

## **CHAPTER III**

### **RESEARCH METHODOLOGY**

This chapter consists of research design, population and sample, research variables, research instruments, validity and reliability of test, data collection method, and data analysis.

#### **3.1 Research Approach**

There are two kinds of approaches to do a research. They are qualitative and quantitative approaches. According to Sukmadinata (2013), qualitative research is a research that describes and analyzes the phenomena or events on the subject and surroundings. Meanwhile, Maolani et.al. (2015) define that quantitative research is a research that emphasizes on testing the theory or hypothesis by computing the numerical data statistically.

This current study uses quantitative approach to analyze the numerical data. The purpose of this study is to test the hypothesis. The research data is analyzed statistically by using SPSS 17.0. The data finding are compared with the significance level to determine whether the hypothesis are accepted or rejected.

#### **3.2 Research Design**

The research design of this study is Quasi-experimental research. It is called Quasi-experimental because the subjects of study are not taken randomly. This study uses two groups of subject, they are experimental and control group.

Both of two groups are taken from the existing class (intact group). The research design is selected because it is appropriate with the setting of the study. This study is conducted in the educational setting, hence it difficult to take the research subjects randomly. So, the research subjects are taken from the existing class / group in the school. Ary, et.al., (2010) state that a research study can not interferes the schedule and classes in the school, it can only uses groups from the existing intact classes. Moreover, Latief (2016) mentions that it is frequently impossible to take the sample in the school setting randomly.

Hence, this study uses **Nonrandomized Control Group, Pretest-Posttest Design**. According to Ary, et. al. (2010) this design is one of quasi-experimental that is most commonly used in educational research. The following table is the description of nonrandomized control group, pretest-posttest design:

**Table 3.1 Nonrandomized Control Group, Pretest-Posttest Design**

GROUP	PRE-TEST	INDEPENDENT VARIABLE	POST-TEST
E	$Y_1$	X	$Y_2$
C	$Y_1$	-	$Y_2$

(Ary et. al., 2010:316)

**Note:**

E : experimental group

C : control group

X : treatment (teaching vocabulary using animation video)

- : conventional media

$Y_1$  : pre-test

$Y_2$  : post-test

**The Description of Treatment**

The treatment of this study is teaching vocabulary by using animation video. First, the researcher gives brainstorming to the students. The purpose is to

know the students background knowledge of action verbs and to define them about animation video. Second, plays the animation video and asks the students to observe the action verbs on the animation video. It is expected that the students can catch the vocabularies from animation video. Third, plays the animation video and asks the students to write a list of words. A list of words can be used to know the level of students' focus on the animation video. Fourth, plays the animation video and asks the students to interpret the meaning of words. Students are expected to find the meaning of the words from animation video. Fifth, plays the animation video and asks the students to discuss the words and the meanings. Discussion activity is intended to make the students compare their answers and make them more comprehend on the words and the meanings.

### **3.3 Population, Sample, and Sampling of Research**

#### **3.3.1 Population**

The population of this research is the eighth grade students of SMPN 2 Sumbergempol, Tulungagung in the academic year of 2018/2019. They are grouped into 8 classes (VIII A-VIII H). The total number of population are 256 students.

#### **3.3.2 Sample**

The sample of this research are two classes of the eighth grade at SMPN 2 Sumbergempol which have equivalent level. The researcher randomly assigned class VIII F as the experimental group and VIII G as the control group. The

number of students on class VIII F are 33 students and the number of students on class VIII G are 32 students.

### **3.3.3 Sampling**

In this study the researcher uses purposive sampling technique. This school is selected as the setting of study because the students have moderate achievement in English. The students' achievement in English is not too high or too low, especially in the vocabulary acquisition. It is intended to reduce the influence of external variables. The selection of the school is also based on the available facilities, especially lcd projector as the main tool to play the animation video. The researcher chooses the class VIII F and VIII G as the sample of the study based on the assessment document and the teacher's recommendation. It shows that the two classes have equivalent level.

### **3.4 Research Variable**

In this study, there are three variables used, including:

1. Dependent variable

There are two dependent variables in this study, such as: students' vocabulary mastery and students' motivation.

2. Independent variable

The independent variable used in this study is animation video.

