

## **CHAPTER III**

### **RESEARCH METHOD**

In this chapter the researcher describes the research method. It consists of research design, population, and sample, research variable, research instrument, validity and reliability testing, data collection method, research procedure and data analysis.

#### **A. Research design**

This research, the researcher used pre-experimental research. This study classified into pre-experimental research design because it has little or no control of extraneous variable (Ary *et al*, 2010: 303). It uses pre-experimental because it does not have random assignment of subject to group or other strategy to control extraneous variable. The reason of researcher uses pre-experimental because the researcher can't determine the homogeneity of students' reading ability in SMPN 5 Tulungagung. Therefore in this research the researcher just takes one group or class to use pre-test and post-test design to know the result of treatment. This research is classified as pre-experimental design because it is a little or control of extraneous variables. In the one group pre-test and post-test dependent variables. In the one group pre-test and post-test design, a single group measured or observed not only after being exposed to a treatment concisely but also before. Pre-experimental research involved administering pre-test to dependent variable, applying the

experimental treatment to the subjects, and administering the post-test. The result of the treatment is comparing in the pre-test and post-test score.

The experimental design used pre-experimental research design (one group pre-test and post-test) that consist of pre-test, treatment and pot-test. The pre-test and post-test are given to get the score of student achievement before and after being taught by using Generating Interaction between Schemata and Text (GIST) strategy. Then, both of score were computed by using t-test to know if there is significant influence of teaching reading descriptive text using Generating Interaction between Schemata and Text (GIST) strategy. The design of this research can be seen at the table below:

**The illustration of the research design in this study is as table below:**

**Table 3.1 The Design of One-Group Pretest-Posttest Design**

<b>Pretest</b>	<b>Treatment</b>	<b>Posttest</b>
Y1	X	Y2

Explanation:

X : GIST Strategy based reading treatment

Y1 : students' achievement on reading comprehension before taught by using GIST Strategy based reading

Y2 : students' achievement on reading comprehension after taught by GIST Strategy based reading

The procedures of experimental research that use one group pre-test post-test design:

1. Administering a pre-test with a purpose of measuring reading achievement of second grade of SMPN 5 Tulungagung.
2. Applying the experimental treatment teaching reading by using Generating Interaction between Schemata and Text (GIST) as a strategy to the subject (seventh grad students at SMPN 5 Tulungagung)
3. Administering a post-test with a purpose of measuring achievement of seventh grade students at SMPN 5 Tulungagung.

Differences attributed to application of the experimental treatment are determined by comparing the pre-test and post-test scores.

This research intended to investigate the effectiveness of using *Generating Interaction between Schemata and Text (GIST) strategy* on reading descriptive text comprehension ability at SMPN 5 Tulungagung in academic years 2015/2016. The use of treatment is aimed at proving whether the increase score possibly got by the researcher. Thus, the effectiveness of that treatment will know the significant score when the student taught using *Generating Interaction between Schemata and Text (GIST) Strategy*.

## **B. Population and Sample**

### **1. Population**

According to (Ary, et al, 2010: 148) population is all members of any well-defined class of people, events or object. From the definitions given by expert above, the researcher takes human population only because the problem solved related with human being. The researcher took the population in this research is all of the students from class seventh grade of SMPN 5 Tulungagung from A class until I class which consists of 298 students.

### **2. Sample**

The explanation about who is the sample in this research is very important in the research. According to Ary et al (2010: 148) a sample is a portion of a population. And also, Fraenkel and Wallen (2006: 107) state that sample is any part of population of individuals on whom information is obtained. It means that simple is smallest part from population. The sample in this research is students in seventh H class that consist of 33 students.

### **3. Sampling**

Sampling is the process of selecting the individuals who will participate in this research (Fraenkel and Wallen, 2006: 107). So sampling is process selecting unit from population. The purpose of sampling is to gain of information about a population; rarely is a study in such as a way

that the individuals represent the large group from which they were selected.

In this research, the researcher used purposive sampling technique to choose the sample. Purposive sampling technique is a type of non-probability sampling where the researcher consciously selects particular elements of subjects for addition in a study so as to make sure that the subject could give sufficient information about students' ability in learning English. Based on the information of teacher in SMPN 5 Tulungagung especially in English teacher in H class and my observation in the class, I found that students in seventh grade H class has weakness in reading and getting the main idea when reading descriptive text.

