

CHAPTER III

RESEARCH METHOD

This chapter discusses research design, population, sampling, and sample, description of treatment, research variable, research instrument, data collection method, and data analysis technique.

A. Research Design

Research design is all process that needed in conducting a research. The study belonged to quantitative approach by using an experimental research design with two group pre-test and post-test. The experiment research design is a research design intended to test the effectiveness of something. Furthermore, according to John W. Cresswell (2012:295) experimental study is for the research which was helping the researcher to know the cause and effect between independent variables and dependent variables.

In this study the researcher uses a quasi-experimental the design of the research to know the effectiveness of using cartoon story maker in students' writing achievement at the second grade of SMPN 1 Ngantru.. According to Joy W. Creswell (2008:626) that quasi-experiments are experimental situations in which the researcher assigns, but not randomly, participants to groups because the experimenter cannot artificially create groups for the experiment. In addition, the researcher use two class,

that is experimental class and the control class. In the experimental class the researcher use cartoon story maker as the media for teaching writing of simple dialogue and in the control class the researcher does not use cartoon story maker as a media for teaching writing of simple dialogue. Both classes were given the same pre-test and post-test, but without giving the same treatment with the class experimental and the control class. The research use the experimental design to compare score students' writing achievement taught by using cartoon story maker and those taught without using cartoon story maker. The table below shows the design of the research.

Table 3.1: Quasi-experimental research design

Group	Y1	X	Y2
Experimental class (VIII A)	Pre-test	Using cartoon story maker	Post-test
Control class (VIII B)	Pre-test	Without using cartoon story maker	Post- test

Based on the table 3.1, the procedures of using two groups pre-test post-test design are:

1. Administering a pre-test to both classes (VIII A and VIII B) to measure the score of writing achievement of the students at the second grade in SMPN 1 Ngantru
2. Applying the experimental treatment in VIII A class to teach writing by using cartoon story maker. Applying control treatment in VIII B to teach writing without using cartoon story maker to the student of the second grade in SMPN 1 Ngantru

3. Administering a post-test in both classes (VIII A and VIII B) to measure the score of writing achievement of the students at the second grade in SMPN 1 Ngantru

B. Population, Sampling and Sample

1. Population

Population is all individuals that involve in the research. According to Creswell, (2008: 151) population is a group of individuals who have the same characteristic. The population in this research is the students at the second grade of junior high school in SMPN 1 Ngantru. Which consist of ten classes (A, B, C, D, E, F, G, H, I, J).

2. Sampling

Sampling is a technique to take sample from group population. Sampling is an important characteristic of inferential, and statistics is the process of going from the part to whole (Ary et al, 2010:148). Purposive sampling also known as judgmental, selective, or subjective sampling. This type of sampling can be useful in situations when the researcher needed to reach a targeted sample quickly, and where sampling for proportionally is not the main concern. In purposive sampling, the researcher used expert judgment to take some representative of typical cases from population. First, identify the important variation source of population, then choose the cases that were suitable with the variation source. Purposive sampling used the researcher based on a certain consideration and the main consideration was the chosen classes had

homogeneous in writing achievement. In other words, the students had same average proficiency.

3. Sample

Sample is a part of population of the research. “Sample is a subgroup of the target population” Creswell (2012: 142). In this research, the researcher takes population at the second grade of junior high school in SMPN 1 Ngantru. That is class 8 A and B. Each of them consists 30 students. They are 14 male students, and 16 female students. The researcher chooses the two classes based on discussion with English teacher and the agreement with the Headmaster.

C. Research Variable

Variable is anything that will be researched by the researcher. According to Fraenkel and Wallen (2009: 261) in experimental study, there is an effect of at least one independent variable on one or more dependent variables. The independent variables refer to the experimental or treatment. The dependent variable refer to the results or outcomes of the study. In this research, there are two variables as follows:

1. Independent variable (X)

The independent of this research is cartoon story maker.

2. Dependent variable (Y)

The dependent of this research is students’ writing achievement.

D. Research Instrument

The research is always need an instrument for collect the result of the data. Sugiyono (2013) stated that research instrument is a tool for measuring and observing, in order to produce the result of quantitative data. He also said that research instrument uses to measure the value of research variable. Creswell (2008:5) stated that the researcher uses instrument to measure achievement, asses individual ability, observe behavior, develop a psychology profile of an individual, or interview a person. Thus, research instruments are the ways of gathering the data. To get the data, the researcher apply test as a research instrument. Furthermore, Burhan (2014:117) stated that there were two types of test used as instrument, namely essay test and objective test. Essay test is a form of question that demands the answer of students' in the form of descriptions using their own language. Then, objective test is a short answer test that demands students' only by giving a short answer by selecting a specific code that represents an alternative answer that has been provided. In this research, the writing test served in subjective test as the research instrument.

