CHAPTER III

RESEARCH METHOD

In this chapter, the writer presents nine topics dealing with research methods. It focuses on the method that is used in conducting the research. Those are research design, population and sample, research instrument, validity and realibility testing, normality and homogenity, data collecting methods, and the last is data analysis

A. Research Design

The purpose of research design was to know the using of Scaffolding Technique was effective or not if used in First grade of Islamic Senior high School 3 Tulugagung. According to Ary (2006:21) research was an attempt to solve the problems by using scientific approach in a sistematic way. This research used experimental design by using quantitave research. “Research designs were plans and procedures for research that span the decisions from broad assumptions to detailed methods of data collection and analysis.”(Creswell, 2003). Experimental research was a study that strictly adheres to a scientific research design. It includes a hypothesis, a variable that can be manipulated by the writer, and variables that can be measured, calculated and compared. Most importantly, experimental research was completed in a controlled environment. The writer collects data and results either support or reject the hypothesis. This method of research was referred to a hypothesis testing or a deductive research method (Babbie 1998). Experimental research can be done in the laboratory, in the class and in the field.

Experimental research was unique in two very important respects, It in the only type of research that directly attempts to influence a particular variable, and when properly applied, it one or more dependent variables. An experimental usually involves two groups of subjects, an experimental group and a comparison group, although it was possible to conduct an experiment with one group (by providing all treatments to the same subjects) or with three or more groups (Frankle and Wallen, 1996:264).In this research, the writer used a quasi-experimental design with quantitative approach. One group as both the control and one group as the experimental group.

The experimental group was the group that is undergoing the 'treatment' or stimulus, and the control group which is unaffected by the stimulus (Litosseliti et al, 2010: 59). Therefore, in quasi-experimental writer have two class, one as control class and the one as experimental class . According to Ary et al (2010:316) The procedure of Quasi-experimental research can see the table 3.1.

Table 3.1 Nonrandomized Control Group, Pretest-post test Design

Group	Pre-test	Independent variable	Post-test
Experimental (E)	Y_1	X	Y_2
Control (C)	Y_1	-	Y_2

Based on the table the first procedure wwas Preparing a pre-test for all class with a purpose to know the students' writing ability in Recount text in the First grade of Islamic Senior High School 3 Tulungagung before being taught by using the technique. After finished pre test Applying the experimental treatment by

using Scaffolding technique to the subjects for experimental class and the control class there is no treatment. The last procedure was Preparing a post test for all class with purpose to know the students' writing ability of Recount text in the First grade of Islamic Senior High School 3 Tulungagung after being taugh by using the technique In this research, the writer wants to see whether the Scaffolding technique was effective in teaching writing for First grade students of senior high school by using Quasi-experimental study.

B. Population and Sample

1. Population

   According to Nurhayati (2018) Population is the object/subject that have some qualities and characteristics that are choosen to be learned and to be concluded by the researcher. In other definition by Arikunto (2010:1173) state that population was the whole subject of the research. In this research the population was all of Students First grade of Islamic Senior High School 3 Tulungagung which consisted of seven classes, and the total member of student are 222 students.

2. Sampling Technique

   In a research, there were two types of sampling; probability sampling and non-probability sampling. Probability sampling was the elements in the population that have the same opportunity to be sample. Whereas non-probability sampling was the technique in taking sample that does not use the base of opportunity but it was determined by the writer based on the need (Sudjana 2007:85).

In this research, the writer used purposive sampling. Purposive sampling is one of types in non-probability sampling. According to (Sudjana 2007:85) purposive sampling is the technique that is used if the writer has the certain consideration in determining the sample that is appropriate with the purpose of research.

3. Sample

The important step in conducting the research was select the sample. Sample was a portion of a population. Sample was a part of population that wants to be analyzed. According to Arikunto (2006:109), a sample must be representative to a population. In this research, the writer's sample taken from two class on the First grade of Islamic Senior High School 3 Tulungagung. This research takes X IIA-1 as experimental group that consists of 27 students and X IIA-2 as control group that consists of 25 students.

C. Research Instrument

Research instrument refers to any equipment used to collect the data Arikunto (2010:262). As an experimental research, the instrument used in this research was test. According to Ary (2006;201) test is a set of stimuli presented to individual in order to elicit responses on the basic of which numerical score can be assigned. In this case, there are two kinds of tests that should be done by th writer, there are :

1. Pre test

Pre test is the test that given to all students in experimental and control class First grade of Islamic Senior High School 3 Tulungagung. The test is conducted to know the students writing ability in Recount text

before doing the treatment. In this pretest the reseacher asked the students to write a recount text test with a topic that the writer choose or students can choose their topic self. The students must be write 3 paragraph.