### 3.5 Method of Collecting Data

This current study uses two kinds of research instruments to collect the data. The test is administered to measure the students' vocabulary mastery, while the questionnaire is distributed to measure the students' motivation. The research instruments were distributed to the students as the research object. The instruments of collecting the data consist of:

#### 3.5.1 Test

This study uses pre-test and post-test to measure the students' vocabulary mastery. The number of every tests are 25 items. The form of the tests are multiple choice with the distribution as follows: 5 items of completing the sentence, 5 items of synonym and antonym test, 10 items of fill in gap, and 5 items of words definition. The scoring guide of test = the right answer x 4. The score of test is in the form of interval data.

**Table 3.2 The Matrix of Test**

No.	Material	Standard competence	Item
1	Action verb (daily activities)	The students are able to complete the sentences	1,2,3,4,5
2		The students are able to find the synonym and antonym of word	6,7,8,9,10
3		The students are able to answer the missing word (gap filling)	11,12,13,14,15,16,17,18,19,20
4		The students are able to find the definition of word	21,22,23,24,25

Before administering the test, the researcher conducts the try out. The result of try out is aimed to measure the validity and reliability of the test. The validity of research instruments in this study are computed by using **Pearson**

**Product Moment** correlation test. While, the reliability of research instruments in this study are computed by using **Cronbach's Alpha**.

### Validity testing

**Table 3.3 The Resume of Pretest Validity Testing**

Item	$r_{\text{count}}$	$r_{\text{table}}$	sig. (2-tailed)	Status
1	0.501	0.349	0.003	<b>Valid</b>
2	0.552	0.349	0.001	<b>Valid</b>
3	0.657	0.349	0.000	<b>Valid</b>
4	0.504	0.349	0.002	<b>Valid</b>
5	0.501	0.349	0.003	<b>Valid</b>
6	0.535	0.349	0.001	<b>Valid</b>
7	0.553	0.349	0.001	<b>Valid</b>
8	0.501	0.349	0.003	<b>Valid</b>
9	0.579	0.349	0.000	<b>Valid</b>
10	0.578	0.349	0.000	<b>Valid</b>
11	0.582	0.349	0.000	<b>Valid</b>
12	0.582	0.349	0.000	<b>Valid</b>
13	0.544	0.349	0.001	<b>Valid</b>
14	0.565	0.349	0.000	<b>Valid</b>
15	0.595	0.349	0.000	<b>Valid</b>
16	0.586	0.349	0.000	<b>Valid</b>
17	0.490	0.349	0.003	<b>Valid</b>
18	0.475	0.349	0.004	<b>Valid</b>
19	0.570	0.349	0.000	<b>Valid</b>
20	0.543	0.349	0.001	<b>Valid</b>
21	0.544	0.349	0.001	<b>Valid</b>
22	0.625	0.349	0.000	<b>Valid</b>
23	0.516	0.349	0.002	<b>Valid</b>
24	0.641	0.349	0.000	<b>Valid</b>
25	0.519	0.349	0.002	<b>Valid</b>

If  $r_{\text{count}} > r_{\text{table}}$  and if the sig. (2-tailed)  $< 0.05$ , the instrument is valid. If the respondents of this study are 34 students, so the  $r_{\text{table}}$  with  $df = N - 2 = 34 - 2 = 32$ , and the level of significance 5% is 0.349 (see "r-table" on **Appendix 18**).

Based on the table above, the  $r_{\text{count}}$  of item\_1 until item\_25 are bigger than

$r_{table}$  0.349, and the sig. (2-tailed) of item\_1 until item\_25 are smaller than the significance level 0.005. The item\_1 until item\_25 are fulfill all of the basic of decision making of validity test. So, it can be concluded that all of the items of the pre-test on this study are valid and can be used to collect the research data.