The writing test was held twice, in the pre-test and post-test. The students were ordered to write a dialogue by using simple past tense. The post-test has the same format as the pre-test. The pre-test was administered before giving treatment or before teaching by using cartoon story maker. The purpose is to know or measure the students' writing achievement before be given a treatment. By knowing the results of pre-test, it can be concluded that there were significant difference score before and

after the treatment was given. After getting the result of pre-test from experimental group and control group, the researcher was given treatment to teach writing for experimental group by using cartoon story maker. Meanwhile, the researcher did not give treatment or given conventional method to teach writing for control group. After that, the researcher had given post-test to experimental group and control group. Post-test was used to know the students' writing achievement after taught by using cartoon story maker from the one not using cartoon story maker.

Finally, the test was used to indicate the significant difference in the writing achievement between the second grade students of junior high school who were taught by using cartoon story maker and those who were not. In addition, before the instrument was used to collect the data, the researcher was conducted try out. It was used to find out the validity and reliability of the instrument. Try out was administered in another class which was not involved during the research process. Try out will be implemented to 20 students' of VIII C at SMPN 1 Ngantru. Researcher choose this subject based on characteristic of students' ability that near same with the sample.

E. Validity and Reliability Testing

1. Validity Testing

The good instrument is if the instrument of the research is valid. According to Ary etal (2010:225) defines validity as the extent to which as instrument measured

what it claimed to measure. While, Fraenkel and Wallen (2006:150) stated that validity is the most important idea to consider when preparing or selecting an instrument for use. So, validity can be defined as the instrument that measures what is supposed to be measured. In this research, the researcher construct the test form based on the students writing skill in overall.

Thus, the researcher use face, construct, and content validity to measure whether the test is valid. In addition, the researcher use construct validity as the criteria of a person who full filled the success writing achievement.

a. Face Validity

According to Ary et al (2010:225) who states that face validity refers to the extent to which examines believe the instrument is measuring what it is supposed to measure. Henning (1987, p. 192) defines face validity as a subjective impression, usually on the part of examinees, of the extent to which the test and its format fulfills the intended purpose of measurement.

In this research, the researcher had the face validity by consulting with the English teacher of the second grade of at SMPN 1 Ngantru. They were Mr. Putut and Mr. Paeran S.pd. After getting feedback from the English teacher, the researcher made some revisions on the instrument. The viewpoints is about the instruction in question.

b. Construct Validity

Construct validity is any theory, hypothesis, or model that attempts to explain, observed phenomena in our universe of perception (Brown, 2004:45). It is used to examine whether the test has a consistent representation with theories underlying the presented material or not. The instrument was constructed concerning aspects that would be measured according to the certain theory. Then, the instrument was consulted to expert. In this research, the instruments which have been constructed based on the writing theory. To test the construct validity was used the expert opinion and SPSS 18. After an instrument was constructed about the aspects which be measured based on appropriate theory, then the instrument was consulted with the expert. The expert who was choose by researcher in this research was the teacher of English lesson at SMPN 1 Ngantru. They were Mr. Putut and Mr. Paeran S.pd. After got the judgement from expert, the instrument could be tried out to the second grade students' of SMPN 1 Ngantru which consisted of 20 students to find out the validity of the test. The construct validity can be seen at validation sheet in appendix 2.

c. Content Validity

The content validity of the test is showed with relevancy of the objective of the test and the content of the test items. According to Ary et al (2010:225) states that validity is to have teachers examine the test and judge whether the test is adequate sample of the content and objective to be measures. The test was said have content validity if its contents constitute a representative sample of language skills, structures,

etc., being tested. It that the test based on competency of standard and basic competency of school based curriculum grade eight of the English subject. According to Gay (1992:156) in his book, Educational Research Competencies for analysis and Application Fourth Edition, “Content validity is of prime importance for achievement test. A test score can not accurately reflect a student’s achievement if it does not measure what the student was supposed to learn. So, the researcher can conclude that the test were valid in content validity because the material are tested have been taught to the students.

The researcher made this test based on the course objective in the syllabus of SMPN 1 Ngantru. Therefore, this test was valid in term of content validity.

