and experimental class. Then, after getting the result of the pretest, the researcher gave treatment by Whatsapp Group Chat in the experimental group and no such in the control group. Thus, the researcher gave a posttest to both groups; experimental group and control group.

A.1.1. The Result of Pretest and Posttest of Experimental Group

The Result of Pretest and Posttest of Vocabulary Test can be seen in Table 4.1 below:

Table 4.1
The Data of Pretest-Posttest of Control Group

Student	Pretest Score	Posttest Score
1	64	74
2	72	78
3	70	70
4	76	76
5	70	72
6	68	70
7	76	76
8	68	74
9	78	76
10	72	76
11	70	70
12	72	72
13	76	74
14	70	70
15	68	70
16	76	76
17	78	78
18	72	72
19	70	70
20	72	72
21	74	76
22	72	72
23	70	70
24	60	72
25	74	74
26	76	76
27	70	70
28	74	74
29	60	70
30	74	78
31	72	72
32	66	76

Table 4.2
Descriptive Statistic of Pretest and Posttest
Statistics

		pretest	posttest
N	Valid	32	32
	Missing	0	0
	Mean	71.2500	73.3125
	Median	72.0000	73.0000
	Mode	70.00 ^a	70.00
	Std. Deviation	4.45044	2.76426
	Minimum	60.00	70.00
	Maximum	78.00	78.00

Table 4.3
Frequency of Pretest and Posttest
pretest

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	60	2	6.2	6.2	6.2
	64	1	3.1	3.1	9.4
	66	1	3.1	3.1	12.5
	68	3	9.4	9.4	21.9
	70	7	21.9	21.9	43.8
	72	7	21.9	21.9	65.6
	74	4	12.5	12.5	78.1
	76	5	15.6	15.6	93.8
	78	2	6.2	6.2	100.0
Total	32	100.0	100.0		

posttest

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	70	9	28.1	28.1	28.1
	72	7	21.9	21.9	50.0
	74	5	15.6	15.6	65.6
	76	8	25.0	25.0	90.6
	78	3	9.4	9.4	100.0
	Total	32	100.0	100.0	

The highest score WhatsApps 78 in pretest and 78 in posttest and the lowest score WhatsApps 60 in pretest and 78 in the posttest. It showed that the mean of students' scores in the pretest of vocabulary test WhatsApps 71,25; the mode WhatsApps 70 and the median WhatsApps 72. Therefore, the mean of students' scores in the posttest of vocabulary test WhatsApps 73,31; the mode WhatsApps 70 and the median WhatsApps 73,00.

A.1.2. The Result of Pretest and Posttest of Experimental Group

The Result of Pretest and Posttest of Vocabulary Test in Experimental group can be seen in table 4.4 below:

Table 4.4
The data of pretest-posttest in Experimental Group

Student	Pretest Score (X)	Posttest Score (Y)
1	70	86
2	72	84
3	70	78
4	74	80
5	66	76
6	70	84
7	76	84
8	70	84
9	68	80
10	72	78
11	72	80
12	74	82
13	76	80
14	62	74
15	70	80
16	74	84
17	70	78
18	72	86
19	70	78
20	70	80
21	70	88
22	70	90
23	70	80
24	68	80
25	74	80
26	72	76
27	78	84
28	76	80
29	70	78
30	74	88
31	70	80
32	68	86

Table 4.5
Descriptive Statistic of Pretest and Posttest

Statistics		Pretest	Posttest
N	Valid	32	32
	Missing	19	19
Mean		71.1875	81.4375
Median		70.0000	80.0000
Mode		70.00	80.00
Std. Deviation		3.20722	3.84320
Minimum		62.00	74.00
Maximum		78.00	90.00

Table 4.6
Frequency of Pretest and Posttest
Pretest

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	62	1	2.0	3.1	3.1
	66	1	2.0	3.1	6.2
	68	3	5.9	9.4	15.6
	70	13	25.5	40.6	56.2
	72	5	9.8	15.6	71.9
	74	5	9.8	15.6	87.5
	76	3	5.9	9.4	96.9
	78	1	2.0	3.1	100.0
	Total	32	62.7	100.0	
Missing	System	19	37.3		
Total		51	100.0		

