CHAPTER III

RESEARCH METHOD

This chapter discuss about research design, subject of the research, research variable, research instrument, validity and reliability testing, normality and homogeneity testing, data collecting.

A.   Research design

Research design is strategy to arrange the setting of the research in order to get valid data. Creswell (2008: 3) states that "research is a process of steps used to collect and analyze information to increase our understanding of a topic or issues." From definition above, it is clear that research method is the way to conduct a research. Therefore, research method can be defined as a method to look for and discover the scientific truth, which is done in valid and reliable work.

The design of this research is an experimental research design using quantitative approach with One-Group Pretest-Posttest. According to Aryet. al (2006: 301), an experimental design is the general plan for carrying out a study with an active independent variable. Experimental design may also be classified according to how well they provide control of the threats to internal validity they are; pre experimental design, true experimental design and quasi experimental design.

In this study, the researcher used pre experimental design (one group pre-test post-test design). This study classified as pre-experimental research design

because it has little or no control of extraneous variable. Since there was no control of extraneous variable so, the researcher used one group pre-test and post-test as the research design. This design involves only one group as its subject and it involves three steps: pretest, treatments, and post-test. Pretest was administered before the treatment. It was to know the students' reading comprehension before they have been taught by using SMART strategy. Post-test was administered after the treatment. Meanwhile, during the treatment, the researcher applied SMART(Self-Monitoring Approach to Reading and Thinking) as the strategy for teaching reading. The design of this research can be seen at the table below:

Table 3.1 The Design of One Group Pretest-posttest which Adapted from Ary, et al. (2010: 304)

Pre-test	Independent variable	Post-test
Y_1	X	Y_2

Where:

Y_1 = Pre-test

X = Treatment

Y_2 = Post-test

Based on the table 3.1, experimental design used pre-experimental research design (*one group pretest posttest design*) that consist of pretest (Y_1), treatment (X) and posttest (Y_2).

1. The researcher uses this design because pretest (Y_1) is a test which is done to measure the students' ability. The first treatment had done on April 06 th 2019. First step was giving pre-test for students to know the students reading comprehension before being taught by using Self-Monitoring Approach to Reading and Thinking strategy.

   This test is given in order to know how far the students' ability in reading comprehension of descriptive text. The form of test is multiple choice which consists of 20 questions. The time allocation was 60 minutes. There were 40 students as respondents or subjects of this research.

2. Then , researcher gave treatment (X) to the students. After giving a pre-test, the researcher gives the treatment to the students.

   The second treatment on April 10th 2019, the researcher did treatment by using Self-Monitoring Approach to Reading and Thinking strategy in teaching reading. At the first, the researcher as the teacher explained about the definition, communicative purpose, generic structures, and the example of descriptive text. The researcher also explained the steps of Self-Monitoring Approach to Reading and Thinking strategy in several times before asking the students to use it independently. Next , the researcher gave the example of how to use Self-Monitoring Approach to Reading and Thinking strategy.

   Then, the students were given a descriptive text about Mr fahmi the farmer and the exercises about the text. The questions in the form of

multiple choice. The researcher asked the students to read aloud. After the students read a section of the text, the researcher asked them to use a pencil and gave a check mark (√) in the margin if they understood and gave questions mark (?) if they did not understand. While, the researcher asked the students to explain themself about what they read. After that, the students re-read the questions mark (?) to know why they are having trouble. If the students could understand the meaning of words or sentences in questions mark (?), and change the questions mark with check mark (√). When the students didn't understand or were confused about the sentences in questions mark (?), the students could use the dictionary and asked the teacher or classmate to understand the meaning of words or sentences. After the step had done, the researcher asked the students to explain the story one by one of each paragraph. Teacher gave time for the students to understand themselves. The last, the teacher asked the students to do the exercise.

At the second treatment, the researcher evaluated the material about descriptive text and the steps of Self-Monitoring Approach to Reading and Thinking strategy. At this time, the researcher gave the oral questions to students about the material of the previous week. It was conducted on April 13th, 2019. As the first treatment, the researcher gave a descriptive text about Mr Fahmi the Farmer and the exercises about text. The questions are in multiple choices.

