

CHAPTER III

RESEARCH METHOD

This chapter discuss about the research method that the writer used include research design, subject of the study, data collection method, validity and reliability testing, normality and homogeneity testing, research instrument, and data analysis.

A. Research Design

The researcher used quantitative research based on the experimental design. According to the Ary, Jacobs, and Sorensen (2006:26), experimental research involved a study of the effect of the systematic manipulation of the one variable on other variable. The design of this research is pre-experimental designs especially one group pretest and posttest, which consists in one class. The researcher will be conducted a pretests to the subjects of the research before the researcher give a treatment to the experimental group. Second, the researcher applies the experimental treatment X to the subject. Thus, after the researcher conducted pretests, the researcher gives a treatment that is the use of ARCS motivation strategy to know the effect before and after treatment. Last, administering posttest, again measuring the dependent variable. The aim of the posttest is to know the significance effect the use of ARCS motivation strategy toward students' writing achievement. Differences

attributed to application of the experimental treatment are then evaluated by comparing the pretest and posttest scores.

Table 3.1. One Group Pretest – Posttest Design

Pretest	Treatment	Posttest
Y_1	X	Y_2

Y_1 Students' writing recount of experimental group in pre-test

X Treatment teaching writing recount by using ARCS motivation strategy

Y_2 Students' writing recount of experimental group in post-test

In term of the variable, there were two variables in this study, (1) Independent variable, and (2) Dependent Variable. Thus, in this research of study the Independent variable was the used of ARCS motivation strategy and the Dependent variable was the students' writing recount achievement.

To illustrate the use of this design, the researcher wants to know the effectiveness of using ARCS motivation strategy at the first grade of senior high school. The researcher wants to give a test include writing recount text. The students are given a standardized test (pretest) that appears to be a good measure of the achievement. Then, the teacher introduced and applied this motivation strategy. And the end, the students are given a standardized test (posttest).

B. Subject of the Study

1. Population

A population is defined as all members of any well-defined class of people, event, or object (Ary, 2010: 148). It means that population is all subjects of the research. The population of this research was the first grade of MA Darul Huda. The total numbers of the first grade students at MA Darul Huda were 56 students distributed into 2 class.

2. Sampling

In selecting the sample of the study, the researcher used purposive sampling technique. The sample has been chosen for a specific purpose. In this research, the researcher choose the class that have an average ability class to be a sample.

3. Sample

The sample of this research are one class of X MIA. The class of the X MIA consist of 20 students as a experimental group. The researcher was given pretest before treatment and given posttest after treatment.

C. Research Instrument

Instrument is tool of collecting data that should be valid or reliable for testing. In this study the researcher used test and writing scoring rubric as research instruments. The test is used to know the effectiveness of using ARCS motivation strategy toward students' writing recount achievement. The researcher used pretest and posttest. The pretest was given before treatment

and the posttest was given after the treatment. The treatment is applying of ARCS motivation strategy on the writing recount learning process which applies in experimental class.

In constructing test to be used to test the students in pretest and posttest, the researcher had looked at the module that was used by the first grade students of MA Darul Huda at the second semester. After the researcher got the permission from the teacher English of the class, the researcher conducted the tryout test for 15 students at 5th March 2019 in X IIS class at MA Darul Huda before conducting the real pretest and posttest to know the reliability of instruments.

As stated previously, there were two types of test in this research, they were pretest and posttest. The test consisted of 1 question in the form of writing essay and the researcher allocated time was 45 minutes for the test on tryout it. After conducting the tryout and getting the reliability of the test, the researcher used this test as appropriate instrument to measure students achievement in writing recount text in the form of pretest and posttest.

D. Validity and Reliability Testing

1. Validity

Validity is the most important consideration in developing and evaluating measuring instrument. Validity refers to how well a test measures what it is purported to measure (Phelan and Wren 2005:06). In

this research to ensure the test validity the researcher used the content validity, constructs validity, and face validity.

a. Content validity

Content validity is used to know the relevance of research instrument with lesson study. Content validity is about what actually goes into the test. The basic approach to determining content validity is to have teachers or subject matter expert examine the test and judge whether it is an adequate sample of the content and objectives to be measured (Ary, 2010: 235).