2. Post test

Post test is the test that given to all students in experimental and control class First grade of Islamic Senior High School 3 Tulungagung to measure the students writing ability in Recount text. In this post test the writer used the same test with the pre test, but the writer ask the students to write with the different topic in clear generic structure that the writer explain in the treatment.

D. Data Collecting Methods

In this step method of collecting data was to obtain the data in the research. Meanwhile, the data of this study was collected by administering test. To collecting data the writer using two test grammar test, pre-test, and post-test. The technique of collecting data was clarified bellow:

1. Pre-test

This was the first meeting; in this step the writer gave pre-test to the students. It was conducted to know the students score in recount text, and also to know how far the student ability in the writing skill. Why writer choosed recount text because many students felt difficult when they were have to write about retell of their experience. Based on the problem the writer prepare some topic the students can choose their topic if they not familiar with the topic.

2. Post-test

After all of treatment process has been given to experimental class, the writer gave post-test. Post-test was done after giving treatment to measures how significant of the influence of giving those assignments, the procedures of giving post-test were equal pre-test procedure that is achievement test which Recount text is used. The purpose of administering post test in this study was to observe and measure any changes of the students writing ability after being taught by using Scaffolding technique.

E. The Schedule of The Research

Here the table of schedule conducting research In Islamic Senior High School 3 Tulungagung.

Table 3.2 The Schedule of Conducting The Research

No	Group	Class	Date	Activity
1.	Control	X-IIA 2	January 11th 2019	Pre-Test
2.	Experimental	X-IIA 1	January 12th 2019	Pre-Test
3.	Control	X-IIA 2	January 18th 2019	Conventional Teaching
4.	Experimental	X-IIA 1	January 19th 2019	Treatment 1
5.	Control	X-IIA 2	January 25th 2019	Conventional Teaching
6.	Experimental	X-IIA 1	January 26th 2019	Treatment 2
7.	Control	X-IIA 2	February 1st 2019	Conventional Teaching
8.	Experimental	X-IIA 1	February 2nd 2019	Treatment 3
9.	Control	X-IIA 2	February 8th 2019	Post-Test
10.	Experimental	X-IIA 1	February 9th 2019	Post-Test

F. Validity and Reliability Testing

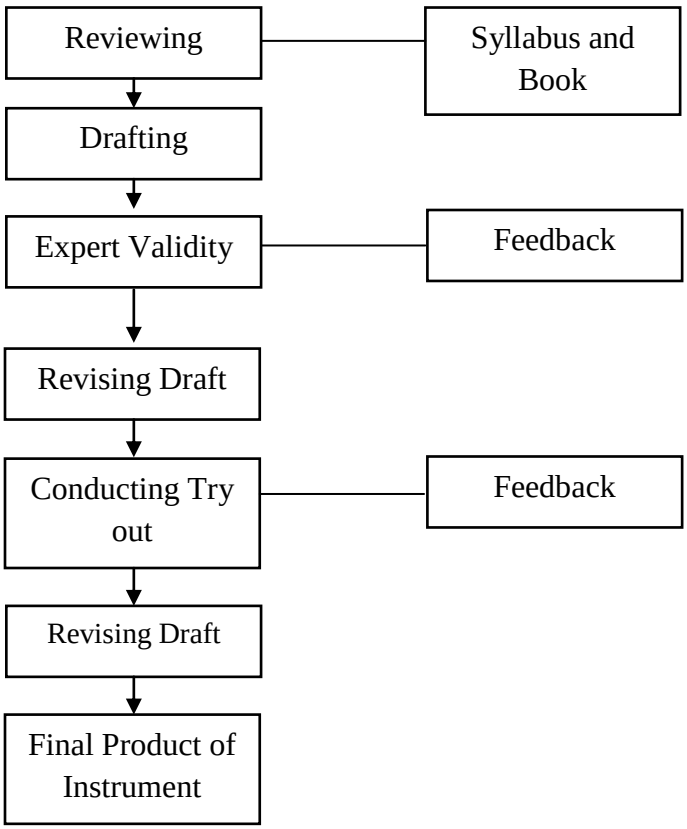
As a previously mentioned, the writer used test as the research instrument. Both pre test and post test were intended to measure students writing ability. The test should fulfill some factors to get the data as well. The factors tested here is validity and reliability of the test. By using a valid and reliable instrument to collect the data, it was expected that the data and the result of the research it self also valid and reliable. After the instrument have finished the writer conducts try out to the students who have the same class as the samle to know the test valid or not.