The researcher asked the students to read aloud. After the students read a section of the text, the researcher asked them to use a pencil and gave a check mark ($\sqrt{}$) in the margin if they understood and gave questions mark (?) if they did not understand. The researcher asked the students to explain themselves about what they read. After that, the students re-read the questions mark (?) to know why they are having trouble. If the students could understand the meaning of words or sentences in questions mark (?), the students could change the questions mark with check mark ($\sqrt{}$). When the students did not understand or were confused about the sentences in questions mark (?),

The students could use the dictionary and asked the teacher or classmate to understand the meaning of words or sentences. After the students finished reading aloud and understood about Mr fahmi the Farmer , the teacher asked the students to explain the story one by one of each paragraph. The steps of Self-Monitoring Approach to Reading and Thinking strategy was the same as in the first treatment.

After the step had done, the researcher asked the students to explain the story one by one of each paragraph. Teacher gave time for the students to understand themselves. The last, the teacher asked the students to do the exercise.

3. Eventually, at the end of the treatment, the researcher is given posttest (Y_2) to measure the difference score between before and after treatment. The post test was conducted on April 20th 2019. The post-test comprised

also 20 item, in the form of multiple choice items. The question of post-

test different from pre-test

B. Population and Sample

1. Population

"Population is a group of individuals who have the same characteristics (Creswell, 2008:151)". Population is the whole subject of research. A population is defined as all members of any well-defined class of people, events or objects (Ary, 2010: 148). Based on some of these opinions can be conclude that the population is whole the object that have certain characteristics and it becomes the source data that is used by researcher in the study. From the some definitions given by experts above, the writer takes human population only because the problem solved related with human being. The population of this research is all of the students at first grade of MTs Ma'arif Bakung Udanawu Blitar which consist of ten classes (A, B, C, D, E, F, G, H, and I). They are 385 students.

Table 3.2 population of the research

No	Class	Gender	
		Male	Female
1	VII A	24	16
2	VII B	22	18
3	VII C	23	18
4	VII D	26	22
5	VII E	26	22
6	VII F	22	18
7	VII G	20	20
8	VII H	10	38
9	VII I	10	30
Total students		385	

2. Sample and Sampling

Getting sample is very important in scientific research because the total number of population is usually too many because of the large number of population. The researcher took samples as the representative of the population. According to Creswell (2012: 142), sample is a subgroup of the target population that the researcher plans to study for the purpose of making generalization about the target population. Moreover in the same case, Ary (2010: 138) said "The small group that is observed is called a sample." In this research, the researcher took one class of first grade of MTs Ma'arif Bakung Udanawu Blitar. That is class VII F. It consists of 40 students, 22 male students and 18 female students.

C. Research Instrument

Research instrument is a device used by the researcher while collecting data to make her work become easier and get a better result complete and systematic in order to make the data easy to be processed (Arikunto, 2010: 192). In collecting the required data in this study, the researcher uses test.To obtain the required scores of the students' achievement in reading comprehension, the researcher used two kinds of tests. They were pre-test and post-test.