Posttest

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	74	1	2.0	3.1	3.1
	76	2	3.9	6.2	9.4
	78	5	9.8	15.6	25.0
	80	11	21.6	34.4	59.4
	82	1	2.0	3.1	62.5
	84	6	11.8	18.8	81.2
	86	3	5.9	9.4	90.6
	88	2	3.9	6.2	96.9
	90	1	2.0	3.1	100.0
	Total	32	62.7	100.0	
Missing	System	19	37.3		
Total		51	100.0		

The highest score WhatsApps 78 in pretest and 90 in posttest and the lowest score WhatsApps 62 in pretest and 78 in the posttest. It showed that the mean of students' scores in the pretest of vocabulary test WhatsApps 71,18; the mode WhatsApps 70 and the median WhatsApps 70.00. Therefore, the mean of students' scores in the posttest of vocabulary test WhatsApps 81.43; the mode WhatsApps 80 and the median WhatsApps 80.00.

Therefore, the researcher analyzes the result of the posttest of the control group and experimental group both of vocabulary mastery.

A.1.3 Students' Motivation

To know the students' motivation to WhatsApp the use of WhatsApp as their additional tools on learning vocabulary, the researcher formulated a questionnaire that consists of 5 questions to confirm their opinion related to what have they done in the last part of this semester.

There is the only experimental group that got this questionnaire, but their opinion will be shared with all classes. They are free to share their opinion by stated strongly disagree, disagree, rarely agree, agree, or strongly agree toward these attached questions.

Question 1 was confirming students' agreement of the Whatsapp Group chat in improving their vocabulary WhatsApps interesting or not. Question 2 was confirming students' agreement that by using Whatsapp Group chat and teacher guidance in 'online-class' they could find new words and able to memorize them. Question 3 was confirming students' agreement that by using Whatsapp Group chat their motivations were increased better compared to the conventional method. Question 4 was confirming students' agreement that by using this Whatsapp Group chat, the students' ability in comprehending vocabulary increased. Question 5 was confirming student agreement that by using this Whatsapp Group chat, the students found the new experience in the discussion through the 'online-class'.

The researcher administered the questionnaire and gave for about 7 minutes to answer, they are free to share their feeling, and here is the result:

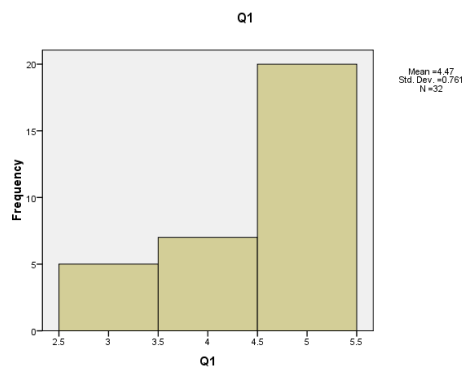
Table 4.7
Motivation test
Statistics

		Q1	Q2	Q3	Q4	Q5
N	Valid	32	32	32	32	32
	Missing	0	0	0	0	0

N represented the number of students in 11 IPS3 (Experimental class), the 5 questions are all answered by the students, and they do not let to cheat because every student has their own opinion. They showed various answers like what presented in the following tables and figures.

Table 4.8
The result for question number 1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	RA	5	15.6	15.6	15.6
	A	7	21.9	21.9	37.5
	SA	20	62.5	62.5	100.0
	Total	32	100.0	100.0	