**Table 3.4 The Resume of Posttest Validity Testing**

<b>Item</b>	<b><math>r_{count}</math></b>	<b><math>r_{table}</math></b>	<b>sig. (2-tailed)</b>	<b>Status</b>
1	0.566	0.349	0.000	<b>Valid</b>
2	0.624	0.349	0.000	<b>Valid</b>
3	0.495	0.349	0.003	<b>Valid</b>
4	0.487	0.349	0.004	<b>Valid</b>
5	0.505	0.349	0.002	<b>Valid</b>
6	0.541	0.349	0.001	<b>Valid</b>
7	0.509	0.349	0.002	<b>Valid</b>
8	0.575	0.349	0.000	<b>Valid</b>
9	0.496	0.349	0.003	<b>Valid</b>
10	0.532	0.349	0.001	<b>Valid</b>
11	0.512	0.349	0.002	<b>Valid</b>
12	0.491	0.349	0.003	<b>Valid</b>
13	0.512	0.349	0.002	<b>Valid</b>
14	0.559	0.349	0.001	<b>Valid</b>
15	0.550	0.349	0.001	<b>Valid</b>
16	0.550	0.349	0.001	<b>Valid</b>
17	0.514	0.349	0.002	<b>Valid</b>
18	0.503	0.349	0.002	<b>Valid</b>
19	0.530	0.349	0.001	<b>Valid</b>
20	0.494	0.349	0.003	<b>Valid</b>
21	0.623	0.349	0.000	<b>Valid</b>
22	0.512	0.349	0.002	<b>Valid</b>
23	0.536	0.349	0.001	<b>Valid</b>
24	0.514	0.349	0.002	<b>Valid</b>
25	0.549	0.349	0.001	<b>Valid</b>

Based on the table above, the  $r_{count}$  of item\_1 until item\_25 are bigger than  $r_{table}$  0.349, and the sig. (2-tailed) of item\_1 until item\_25 are smaller than the significance level 0.005. The item\_1 until item\_25 are fulfill all of the basic of

decision making of validity test. So, it can be concluded that all of the items of the post-test on this study are valid and can be used to collect the research data.

### Reliability Testing

**Table 3.5 The Output of Pretest Reliability Testing**

#### Case Processing Summary

		N	%
Cases	Valid	34	100.0
	Excluded <sup>a</sup>	0	.0
	Total	34	100.0

a. Listwise deletion based on all variables in the procedure.

#### Reliability Statistics

Cronbach's Alpha	N of Items
.906	25

#### Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Item_1	42.35	715.750	.443	.904
Item_2	42.24	710.004	.497	.902
Item_3	42.35	698.296	.612	.900
Item_4	42.47	715.651	.447	.903
Item_5	42.35	715.750	.443	.904
Item_6	42.12	711.986	.479	.903
Item_7	42.59	710.674	.500	.902
Item_8	42.59	716.492	.444	.904
Item_9	42.59	707.765	.528	.902
Item_10	42.12	707.137	.526	.902
Item_11	42.12	705.198	.545	.901
Item_12	42.47	706.923	.531	.902
Item_13	42.35	710.902	.490	.903
Item_14	42.47	708.863	.512	.902
Item_15	42.12	705.198	.545	.901
Item_16	42.24	706.125	.535	.902
Item_17	42.82	719.059	.434	.904
Item_18	42.35	718.660	.416	.904
Item_19	42.71	709.547	.519	.902
Item_20	43.06	715.693	.493	.903
Item_21	42.59	711.643	.491	.903
Item_22	42.82	704.513	.579	.901
Item_23	42.71	715.365	.461	.903
Item_24	42.71	701.790	.596	.900
Item_25	42.35	713.811	.462	.903



The table of “case processing summary” above shows the number of sample or respondent (N) and the percentage of valid. The total number of respondent (N) are 34 students. The percentage of valid is 100% because all of the questions are answered by the respondents.

The table of “reliability statistics” above shows the total number of items and the scale of cronbach’s alpha. The number of items are 25 and the scale of cronbach’s alpha shows 0.906. The basic of decision making of reliability are as follow: if the cronbach’s alpha  $\geq 0.60$ , the cronbach’s alpha is acceptable (construct reliable), but if the cronbach’s alpha  $< 0.60$ , the cronbach’s alpha is poor acceptable (construct unreliable). The cronbach’s alpha on the table above shows  $0.906 \geq 0.60$ , so it can be concluded that the construct of the pre-test in this study is reliable.

The table of “item-total statistics” above shows that the cronbach’s alpha of Item\_1 until Item\_25 are bigger than 0.60. It means that all of the items of post-test on this study fulfill the basic of decision making of reliability test. So, it can be concluded that all of the items of the pre-test on this study are reliable and can be used to collect the research data.