1. Validity

Validity is the most important consideration in developing and evaluating measuring instrument. Ary (2006:225) defines validity as the extent to which an instrument measured what it claimed to measure. In other words, validity can be defined as the instrument that measures what is supposed to be measured. In this study, to ensure test validity the writer used content and construct validity.

Based on the Figure 3.1, the first step to get valid and reliable test is the writer review the book and syllabus to draft the test. After drafting the test, the writer shows the test to expert validity to get feedback and validation guide. Then, the writer revised the draft of test. Next, the writer conducted a try out to the students who have the same class as the sample to know the test valid or not. The last, the writer revised the test again based on the feedback to get the final draft. To see the validity and reliability of the test can be seen the following Figure 3.1

Figure 3.1 Chart Instrument



a. Content validity

Content validity means there is correspondence between curriculum objectives and the objectives being tested. In this case the writer also learns the curriculum set to know what students must be able to do in certain level. The writer found that students in first grade of senior high school be able to write three genres : descriptive, narrative, and recount. In this research, the content of items in testing used recount text.

In this research, the content of items in testing used recount text. It was suitable for the first grade of Islamic Senior High School 3 Tulungagung. Here the table of syllabus of senior high school.

Table 3.3. Syllabus of Senior High School

Kompetensi Dasar	Materi Pokok	Pembelajaran
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	• Fungsi Sosial Melaporkan, menceritakan, berbagi pengalaman, mengambil teladan, membanggakan • Struktur Teks Dapat mencakup: - orientasi - urutan kejadian/kegiatan - orientasi ulang • Unsur Kebahasaan - Kalimat deklaratif dan interogatif dalam simple past, past continuous, present perfect, dan lainnya yang diperlukan - Adverbia penghubung waktu: *first, then, after that, before, when, at last, finally*, dsb. - Adverbia dan frasa preposisional penujuk waktu - Nomina singular dan	- Menyimak guru membacakan peristiwa bersejarah, menirukan bagian demi bagian dengan ucapan dan temakan kata yang benar, dan bertanya jawab tentang isi teks - Menyalin teks tsb dalam buku teks masing-masing mengikuti seorang siswa yang menuliskan di papan tulis, sambil bertanya jawab terkait fungsi sosial, struktur teks, dan unsur kebahasaan dalam teks

sosial, struktur teks, dan unsur kebahasaan, secara benar dan sesuai konteks	plural dengan atau tanpa *a, the, this, those, my, their*, dsb. - Ucapan, tekanan kata, intonasi, ejaan, tanda baca, dan tulisan tangan • Topik Peristiwa bersejarah yang dapat menumbuhkan perilaku yang termuat di KI	- Mencermati analisis terhadap fungsi sosial, rangkaian tindakan dan kejadian dengan menggunakan alat seperti tabel, bagan, dan kemudian mengerjakan hal sama dengan teks tentang peristiwa bersejarah lainnya - Mengumpulkan informasi untuk menguraikan peristiwa bersejarah di Indonesia - Menempelkan karyanya di dinding kelas dan bertanya jawab dengan pembaca (siswa lain, guru) yang datang

		membacanya Melakukan refleksi tentang proses dan hasil belajar.

b. Construct validity

Construct validity is capable of measuring certain specific characterisics in accordance with theory of language behaviour and learning. In this research the writer tested the students writing ability by writing test and the technique of scoring the students writing ability based on five aspects of writing, they are content, organization, mechanic, grammar, and vocabulary. In this case the writer used analytical scoring rubric by Brown (2004) like writer mention in previous chapter.

2. Reliability

A reliability test is consistent and dependable. If the students are given the same test on two different occasions, the test should yield similar result. The word “similar” is used here because it is almost impossible for the test takers to get exactly the same scores when the test is repeated the following day. According to Muijs (2004:84) reliability is A second element that determines the quality of our measurement instruments . The range of reliability coefficient is 0-1. In this case, 0 means not reliable while 1 means perfectly reliable and closer reliability coefficient to 1, the more reliable the test.