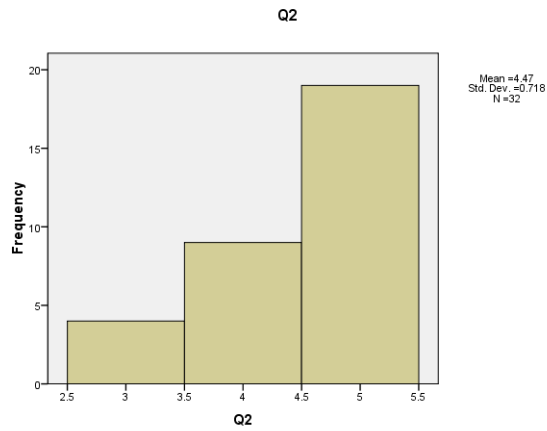


Question 1 (Q1) confirmed the students' agreement to the WhatsApp group chat as an interesting tool to improve their vocabulary. Then from the table can be seen that 20 students (61,9%) strongly agree that this media social is so helpful as their friend in learning vocabulary, 7 students (21.9) delivered their Agreement, and 5 students (15.6%) answered Rarely Agree. No one answer disagree (0%), the Mean score is 4.47 and is so close to the top score (5), so it can be concluded that the students are enjoying their activities in the online-class like what has also can be seen from the figures above.

Table 4.9
The result for question number 2

Q2

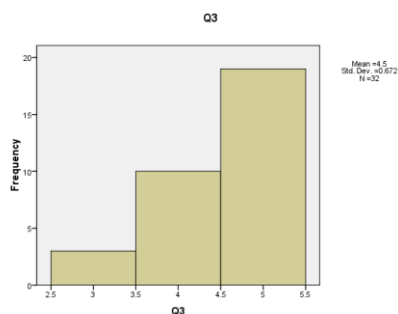
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	RA	4	12.5	12.5	12.5
	A	9	28.1	28.1	40.6
	SA	19	59.4	59.4	100.0
	Total	32	100.0	100.0	



From the second question (Q2) the researcher wanted to know the students' agreement that by using Whatsapp Group chat they became more confident to ask and express their idea. Again, the students' responses are so well, 19 students (59.4%) showed their strongly agree, while 9 students (28.1%) stated their agreement, and 4 students (12.5%) answered rarely agree. No one (0%) showed their disagreement, means that they felt so free to express their idea in the chat-room.

Table 4.10
The result for question number 3
Q3

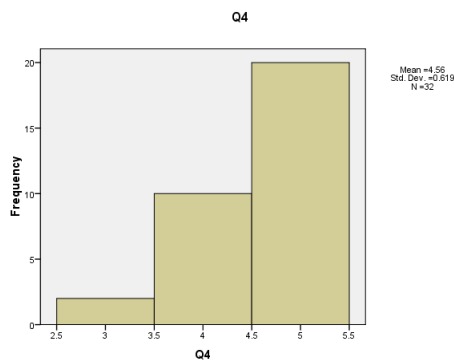
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	RA	3	9.4	9.4	9.4
	A	10	31.2	31.2	40.6
	SA	19	59.4	59.4	100.0
	Total	32	100.0	100.0	



The third question (Q3) asked the students whether they agreed or not that by using Whatsapp Group chat their motivations were increased better compared to the conventional method. The table presented that 19 students (59.4%) were strongly agreed that, 10 students (31.2%) said rarely agree, and 3 of them (9.4%) were rarely agree toward their motivation in learning vocabulary through Whatsapp group chat. No one expressed their disagreement, so it means that all of them are highly motivated to have the teaching and learning process by using their gadget.

Table 4.11
The result for question number 4
Q4

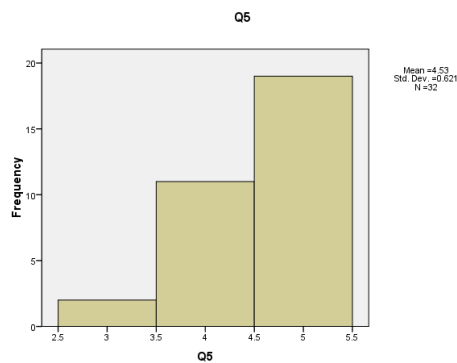
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid RA	2	6.2	6.2	6.2
A	10	31.2	31.2	37.5
SA	20	62.5	62.5	100.0
Total	32	100.0	100.0	



Question number 4 (Q4) asked about the students' opinion that by using this Whatsapp Group chat their ability in comprehending vocabulary is increased. From the data presented could be seen that most of them or 20 students (63.5%) showed their strong agreement, while 10 students (31.2%) think that they just agree, and only 2 students (6.2%) said rarely agree. Again, there is no disagreement showed by the students, so it can be concluded that they felt that Whatsapp could increase their comprehension in vocabulary mastery.