Table 3.2 Content Validity

Main Competence	3.10 Menerapkan fungsi sosial, struktur teks, dan unsur kebahasaan teks interaksi transaksional lisan dan tulis yang melibatkan tindakan memberi dan meminta informasi terkait keadaan/tindakan/kegiatan/kejadian yang dilakukan/terjadi, rutin maupun tidak rutin, atau menjadi kebenaran umum di waktu lampau, sesuai dengan konteks penggunaannya. (Perhatikan unsur kebahasaan <i>simple past tense</i>)
Basic Competence	4.10Menyusun teks interaksi transaksional tulis sangat pendek dan sederhana melibatkan tindakan memberi, meminta informasi terkait keadaan/tindakan/kegiatan/kegiatan yang dilakukan/terjadi, rutin, maupun tidak rutin, atau menjadi kebenaran umum di waktu lampau. (Perhatikan

	unsur kebahasaan <i>simple past tense</i>)
Indicator	-Siswa mampu menggunakan (apply) kalimat untuk membuat dialog yang sederhana tentang tindakan memberi, meminta informasi terkait keadaan/tindakan di waktu lampau (dengan memperhatikan unsur kebahasaan simple past tense) -Siswa mampu membuat kalimat simple past tense yang berbentuk dialog (dengan memperhatikan unsur kebahasaan simple past tense)
Technique	Written test
Instrument	Pre-test Post-test

Based on the Table 3.2 above, the instrument of the test could be said have the content validity because the test has equal purpose with the core competence and basic competence in syllabus of Curriculum of 2013, which was testing the students' achievement in writing with the correct structures.

2. Reliability Testing

Reliability is the consistency of measurement. By reliability, we know whether test is good or not. According to Ary et al (2010:237) stated that reliability is concerned with the effect of errors of measurement on the consistency of scores. A test is said reliable if the test is consistent and dependable. It means that whenever the test was administered, it would show the similar or even the same result in any situation of test. In this research, the researcher used SPSS 18 for windows to know

the reliability of test instrument. The researcher was gave try out to the students' in other class in the same grade. The try out is used to know the reliability of the pre-test and post-test. The criteria of reliability instrument can be divided into 5 classess as follows (Ridwan: 2004), those are:

1. If the alpha cronbach score 0.00 – 0.20: less reliable
2. If the alpha cronbach score 0.21 – 0.40: rather reliable
3. If the alpha cronbach score 0.41 – 0.60: enough reliable
4. If the alpha cronbach score 0.61 – 0.80: reliable
5. If the alpha cronbach score 0.81 – 1.00: very reliable

The result of reliability testing by using SPSS 18.0 can be seen from the table:

Table 3.3 the result of reliability of the test**Case Processing Summary**

		N	%
Cases	Valid	20	100.0
	Excluded ^a	0	.0
	Total	20	100.0

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

Reliability Statistics

Cronbach's Alpha	N of Items
.648	4

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	9.85	1.608	.428	.579
Item_2	10.05	1.734	.330	.646
Item_3	10.00	1.579	.408	.595
Item_4	9.70	1.589	.570	.492

To know the items was reliable or not it can be seen from Alpha Cronbach's column. If the Alpha Cronbach's under 0,60 mean was not reliable. But if the Alpha Cronbach's upper 0,60 means that was reliable. The Alpha Cronbach's score of try out is = 0,648 it means that was reliable.

F. Normality and Homogeneity Testing

Before analyzing the significant difference score in writing of the students' taught by using cartoon story maker and those taught by using conventional method, the data should be normal distribution and homogenous. Normality and Homogeneity is one of the pre-requisite tests used to analyze data at independent sample t test. The purpose was to find out whether the data has been distributed normally and is there any difference variance in the two groups above. In addition, to measure the data computation were normal distribution and homogenous, the researcher conducted normality testing and homogeneity testing. The definition as follow:

1. Normality Testing

Normality test is used to determine whether a data set is well modeled by normal distribution or not. A data can be normal if it has a normal distribution. Normality testing in this research is done to pretest and posttest score in both experimental and control group. The purpose of using normality To know the normality, the researcher used Kolmogorov smirnov test with SPSS.18.0 Kolmogorov smirnov is a test for normality for large samples.

2. Homogeneity Testing

Homogeneity testing is intended to make sure that the collected manipulation data in analysis truly taken from population which is too different each other. To

know the homogeneity, the researcher used T test of Homogeneity of Variances with SPSS.18.