This study conducts two kinds of try out; they are pretest and posttest and also distribute the questionnaire on the pretest and posttest. All of the reliability of instruments is computed by using Cronbach’s Alpha in SPSS Statistics 17.0. The following table is the output of posttest reliability testing:

**Table 3.6 The Output of Posttest Reliability Testing****Case Processing Summary**

		N	%
Cases	Valid	34	100.0
	Excluded <sup>a</sup>	0	.0
	Total	34	100.0

a. Listwise deletion based on all variables in the procedure.

**Reliability Statistics**

Cronbach's Alpha	N of Items
.894	25

**Item-Total Statistics**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Item_1	45.53	648.742	.511	.889
Item_2	45.18	643.422	.575	.888
Item_3	44.94	658.481	.436	.891
Item_4	46.59	664.128	.435	.891
Item_5	45.41	655.401	.445	.891
Item_6	45.76	651.822	.484	.890
Item_7	45.29	655.244	.450	.891
Item_8	45.65	647.872	.521	.889
Item_9	45.41	656.371	.436	.891
Item_10	45.41	652.492	.474	.890
Item_11	45.53	654.560	.453	.891
Item_12	45.29	657.184	.430	.891
Item_13	45.53	654.560	.453	.891
Item_14	45.76	649.882	.504	.889
Item_15	45.76	650.852	.494	.890
Item_16	45.41	650.553	.494	.890
Item_17	45.76	654.731	.455	.891
Item_18	45.65	655.629	.443	.891
Item_19	45.65	652.720	.472	.890
Item_20	45.53	656.499	.433	.891
Item_21	45.76	643.094	.573	.888
Item_22	46.12	656.713	.455	.891
Item_23	45.88	652.834	.479	.890
Item_24	45.76	654.731	.455	.891
Item_25	46.12	652.834	.495	.890

The table of “case processing summary” above shows the number of sample or respondent (N) and the percentage of valid. The total number of

respondent (N) are 34 students. The percentage of valid is 100% because all of the questions are answered by the respondents.

The table of “reliability statistics” above shows the total number of items and the scale of cronbach’s alpha. The number of items are 25 and the scale of cronbach’s alpha shows 0.894. The basic of decision making of reliability are as follow: if the cronbach’s alpha  $\geq 0.60$ , the cronbach’s alpha is acceptable (construct reliable), but if the cronbach’s alpha  $< 0.60$ , the cronbach’s alpha is poor acceptable (construct unreliable). The cronbach’s alpha on the table above shows  $0.894 \geq 0.60$ , so it can be concluded that the construct of the post-test in this study is reliable.

The table of “item-total statistics” above shows that the cronbach’s alpha of Item\_1 until Item\_25 are bigger than 0.60. It means that all of the items of post-test on this study fulfill the basic of decision making of reliability test. So, it can be concluded that all of the items of the post-test on this study are reliable and can be used to collect the research data.

### **3.5.2 Questionnaire**

In this study, questionnaire is used to know the students' motivation toward teaching vocabulary by using animation video. It is organized as checklist form with likert-scales model. Likert-scale is using ordinal numbers that consist of five (5) alternative answers. It can be positive or negative statement. The data of motivation questionnaire for every item is in the form of ordinal scale.

Meanwhile, the total score of all the items of questionnaire is in the form of interval scale.

The following table is the scoring guide for the answer in questionnaire for positive and negative statements:

**Table 3.7 Likert-Scale**

No.	Alternative Answer	Value	
		Positive	Negative
1	SA (Strongly Agree)	5	1
2	A (Agree)	4	2
3	N (Neutral)	3	3
4	D (Disagree)	2	4
5	SD (Strongly Disagree)	1	5

Source: Sugiyono (2017:94)

All of the questionnaire items in this study use positive statements. It consists of 6 variables which are divided into 18 statements / items. The following table is the matrix of questionnaire:

**Table 3.8 The Matrix of Questionnaire**

NO.	VARIABLES	STATEMENTS / ITEMS
1	Students' learning focus	<ul style="list-style-type: none"> <li>I feel more focused on English vocabulary learning by using animation video.</li> <li>I feel more interested in paying attention to English vocabulary lessons by using animation video.</li> <li>I find it easier to understand English vocabulary lessons by using animation video.</li> </ul>
2	Students' learning anxiety	<ul style="list-style-type: none"> <li>Vocabulary learning by using animation video makes my fear of English diminish.</li> <li>Vocabulary learning by using animation video makes my anxiety in English diminish.</li> <li>English vocabulary learning by using animation video increases my confidence.</li> </ul>
3	Students' interest in English classes	<ul style="list-style-type: none"> <li>I like the English vocabulary classes that use animation video.</li> <li>English vocabulary classes that use animation video are more fun.</li> <li>English vocabulary classes that use animation video make me more enthusiastic in learning.</li> </ul>
4	Students' interest in classroom atmosphere	<ul style="list-style-type: none"> <li>English vocabulary learning by using animation video makes the classroom feel more comfortable.</li> <li>The atmosphere of the English vocabulary class that</li> </ul>