Content validity is the correspondence between objectives and objectives being assessment. The instrument of this research had a content validity because the test was designed based on Standard Competence – Basic Competence in K-13 SMA MA SMK MAK arranged on test specification, which are:

Table 3.2 Standard Competence – Basic Competence

<i>Standard Competence</i>	<i>Basic Competence</i>	<i>Indicators</i>	<i>Item</i>
4. mengolah, menalar, dan menyaji dalam ranah konkret dan ranah abstrak terkait dengan pengembangan dari yang dipelajarinya di sekolah secara mandiri, dan mampu menggunakan metoda sesuai kaidah keilmuan	4.7 teks recount – peristiwa bersejarah 4.7.1 menangkap makna secara kontekstual terkait fungsi sosial, struktur teks, dan unsur kebahasaan teks recount lisan dan tulis terkait peristiwa bersejarah 4.7.2 menyusun teks recount lisan dan tulis, pendek dan sederhana, terkait peristiwa bersejarah, dengan memperhatikan fungsi sosial, struktur teks, dan unsur kebahasaan, secara benar dan sesuai konteks	<ul style="list-style-type: none"> • Siswa dapat melengkapi teks recount text • Siswa dapat menyusun teks recount • Siswa dapat menulis teks berbentuk recount teks 	Write a recount text consisting of three paragraph including orientation, events and reorientation

b. Construct validity

Constructs is used to ensure that the measure is actually measure what it is intended to be measure and no other variables. According to Nunan (1992:80) said that construct validity is establishing correct operational measures for the concept being studied, also see on Yin (1984) he argues that construct validity is especially problematic in case study research. In this research, the test had high construct validity since it contained prompt in from of guided questions to measure students' skill in writing a recount text.

c. Face validity

According to Patton (1997) he said that face validity is the extent to which an instruments looks as if it measures what it is intended to be measures. The test in this research was designed to measure students' writing skill. Thus, to achieve face validity, the researcher provides the instructions to ask the students to write. Based on the topic that the researcher was prepared, the students would like to write recount text.

2. Reliability

According to Creswell's (2009:233) that reliability refers to whether scores to items on an instrument are internally consistent (i.e., Are the item responses consistent across constructs), stable over time (test-retest correlations), and whether there was consistency in test administration and scoring. According to Phelan and Wren (2005:06) that reliability is the degree to which an assessment tool produces stable and consistent results.

To make sure that the instrument was reliable, the researcher conducted tryout to the different subject. Then, the researcher conducted this research to the sample of study. The researcher conducting tryout to have the reliability of the test. After conducting the tryout, the researcher asked two raters to score the result of the tryout test for further reliability check.

The researcher calculated two sets of score to get the correlation between them. The formula to find the correlation was *Pearson product-Moment* in IBM SPSS Statistic 22. Then, the researcher calculated two sets of scores the get the correlation between them. Table 3.3 shows the correlation between rater 1 and rater 2 that was find by *Pearson Product Moment* in IBM SPSS Statistic 22.

Table 3.3 the Statistical Correlation of *Pearson Product Moment* from IBM SPSS Statistic 22

Correlations			
		Rater1	Rater2
Rater1	Pearson Correlation	1	.781**
	Sig. (2-tailed)		.002
	N	13	13
Rater2	Pearson Correlation	.781**	1
	Sig. (2-tailed)	.002	
	N	13	13

** . Correlation is significant at the 0.01 level (2-tailed).

The table 3.3 shows the result of Pearson correlation is 0,781. Thus, it indicates that the instrument had the strong positive correlation. A perfect correlation, either positive or negative, is respectively denoted with +1 or -1. Thus, closer to 1, the stronger is. If it closer to +1, it has positive

correlation. Based on the result of statistical correlation from tryout score indicating that the correlation was strong respectively positive, it could be concluded that the instrument in tryout was reliable.