G. Procedures of the Research

In this study, the treatment administered four meeting completed with pre-test and post-test since the researcher has no authority to conduct more than it moreover the class did not belong to the researcher herself. The treatment was given after conducted the pre-test and before the post-test. To know the schedule of the research, it can be seen in Table 3.3below:

No	Group	Meeting	Date	Activity	Time
1.	Experimental (VIII A)	I	Thursday, April 18 th 2019	Pretest and treatment 1 by using cartoon story maker	3-4
2.	Control (VIII B)		Tuesday, April 16 th 2019	Pretest and treatment 1 without using cartoon story maker	7-8
3.	Experimental (VIII A)	II	Saturday, April 27 th 2019	Treatment 2 by using cartoon story maker	1-2
4.	Control (VIII B)		Saturday, April 20 th 2019	Treatment without using cartoon story maker	5-6
5.	Experimental (VIII A)	III	Thursday, Mei 2 th 2019	Treatment 3 by using cartoon story maker	3-4
6.	Control (VIII B)		Tuesday, April 30 th 2019	Treatment 3 without using cartoon story maker	7-8
7.	Experimental (VIII A)	IV	Saturday, May 4 th 2019	Treatment 4 by using cartoon story maker and	1-2

				posttest	
8.	Control (VIII B)		Thursday, May 2 th 2019	Treatment 4 without using cartoon story maker and posttest	3-4

The test was given by conducted pre-test and post-test which consisted with writing test. Those test was done on first meeting and the last meeting. While, the treatment was given after pre-test and before the posttest. In this study, the group was got the treatment by using cartoon story maker is experimental group only. Thus, the researcher would explain more about those treatment. The procedures of treatment can be seen as follow:

1. First, treatment was conducted on April 18th 2019

Before beginning applied the media from cartoon story maker, the researcher introduced the application especially for teach writing. Then, the researcher explain about the function of cartoon story maker. After the treatment was done, the researcher gave homework to the students to search more about cartoon story maker.

2. Second, treatment was conducted April 27th 2019

In the second meeting, the treatment was held in the computer laboratory. Here, the researcher explain about the display of cartoon story maker. Then, explain about the material of simple past tense using cartoon story maker by using projector screen. In addition the researcher explain about how to make dialogue by using

simple past tense in cartoon story maker. After that, the students try to make simple dialogue by using simple past tense cartoon story maker

3. Third, treatment was conducted on Mei 2th 2019

In the third meeting, the researcher conducted the treatment that was the same as before. She explained about simple past tense. After that, explain them how to make the dialogue using cartoon story maker in the cartoon story maker. Then she gave them task to make a dialogue by using simple past tense in cartoon story maker.

4. Fourth, treatment was conducted on May 4th 2019

In the last treatment, the researcher explain about the dialogue with using simple past tense in cartoon story maker. After the treatment is complete, at the end of meeting the researcher conducted a post-test to get the result of the treatment that has been done.

H. Data Collecting Method

Data collecting method is the way the researcher collect the data. Method of data will provided reality about some steps which are used in the process of collecting data. Researcher used two kinds of tests and one treatment after given a pre-test. They were:

1. Pre-Test

Pre-test was given to the students before the researcher taught by using Cartoon story maker. The pre-test was conducted to both of class, experimental and controlled class. Pre-test is needed to know how far the students' writing achievement in English subject without using media to teach writing. The form of pre-test is written test in a subjective form. The pretest about to make a dialogue in simple past tense. The pre-test given to know the basic competence for students' and to know them earlier knowledge before they get treatment.

3. Post-Test

After the treatment, the post test was given to the students'. The test item in the post-test was different with the pre-test, but both of them had same indicators and the text was almost same in level of difficulties. This test is to measure students' writing achievement after treatment applied. The form post-test was also written test in portfolio form. The post test is about to make a dialogue in simple past tense. It was given to know the final score and the students' difference achievement before and after they get treatment.

I. Data Analysis

The collected data were analyzed to know the effectiveness of using cartoon story maker. The researcher divided the test result into two groups, they were the test result from the experimental group and the test result of the control group. Data

obtained from the posttest from both of Experiment class and Control class would be analyzed statistically using Independent-Sample T-Test through SPSS 18.0 for windows. The researcher used t-test to know the significant value was higher or smaller than 0.05. The technique of data analysis used by the researcher belonged to quantitative data analysis.