		<p>uses animation video feels more fun.</p> <ul style="list-style-type: none"> <li>• Animation video makes the English vocabulary class feel more relaxed.</li> </ul>
5	Students' interest in English teacher	<ul style="list-style-type: none"> <li>• The teacher's explanation of English vocabulary by using animation video is easier to be understood.</li> <li>• The teacher's explanation of English vocabulary by using animation video is not monotonous.</li> <li>• The teacher's explanation about English vocabulary by using animation video feels more detailed / clear.</li> </ul>
6	Students' interest in animation video	<ul style="list-style-type: none"> <li>• English vocabulary learning while watching animation video is more fun.</li> <li>• Learning English vocabulary while watching animation video is not boring.</li> <li>• Animation video is able to display English vocabulary learning material more clearly because it is presented in audio-visual.</li> </ul>

### Validity Testing

The validity testing of questionnaire is also computed by using Pearson Product Moment in SPSS Statistics 17.0.

**Table 3.9 The Resume of Questionnaire Validity Testing (Pretest)**

Item	$r_{count}$	$r_{table}$	sig. (2-tailed)	Status
1	0.578	0.349	0.000	Valid
2	0.700	0.349	0.000	Valid
3	0.487	0.349	0.003	Valid
4	0.597	0.349	0.000	Valid
5	0.554	0.349	0.001	Valid
6	0.569	0.349	0.000	Valid
7	0.735	0.349	0.000	Valid
8	0.593	0.349	0.000	Valid
9	0.572	0.349	0.000	Valid
10	0.586	0.349	0.000	Valid
11	0.615	0.349	0.000	Valid
12	0.646	0.349	0.000	Valid
13	0.522	0.349	0.002	Valid
14	0.725	0.349	0.000	Valid
15	0.533	0.349	0.001	Valid
16	0.567	0.349	0.000	Valid
17	0.694	0.349	0.000	Valid
18	0.734	0.349	0.000	Valid

Based on the table above, the  $r_{\text{count}}$  of item\_1 until item\_18 are bigger than  $r_{\text{table}}$  0.349 and the sig. (2-tailed) of item\_1 until item\_18 are smaller than the significance level 0.005. It means that the item\_1 until item\_18 fulfill all of the basic of decision making of the validity test. So, it can be concluded that all of the items of questionnaire (for pre-test) in this study are valid and can be used to collect the research data.

**Table 3.10 The Resume of Questionnaire Validity Testing (Posttest)**

<b>Item</b>	<b><math>r_{\text{count}}</math></b>	<b><math>r_{\text{table}}</math></b>	<b>sig. (2-tailed)</b>	<b>Status</b>
1	0.511	0.349	0.002	<b>Valid</b>
2	0.718	0.349	0.000	<b>Valid</b>
3	0.538	0.349	0.001	<b>Valid</b>
4	0.628	0.349	0.000	<b>Valid</b>
5	0.696	0.349	0.000	<b>Valid</b>
6	0.730	0.349	0.000	<b>Valid</b>
7	0.575	0.349	0.000	<b>Valid</b>
8	0.740	0.349	0.000	<b>Valid</b>
9	0.553	0.349	0.001	<b>Valid</b>
10	0.691	0.349	0.000	<b>Valid</b>
11	0.560	0.349	0.001	<b>Valid</b>
12	0.547	0.349	0.001	<b>Valid</b>
13	0.623	0.349	0.000	<b>Valid</b>
14	0.492	0.349	0.000	<b>Valid</b>
15	0.535	0.349	0.001	<b>Valid</b>
16	0.646	0.349	0.000	<b>Valid</b>
17	0.663	0.349	0.000	<b>Valid</b>
18	0.640	0.349	0.000	<b>Valid</b>

Based on the table above, the  $r_{\text{count}}$  of item\_1 until item\_18 are bigger than  $r_{\text{table}}$  0.349 and the sig. (2-tailed) of item\_1 until item\_18 are smaller than the significance level 0.005. It means that the item\_1 until item\_18 fulfill all of the basic of decision making of the validity test. So, it can be concluded that all of the

items of questionnaire (for post-test) in this study are valid and can be used to collect the research data.