The same way is also conducted to check reliability in tryout posttest. Table 3.4 shows the statistical calculation of *Pearson Product Moment* in IBM SPSS statistic 22.

Table 3.4 the Statistical Correlation of *Pearson Product Moment* from IBM SPSS Statistic 22

		Correlations	
		Rater1	Rater2
Rater1	Pearson Correlation	1	.904**
	Sig. (2-tailed)		.000
	N	10	10
Rater2	Pearson Correlation	.904**	1
	Sig. (2-tailed)	.000	
	N	10	10

** . Correlation is significant at the 0.01 level (2-tailed).

As Table 3.4 shows, the result of Pearson Correlation is 0,904. Thus, it indicates that the instruments had the strong positive correlation. To sum up, based on the result of statistical correlation either from pretest and posttest indicating that the correlation was strong respectively positive, it could be concluded that the instruments of pretest and posttest are reliable.

E. Data Collecting Method

In this research the researcher uses quantitative research. In the quantitative research, one of the techniques to collect the data is by doing a test. The researcher conducts a test before and after the researcher used ARCS motivation strategy in the experimental group. Then the researcher gives a test like a portfolio to the students to write a text of recount. The techniques of collecting the data were clarified as follows:

1. Pretest

A pretest provides a measure on some attribute or characteristic that you assess for participant in an experiment before the population of the research receive a treatment (Creswell 2012:297). In this research the researcher conduct a pretest before the researcher gives a treatment by using ARCS motivation strategy. The researcher gives a portfolio test to X MIA, the topic is about meeting my idol. So, the students write their experience about their idol that was they met before.

2. Treatment

In this research, the researcher used ARCS Motivation Strategy to increase the students' writing recount ability. There are four steps on the ARCS Motivation Strategy. Before the researcher applied this strategy, the researcher introduced this strategy to the students. After that, the researcher applied the first step of this strategy, that is attention. In the first step, the researcher opened the class by salam and do'a, to pull the students interest, the researcher gives some joke to make a good condition.

The second step is relevance, the researcher wants to increase the students' motivation. So the researcher explained about the advantage of the lesson today for them tomorrow, the advantage of learning English for their future, and asked one of them to explained what was he knows about the material today.

The third step is confidence, the researcher found that the students' became confidence with themselves. It can be seen when they active in the class, they ask question and convey their argument. The last step is satisfaction, the students know and feel that learning English is useful and beneficial to their future life, and also the students know that they can increase their achievement if they have a desire to learn something.

3. Posttest

A posttest is a measure on some attribute or characteristic that is assessed for participants in an experiment after a treatment (Creswell 2012:297). After pretest, the researcher conduct a posttest to X MIA, it was conducted after the students receive a pretest and treatment.

F. Data Analysis

The data will be analyzed by using statistical computation that is SPSS. The used of the statistical computation is to know the significant effect before and after being the treatment. The data collected from the students score in pretest and posttest. Therefore, the researcher will be used Paired Sample Test (T test) in SPSS 22.0. 1. If the value of t-count is higher than

t-table ($t\text{-count} > t\text{-table}$) in $df = 39$ with significant level 0.05 and significance value lower than 0.05 (significance value < 0.05). The null hypothesis (H_0) is rejected. It means that there is any significant difference on the student's writing achievement in recount text before and after being taught by using ARCS Motivation Strategy at the first grade of MA Darul Huda. In other word, if the significance value is lower than t-table ($t\text{-count} < t\text{-table}$) in $df = 39$ with significant level 0.05 and significance value higher than 0.05 (significance value > 0.05). The null hypothesis (H_0) is accepted. It means that there is no any significant difference on the student's writing achievement in recount text before and after being taught by using ARCS Motivation Strategy at the first grade of MA Darul Huda.

To know whether the significant value is higher or lower than 0.05, the researcher analyzed the data by using SPSS 22. In addition, in interrupting significance value, if it is higher than 0.05 ($\text{Sig} > 0.05$), H_0 is accepted. While if it is lower than 0.05 ($\text{Sig} < 0.05$) H_0 is rejected. In other word, H_0 is rejected if $\text{Sig} < 0.05$.