1. Pre-test

Pre-test was given to the students before the researcher taught by using Self-Monitoring Approach to Reading and Thinking strategy. Pre-test is needed to know the basic competence for students and how far the students know about the subject that will be taught. Pre-test was given to the students at the first meeting
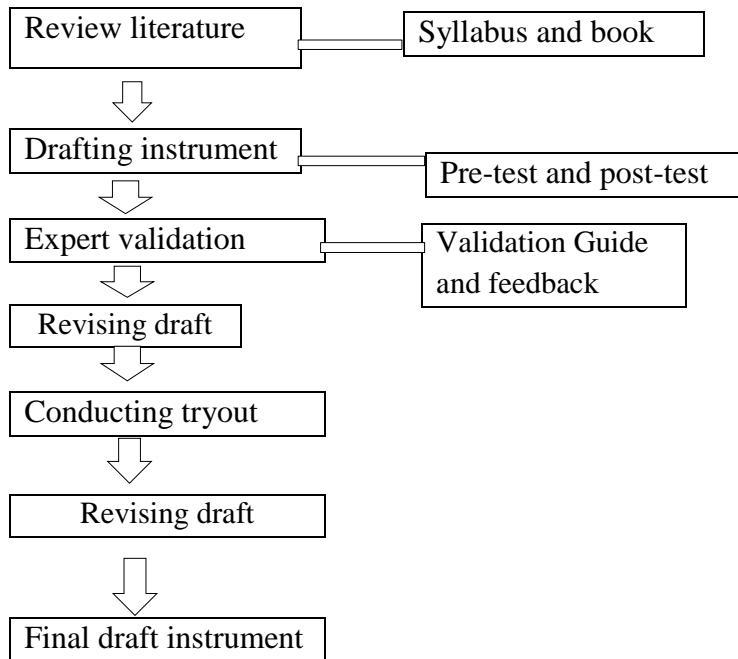
on April 06, 2019. The form of pre-test was multiple choice. The test items were 20 questions about descriptive text. In multiple choice test, every items has four choices, there was A, B, C and D. The time allocation was exactly 60 minutes. There were 40 students as respondents or subjects of this research.

2. Post-test

After the treatment, post-test was given to the students. The aim of this test is to measure students' reading comprehension after taught by using Self-Monitoring Approach to Reading and Thinking strategy. It is intended to know the mean scores of experimental groups. Post-test was given to the students' at the third meeting on April 13th, 2019. The test of post-test is multiple choice with 20 questions about descriptive text. In multiple choice test, every items has four choices, there was A, B, C and D. The time allocation was exactly 60 minutes. There were 40 students as respondents or subjects of this research.

D.   Validity and Reliability Testing

Research is always dependent upon measurement. There are two important characteristic that every measuring instrument should possess: validity and reliability (Ary et al, 2002:213). In this study, the test of reading comprehension has constructed to meet the criteria of validity and reliability test. The way to make valid and reliable instrument can be figured as the table 3.3 bellow ;

| Review literature | ——— | Syllabus and book |

⇩

| Drafting instrument | ——— | Pre-test and post-test |

⇩

| Expert validation | ——— | Validation Guide and feedback |

⇩

| Revising draft |

⇩

| Conducting tryout |

⇩

| Revising draft |

⇩

| Final draft instrument |

Based on table 3.2, the first step to get validity and reliability of the instrument is the researcher review syllabus to draft the test. After drafting the test (pre and post-test), the researcher shows both of the tests to expert validator to get feedback by considering with the validation guide.

Then, the researcher revises the draft of the tests agree with the feedback given. Next, the researcher conduct the Try out to the test to students in different class as the sample to get feedback from students. The class is conducted in VII G. The last, the researcher revises the test again after getting input or feedback from the Try out and based on that term the researcher get final draft to test to VII F as sample of population of this research.

1. Validity

The most simplistic definition of validity is that is the degree to which a test measures what is supposed to measure (Gay, 1992: 155). To measure whether the test has good validity, the researcher analyzed the test from content validity, face validity and construct validity.

a. Content validity

To measure students' reading comprehension ability so the test used was a reading test. It means that test is said to have content validity if it is represented the content of universe. Ary et al (2010:226) stated that to have a content validity, the instruments are representative of some defined universe or domain of content. It means that the items of the test must really test the domain that was reading skill. In this research, the test, pre-test and post-test were in the form of multiple choices. The students must answer the test related to descriptive text.

In this case, the researcher made three indicators of the test, pre-test and post-test. They are: (a) determining the topic, main idea, organization, and the purpose of descriptive text correctly, (b) Finding specific information from descriptive text correctly, (c) Inferring the meaning of the descriptive text correctly.