### Reliability Testing

The reliability of questionnaire is computed by using Cronbach's Alpha in SPSS Statistics 17.0. The tabulation data of questionnaire on try out can be seen on appendix 11 and 12.

**Table 3.11 The Output of Questionnaire Reliability Testing (Pretest)**

Case Processing Summary			
		N	%
Cases	Valid	34	100.0
	Excluded <sup>a</sup>	0	.0
	Total	34	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics	
Cronbach's Alpha	N of Items
.899	18

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Item_1	59.00	82.909	.506	.895
Item_2	58.47	82.984	.657	.891
Item_3	58.79	85.805	.421	.897
Item_4	58.94	83.027	.531	.894
Item_5	59.18	84.332	.490	.895
Item_6	58.88	83.380	.500	.895
Item_7	58.62	81.152	.689	.889
Item_8	58.44	85.042	.543	.894
Item_9	58.41	82.734	.497	.896
Item_10	58.79	82.653	.515	.895
Item_11	58.50	83.348	.556	.893
Item_12	59.12	80.531	.575	.893
Item_13	58.74	84.625	.452	.897
Item_14	58.76	82.185	.683	.890
Item_15	58.82	84.513	.465	.896
Item_16	58.53	83.408	.498	.895
Item_17	58.74	79.291	.628	.891
Item_18	58.76	82.549	.695	.890

The table of “case processing summary” above shows the number of sample or respondent (N) and the percentage of valid. The total number of respondent (N) are 34 students. The percentage of valid is 100% because all of the questions are answered by the respondents.

The table of “reliability statistics” above shows the total number of items and the scale of cronbach’s alpha. The number of items are 18 and the scale of cronbach’s alpha shows 0.899. The basic of decision making of reliability are as follow: if the cronbach’s alpha  $\geq 0.60$ , the cronbach’s alpha is acceptable (construct reliable), but if the cronbach’s alpha  $< 0.60$ , the cronbach’s alpha is poor acceptable (construct unreliable). The cronbach’s alpha on the table above shows  $0.899 \geq 0.60$ , so it can be concluded that the construct of the questionnaire (pre-test) in this study is reliable.

The table of “item-total statistics” above shows that the cronbach’s alpha of Item\_1 until item\_18 are bigger than 0.60. It means that all of the items of the questionnaire in this study fulfill the basic of decision making of reliability test. So, it can be concluded that all of the items of the questionnaire (for pre-test) in this study are reliable and can be used to collect the research data.

The questionnaire is also distributed after trying out the posttest. The number of items in the posttest questionnaire is equal with the number of items in the pretest try out. The contents of questionnaire of pretest and posttest are also equivalent. The researcher develops the posttest questionnaire from the pretest questionnaire by change the arrangement and the phrase of statements. The following is the output of questionnaire reliability testing:



**Table 3.12 The Output of Questionnaire Reliability Testing (Posttest)****Case Processing Summary**

		N	%
Cases	Valid	34	100.0
	Excluded <sup>a</sup>	0	.0
	Total	34	100.0

a. Listwise deletion based on all variables in the procedure.

**Reliability Statistics**

Cronbach's Alpha	N of Items
.902	18

**Item-Total Statistics**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Item_1	59.65	83.023	.443	.900
Item_2	59.76	80.246	.674	.893
Item_3	59.76	82.610	.472	.899
Item_4	59.47	80.439	.565	.896
Item_5	59.74	77.231	.630	.894
Item_6	59.76	80.549	.690	.893
Item_7	60.00	80.909	.502	.898
Item_8	59.38	80.789	.702	.893
Item_9	59.71	82.032	.485	.898
Item_10	59.50	80.076	.640	.894
Item_11	59.38	83.637	.509	.898
Item_12	59.38	81.213	.470	.899
Item_13	59.91	80.447	.559	.896
Item_14	60.12	83.561	.425	.900
Item_15	59.76	82.973	.472	.899
Item_16	59.59	79.886	.584	.895
Item_17	59.50	80.924	.611	.895
Item_18	60.12	78.471	.576	.896

The table “case processing summary” above shows the number of sample or respondent (N) and the percentage of valid. The total number of respondent (N) are 34 students. The percentage of valid is 100% because all of the questions are answered by the respondents.