Table 4.12
The Result for Question Number 5
Q5

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid RA	2	6.2	6.2	6.2
A	11	34.4	34.4	40.6
SA	19	59.4	59.4	100.0
Total	32	100.0	100.0	



The last question (Q5) confirmed the students' agreement that by using this WhatsApp Group chat they can find a new experience in the discussion through the 'online-class'. From the data presented, there are 19 students (59.4%) answered strongly agree, 11 students (34.4%) showed their just agreement, and only 2 students (6.2%) expressed rarely agree. No one showed a disagreement, so it can be concluded that all of them enjoyed their activity to learn vocabulary through social media WhatsApp.

A.2. Hypothesis Testing

Here, the Kruskal-Wallis measurement was used. According to Nurul (2019), this statistical analysis must be used because the two variables have different kind of data. So, the non-parametric statistic was applied. The result of this analysis can be seen in the table 4.13 below:

Table 4.13

[data base] D:\Kruskall
Wallis\Dataset.ssv

Kruskal-Wallis

Test Statistic**

	Score
Chi Square	7.777
Df	2
Asymp. Sig	0.040

Kruskall Wallis Test
Grouping variable

The P-Value is indicated by the Asymp value. If the P-Value is less than 0.05, then the hypothesis decision is to accept the H1 and reject H0 or which means there is a dependent variable that influenced the independent variables. In this case, the value of P-Value is 0.040 which is less than the critical limit of 0.05 which means accepting H1 or the treatment gives significant influence on students' vocabulary and motivations.

Thus, based on the calculation, it can be stated that the vocabulary mastery of students taught by WhatsApp Group Chat is different from those taught by conventional strategy. It means that WhatsApp Group Chat is effective on students' vocabulary mastery and motivation.

B. Discussion

This study is designed to determine if the use of WhatsApp Group Chat helps improve students' vocabulary learning compared to the traditional method. This subheading then discussed the research questions separately.

B.1. WhatsApp is effective on students' vocabulary mastery

The results underlined that using WhatsApp Group Chat is more effective than traditional instruction in enhancing learners' vocabulary learning. This study lends support to the constructivist theory since WhatsApp has helped students construct their vocabulary knowledge. The evidence for the usefulness of WhatsApp in line with the findings of Bensaleem (2018) who conducted his study in a similar project in Saudi Arabia EFL learners. His participants believed that the most useful app for English language learning was WhatsApp.

The findings of this study also highlighted the positive attitudes of the participants both students and teachers toward the use of WhatsApp in learning vocabulary and creating online-class to optimize their communication out of the class. These results are in line with the findings reported by previous studies such as Mardiana and Daniels (2018) who concluded that the attitude of technological change will have involved in the innovation of the learning process.

Teachers' empowerment to change themselves gives a good opportunity to experiment with the computers and it will improve them to technological change. As the teacher believes that the change is needed, it brought the system change and the learning will improve.

Basoglu and Akdemir (2010) used a mobile phone as a delivery model for vocabulary cards. The findings suggested that the experimental group outperformed the comparison group. Similar results were reported by Alavinia and Qoitassi (2013). Chen, et al (2008) investigated the impact of different types of glossed vocabulary on vocabulary acquisition of 156 students who

were aged between 19 and 22 years. The vocabulary items were sent through mobile phones. The findings suggested that the students benefitted more when textual and pictorial glosses were presented together. These results support the assumptions of dual coding theory. In another study by Alemi, et al (2012) reported contrasting results where immediate posttest reported no significant difference but the treatment group performed better in delayed posttest than did the comparison group. Two studies were conducted in two different settings. Cultural differences and differences in sample size might be the reasons for these results.