Table 3.3 Content validity of pre-test

No	KD	Indicators	Items Number	Total
1	3.6 mengidentifikasi fungsi sosial, struktur teks, dan unsure kebahasaan teks interaksi transaksional lisan dan tulis yang melibatkan tindakan memberi dan meminta informasi terkait dengan tingkah laku/tindakan/fungsi orang, binatang, benda, sesuai dengan konteks penggunaannya (Perhatikan unsur kebahasaan kalimat *declarative*, *interrogative*, *simple present tense*)	Determining the topic, main idea, organization, and the purpose of descriptive text.	1,2,6,7,10,14,15,	7
		Finding specific information from descriptive text	3,4,5,11,12,16,17,18,19,20	10
		Inferring the meaning of the descriptive text	8,9,13,	3
Total				20

Table 3.4 Content validity of post-test

No	KD	Indicators	Items Number	Total
1	3.6 mengidentifikasi fungsi sosial, struktur teks, dan unsure kebahasaan teks interaksi transaksional lisan dan tulis yang melibatkan tindakan memberi dan meminta informasi terkait dengan tingkah laku/tindakan/fungsi orang, binatang,	Determining the topic, main idea, organization, and the purpose of descriptive text.	9,13,14,15,16,	5
		Finding specific information from descriptive text	1,2,3,4,5,6,7,8,12,17,18	11

	benda, sesuai dengan konteks penggunaannya (Perhatikan unsur kebahasaan kalimat *declarative*, *interrogative, simple present tense*)	Inferring the meaning of the descriptive text	10,11,19,20	4
Total				20

From the explanation above, it could be concluded that the test have a content validity.

b. face validity

A test is said to have validity if it looks as if it measure what is supposed to measure. Face validity is hardly a scientific concept, yet it is very important (Isnawati, 2012: 29). In this study, the item of the tests was in the form of objective tests consists of multiples choice test. The writer ensured face validity by consulting to English teacher of MTs Ma'arif Bakung Udanawu Blitar.

c. Construct validity

The construct validity of test is test which is capable of measuring certain specific characteristics in accordance with a theory of language behavior and learning (Heaton, 1975: 159). Construct validity is one kind of validity that is measures the ability which is supposed to measure. Based on theory above, in the test, the researcher asked the students to answer the multiple choice based on descriptive text to measure the students' comprehension in reading and this fulfill the construct of reading test and therefore valid in term of construct validity.

2. Reliability

Reliability is consistent and dependable. A test must be reliable as a measuring instrument. It means that a reliability is test can be used to know that the test is consistent and dependable. In this research, the researcher used SPSS 24.0 to know the reliability of test instrument. It would be seen the alpha-cronbach score for the reliability of all items in a variable.

Reliability is a necessary characteristic of good test. Shohamy says that reliability refers to the extent to which the test is consistent in its score and it gives us an indication of how accurate the test score are.

According to Riduwan (2004:136), the criteria of reliability instrument can be devided into 5 classess, those are very reliable, reliable, enough reliable, rather reliable, and less reliable. The criteria of reliability can be showed as follow :

Table 3.5. Criteria of reliability

Interval coeficient	Corelation
0.80 – 1.000	Very reliable
0.60 – 0.79	Reliable
0.40 – 0.59	Enough reliable
0.20 – 0.39	Rather reliable
0.00 – 0.19	Less reliable

Table 3.6. Reliability Pre-test

Cronbach's Alpha	N of Items
.752	20

Table 3.7 Reliability Post-test

Cronbach's Alpha	N of Items
.665	20

The table 3.5 and table 3.5.1 shows that the reliability of Conbrach's Alpha is 0.752 for pre-test and 0.665 for post-test. It means that the reliability is reliable because the value is between 0, 60 – 0.79. From the evidence above, it was found that the test is reliable.

E.   Normality and Homoginity Testing

1. Normality test

Normality test is used to determine whether a data set is well-modeled by a normal distribution or not, or to compute how likely an underlying random variable is to be normally distributed. Normally test is intended to show that the sample data come from a normally distributed population.   To know the normality, the researcher used *kolmogorov-smirnove test* with SPSS. 24. *Kolmogorov-Smirnov D test* is a test of normality for large samples. If the result are significant, then the null hypothesis of no difference between the observed data distribution. A normal distribution is rejected. Simply put a value less than 0.05 indicated that the data are non-normal. The hypotheses for the normality test were formulated as follows:

Ho =The data were normally distributed

Ha = The data were not normally distributed

While the criteria of acceptance or rejection of normality test were as follows:

Ho was accepted if sig. $> \alpha = 0.05$

Ha was accepted if sig. $< \alpha = 0.05$

2. Homogenity test

After the normality test, the writer determined the homogeneity of the test. In this research, the writer used statistical computation by using SPSS (Statistical Program for Social Science) for homogeneity of the test. The test of homogeneity employed was Anova statistic test. The hypotheses for the homogeneity test were formulated as follows:

Ho = the variances of the data were homogenous.