The table “reliability statistics” above shows the total number of items and the scale of cronbach’s alpha. The number of items are 18 and the scale of cronbach’s alpha shows 0.902. The basic of decision making of reliability are as follow: if the cronbach’s alpha  $\geq 0.60$ , the cronbach’s alpha is acceptable (construct reliable), but if the cronbach’s alpha  $< 0.60$ , the cronbach’s alpha is poor acceptable (construct unreliable). The cronbach’s alpha on the table above shows  $0.902 \geq 0.60$ , so it can be concluded that the construct of the questionnaire (for post-test) in this study is reliable.

The table “item-total statistics” above shows that the cronbach’s alpha of Item\_1 until item\_18 are bigger than 0.60. It means that all of the items of the questionnaire in this study fulfill the basic of decision making of reliability test. So, it can be concluded that all of the items of the questionnaire (for post-test) in this study are reliable and can be used to collect the research data.

### **3.6 Method of Data Analysis**

This current study uses quantitative data analysis. Data analysis is the process of analyzing the data which are collected from the research. The data of this study are analysed statistically by using SPSS. The analysis is aimed to measure the significant effect of students’ vocabulary mastery before and after being taught by using animation video. In quantitative research, analysis of data is conducted after collecting all of the research data. Maolani et.al. (2015), mention some procedures of analyse the data, such as: grouping the data, make data tabulation, display the data, compute the data, test the hypothesis.

### **3.6.1 Descriptive Statistic**

After the tests are administered, then the result of students' vocabulary test and motivation questionnaire are analyzed by using descriptive statistic. Descriptive statistics is used to describe the research data including the number of data, maximum score, minimum score, mean, and standard deviation. This current study uses SPSS Statistics 17.0 to compute the data.

### **3.6.2 Normality Testing**

Normality testing is aimed to know whether the research data is normally distributed or not. SPSS Kolmogorov-Smirnov is used to test the normality of data in this study. If the significance value  $> 0.05$ , the research data is normally distributed.

Based on the output of Kolmogorov-Smirnov, the Asymp. Sig. (2-tailed) of vocabulary is 0.034 and motivation is 0.598. Because the significance value of vocabulary  $< 0.05$ , it can be concluded that the research data of vocabulary mastery is not normally distributed. Since, the data are not normally distribute, therefore the analysis data of this study uses non parametric statistics. The output of normality testing can be seen on appendix 28.

### **3.6.3 Homogeneity Testing**

Homogeneity testing is used to know whether the research data is homogen or not. If the Sig. value  $> 0.05$ , the distribution of data is homogen. SPSS Levene statistics is used to analyze the homogeneity of data in this study.

Based on the output of Levene Statistics, it is known that the significance value of vocabulary is 0.889 and motivation is 0.792. Because the significance value  $> 0.05$ , it can be concluded that the data of vocabulary and motivation are homogen. The output of homogeneity testing can be seen on appendix 29.

### 3.6.4 Kruskal-Wallis Testing

Kruskal-Wallis testing is a kind of Nonparametric Statistics test. It is used to compare independent variable from the different population with not normally distributed ordinal or interval scale (Uyanto, 2006:331).

The criteria of Kruskal-Wallis test are:

If Sig.  $< 0.05$ ,  $H_0$  is rejected.

If Sig.  $\geq 0.05$ ,  $H_0$  cannot be rejected.

Before computing the data by using Kruskal-Wallis, the data with interval scale is transformed into ordinal scale. The following table is the point scale to transform the interval scale to ordinal scale:

**Table 3.13 Point Scale of Vocabulary Mastery**

Point Scale	Score	Ordinal Scale
Excellent	81 – 100	4
Good	65 – 80	3
Fair	50 – 64	2
Poor	0 – 49	1

**Table 3.14 Point Scale of Motivation**

Point Scale	Score	Ordinal Scale
High motivated	81 – 100	4
Motivated	65 – 80	3
Less motivated	50 – 64	2
Unmotivated	0 – 49	1