The writer analyzed and processed the data using *SPSS*. Because the writer used subjective test to test the writing recount text, so the response of the students can't be judge as correct or incorrect and it involves the rater in the process of judgement. Hence, two sets of scores are gotten and then the writer are calculated using person product moment for getting correlation coefficient. In this research the writer used *Intra Rater* to look for the reliabilities which it's count using computer in *SPSS* 16.

According to Uyanto (2009:275) the value of cronbach's alpha can be interpreted as follow :

Table 3.4 Cronbach's Alpha Interpretation

Coefficient Reliabilities	Interpretation
0,00 - 0,20	**Very Low Reliabilities**
0,20 - 0,40	**Low Reliabilities**
0,40 - 0,60	**Middle Reliabilities**
0,60 - 0,80	**High Reliabilities**
0,80 - 1,00	**Very High Reliabilities**

Here the result of try out test

Table 3.5 The Statistical of Try Out

Reliability Statistics

Cronbach's Alpha	N of Items
.779	5

In this research, the writer tried to check the empirical reliability by using SPSS 16.0 after trying out the instrument. The result of realibility statistics the Cronbach's Alpha score was 0.779. based on the categories of reliability testing stated by Uyanto was categories into high reliability level.

G. Normality and Homogenity Testing

1. Normality Testing

Normality testing is conducted to know whether the gotten data is normal or not. In this research, normality test is done toward the result (students‟ score) of pretest in writing recount text. To know the normality, the writer used One-Sample Kolmogorov-Smirnov formula by using SPSS program 16.0 version. Normality test is done by using the rule of Asymp. Sig (2 tailed) or p. If Asymp. Sig (2 tailed) or $p > 0,05$ so the test distribution is normal.

In this research, normality testing was done toward the students score in pretest, not only for the control group but also for experimental group.

Table 3.6 Normality Test of Experimental Group

One-Sample Kolmogorov-Smirnov Test

		pretest_experimental_group
N		27
Normal Parameters[a]	Mean	61.85
	Std. Deviation	5.573
Most Extreme Differences	Absolute	.223
	Positive	.223
	Negative	-.222
Kolmogorov-Smirnov Z		1.158
Asymp. Sig. (2-tailed)		.137

a. Test distribution is Normal.

Table 3.7 Normality Test of Control Group

One-Sample Kolmogorov-Smirnov Test

		pretest_control_group
N		25
Normal Parameters[a]	Mean	64.60
	Std. Deviation	7.059
Most Extreme Differences	Absolute	.203
	Positive	.142
	Negative	-.203
Kolmogorov-Smirnov Z		1.013
Asymp. Sig. (2-tailed)		.256

a. Test distribution is Normal.

Based on the result of computation by using SPSS program 16.0 version, it can be concluded that the test distribution of two groups were normal.

2. Homogeneity Testing

Homogeneity testing is used to know whether the gotten is homogeneous or not. In this research, homogeneity test is done toward the result (students‟ score) of pretest in writing recount text. To know the homegeneity, the writer uses Test of Homogeneity Variance formula by using SPSS program 16.0 version. Homogeneity testing was done after doing the distribution score of group involved. The variance can be said homogeneous if the significance of the result is more than 0.050.

According to Priyatno (2009:89), the assumption of ANOVA testing is the data groups variance that is homogeneous. The criteria of testing, if the significance is smaller than 0.05 (sig. < 0.05) that the data is not homogeneous; on the contrary, if the significance is bigger than 0.05 (sig.> 0.05) that the data is homogenous.

Table 3.8 Homogeneity of Test

ANOVA

Score					
	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	98.035	1	98.035	2.447	.124
Within Groups	2003.407	50	40.068		
Total	2101.442	51			

From the result above, the test is homogeneity because significant is 0.124, it means that the significant is more than 0.05 (0.124>0.05). The homogeneity testing of variance in pretest of control group and experimental group for writing recount text in this research showed that the data had homogeneous variance, so it is qualified to be analyzed.

H. Data Analysis

Data analysis is a review of a series of activities, grouping, systematization, interpretation and verification of data so that a phenomenon has social value, academic and scientific (Tanzeh, 2009:69). The data obtained from research result is the result of students test that were analyzed quantitatively. Quantitative analysis was done by using statistic which is called statistical analysis or inferential statistic. The technique of the data analysis used in the research is Quantitative data analysis. This is a technique used to analyze and count the data, to know the student's achievement in writing taught by Scaffolding technique. The writer in this research uses Paired sample T Test stated by SPSS 16.0.