Ha = the variances of the data were not homogenous

F.   Data Collecting Method

Data have very important role in a research, because without data, it is impossible to get result of the result of the research. To obtain the data, the research has to use instruments of collecting data. Creswell (2012: 14) said, "An instrument is a tool for measuring, observing, or documenting quantitative data. It contains specific questions and response possibilities that you establish or developing advance of the study. In this study the researcher uses test as data collecting method and also the instruments Test is method of collecting data to measure students' achievement. Arikunto (2010:127) states that test is a series questions, or others which are used to measure the skill, knowledge, intelligent, ability or talent that have by individual or group. Thus, a test is a method to gain the data by giving some questions to the respondent. This test used to measure

students' achievement in reading comprehension before and after they taught using Self-Monitoring Approach to Reading and Thinking. The researcher administered both pretest and posttest based on the planning as follow:

a. Pre test

Pre-test was given to measure students' achievement in reading comprehension before they are taught by using Self- Monitoring Approach to Reading and Thinking. The pre-test have done to get the reading comprehension score of the students before doing treatment. The pre-test was conducted on April 06th, 2019. The test comprised 20 items, in the form of multiples choice items. The researcher use this test because multiple choice items is one of the popular method of testing reading comprehension, and it is easy to administer and can be scored quickly. The pre-test is consist of 3 literal comprehension test and 17 inferential comprehension test. It indicated that the test can be used to measure the students' proficiency on reading comprehension. Because the test consist more the inferential comprehension test. Inferential comprehension test is more challenging and difficult than literal comprehension test. Test items on literal comprehension were easier for students than those on inferential or evaluative comprehension, they can also be more challenging, more inferential or evaluative comprehension is better .

b. Post Test

Post-test was given after doing an experimental study or after given the treatment. It was conducted to get reading comprehension score of students after doing SMART(self-monitoring approach to reading and thinking) strategy as the

treatment. The post-test was conducted on April 20th, 2019. The post-test comprised also 20 items, in the form of multiple choice items. The questions of post-test are different from pre-test.

G. Data Analysis

In this research, the researcher used statistical data analysis technique to know the difference between the students' scores before and after being taught by using self-monitoring approach to reading and thinking (SMART) strategy in descriptive text toward the students reading comprehension. The data obtained from research result of students test that were analyzed quantitatively. Quantitative data analysis is also called statistical analysis. It means that the result of the data served up in numeral form. The quantitative data of this research is analyzed using statistical computation. This technique was used to find the significant difference on students comprehension after being taught using Self-Monitoring Approach to Reading and Thinking strategy. In this research, the researcher uses computation paired sample T test by SPSS 24.0. It means that the researcher did not uses manual computation, all the data collected were accounted by using SPPS 24.0 program in this case was paired sample T test. T test is used to test for significance. T test is used to analyze experiment data which use pretest and posttest.

H. Hypothesis Testing

In the hypothesis testing, we as researcher always referred to the null hypothesis. The null hypothesis is a statistical hypothesis, because it states that

there is no relationship between the variables in the population. The criteria of hypothesis testing were as follow:

a. When the significant value < significant level, the alternative hypothesis. (Ha) is accepted and the null hypothesis (H_0) is rejected. It means there is significant difference score on the students' There is any significant different of students' achievement in reading comprehension before and after being taught by using Self-Monitoring Approach to Reading and Thinking strategy.

b. When the significant value > significant level, the null hypothesis (H_0) is accepted and the alternative hypothesis (Ha) is rejected. It means there is no significant difference score on the students' students' achievement in reading comprehension before and after being taught by using Self-Monitoring Approach to Reading and Thinking strategy.