This fact was supported by Alqahtani (2018), who has finished his research on using WhatsApp to learn English for University level. The study's outcome proposes that while WhatsApp is utilized as an online platform to provide communicative opportunities, it can lead to implicit learning both outside as well as inside of the classroom. To exploit the positive aspects of WhatsApp for learning, it is mandatory to motivate students to identify, comprehend, and engage in learning opportunities using WhatsApp. This will let students augment their levels of confidence, knowledge, competence, lifelong learning.

In view of this, teachers can implement teaching-learning tasks that use WhatsApp both as a platform to study as well as a way for socialization. This can be accomplished in an organized way by informing the students concerning the objectives and learning outcomes of tasks with a special emphasis on learning aspects rather than other general uses of WhatsApp.

WhatsApp became a tool which more attractive to use on teaching and learning activities in the case of creating an online class that can be accessed by the learners without any problem of a school schedule. A recent study conducted by Gabriella (2017) showed that in the didactics of foreign languages, the potential of mobile technologies is increasingly investigated. The advantages of these technologies go beyond the facts of low cost, high connectivity, and portability. These are appliances that can be accessed and used by students anywhere at any time, regardless of the teachers' and educational institutions' permissions.

B.2. Students' motivations were good toward the using of WhatsApp

As many 32 students of MAN 1 Trenggalek were given a questionnaire, the result denoted that the most useful values of WhatsApp for students were communicative, confident, and they could discuss every time so they can learn English anywhere and anytime. Like what presented by Bakhtiar in 2017, blended learning has become a trend in education, particularly language teaching. It enables teachers and students to learn a lesson both inside and outside of the classroom. There are some multimedia technology, such as CD ROM video streaming, virtual classroom, voicemail, email, conference call, online text animation, or video-streaming. It also supported the implementation of Hybrid learning, and through blended learning, students do not only study when they are at the school environment but also at home or somewhere else.

The same results were reported by Gutiérrez, et al (2013) who studied the benefits of using WhatsApp to improve the English reading skills of Spanish college students. The results of their study demonstrated that almost all participants acknowledged that the application of WhatsApp enhanced their motivation to read in English. The effectiveness of WhatsApp in enhancing the learner's vocabulary that is reported in this study can be attributed to different factors.

First of all, the novelty of the experience of using an online-class conducted out of the class lets the students think out the box. Like the earliest confirmation that students shared, they can have a new interesting tool to support their learning. A second possible factor related to the second question that confirms the students free to express their idea, WhatsApp group chat could be the sense of virtual community that has been created between students and their instructor, on one part, and among students themselves through the use of the WhatsApp group chat. In such an environment, a special bond could have been created between the different members as it was the case of Awada's (2016) experiment.

Another reason for the positive outcomes of the current study is that the use of WhatsApp has somehow liberated students who lack the confidence to participate in class. Like what students showed to answer question number 5 (Q5), they got a new experience in the discussion through the 'online-class' without any doubt. As many studies have reported (e.g. Alrabai, 2014; Al-Saraj 2014) Arab students typically

experience high levels of anxiety while speaking foreign languages in class. Using WhatsApp may have helped participants feel less inhibited and thus has boosted their confidence to be actively involved in the learning process as reported also by Awada (2016) and felt that it positively impacted their language performance. The same perception was shared by Turkish EFL learners who thought that using WhatsApp significantly impacted the students' language acquisition by lowering EFL speaking anxiety (Han and Keskin, 2016).

From overall questions that have been answered, the students felt that WhatsApp could be an efficient online platform in which to use English. Nearly 80% of students felt very positive that WhatsApp supported their activities in learning vocabulary. Text-based communication leads to healthy interaction, thereby eliminating hurdles' lack of communication like shyness, cultural differences, lack of time, and other language learning issues faced by students in English classrooms.

With WhatsApp, there were plenty of chances for all students to share their thoughts on any given topic, especially those who are intimidated to converse in class or those who require some time to plan, think, and respond. Through the formation of a group, students of a course of letters, Indonesian - English, were able to practice linguistic knowledge acquired in the classroom, interact about your daily life in a foreign language and send messages and image files.