### **C. Research Instrument**

Instrument is the device such as: pencil-and-paper test, a questionnaire or rating scale that the researcher uses to collect the data (Fraenkel and Wallen, 2012:111). In other hand, research instrument is tools that the researcher uses to collect the data. The requirement of the instrument is valid and reliable. A research instrument is called valid if the instrument measure what will be measured. To collect the data researcher uses test for students. In this research the researcher used achievement test, the tests were in the form of objective test that are multiple choice and essay. The researcher requires 20 questions which is 10 multiple choices and 10 essay. The score

the objectives test the writer treats them without any difference. Means, there was only one correct answer for each items.

In this research, the researcher applied pre-test and post-test. The test is in given from of prompt test that ask to students to read descriptive text about something such as people, things and place. The pre-test was given before the researcher applied the treatment. The treatment is a bout reading descriptive text using Generating Interaction between Schemata and Text (GIST) strategy. The researcher was given the pre-test by give the task during 60 minutes on February 9, 2016. Five days later on February 15, 2016, the researcher gives treatment again during 80 minutes. The next day on February 16, 2016, the next treatment is given on the second meeting during 80 minutes. Then on February 22, 2016, the researcher is given the last treatment about GIST strategy to students. Finally, on February 23, 2016 the researcher is done the post-test to students to know the students' achievement in reading descriptive text using Generating Interaction between Schemata and Text (GIST) strategy.

#### **D. Validity and reliability testing**

##### **1) Validity**

Fraenkel and Wallen (2006: 150) state that validity is the most important idea to consider when preparing or selecting an instrument for use. In experimental research, the researcher had to check the validity and reliability.

a. Content validity

Content validity is validity in terms of the contents of the test. In this test, the researcher gives the written test to measure students' ability in reading descriptive ext. therefore; this test is valid in terms of the content validity. In this study the use of content validity because the result of test can be representatives of the students for entire course material that has been taught. In order to judge whether or not the test has content validity, we need a specification of the skills or structure being tasted. The researcher made this test based on the course objectives in the syllabus of seventh grade of SMPN 5 Tulungagung. Therefore this test is valid in term of content validity. The content validity in this research can be showed as follow:

**Table 3.2 Content Validity**

<b>No.</b>	<b>Competence indicator</b>	<b>Test item</b>
1.	Students are able to determine the information of the text (literal comprehension)	3, 5, 7, 12, 13, 14, 15, 18, 19, 20
2.	Students are able to determine the main idea	2, 4, 17
3.	Students are able to determine the purpose of the text (inferential comprehension)	1, 2, 6, 8, 9, 11, 16
4.	Total	20

b. Face validity

Face validity is hardly a scientific concept, yet it is very important. Face validity is a term sometimes used in connection with a test's content. Face validity refers to the extent to which examinees believe the instrument is measuring what it is supposed to measure (Ary et al, 2010: 228). The example of face validity, a test which pretends to measure students' ability in pronunciation but which did not the test-taker to speak might be thought lack face validity. The researcher uses face validity in this research by consulting that makes it reliable in the aspect of face validity such as: the clearly of instruction that makes students understand what they should do this test. The test is very simple and this test is clear. Besides that, the time allocation is suitable and enough to finish the task in order to student are able to finish the task punctually.

Besides the researcher checked the validity of the test used content and face validity, the researcher also conducted a try-out of the test to the same students of another class, that were students of VII E class of SMPN 5 Tulungagung to know the validity and reliability of the test. The test consisted of 20 items of 10 multiple choice and 10 essays. The format of essay test was long answer. It was intended to avoid the students cheating. Moreover, through long answer more details of students' competency could be identified. The scoring rubric for essay test with long answer can be seen Table in appendix 1.

The data of students' score after finishing of try out can be seen Table in appendix 2.

From the presentation of the result of try-out, the students' score could be categorized into the following table of criteria students' score table in appendix 3.

Based on the table in appendix 2, it was found that M and X got score 0 – 45 showed that their score was categorized as very poor. A, B, D, G, H, J, Q, R, A1 and A4 got score 46 – 55 showed that their score was categorized as poor. C, E, F, I, K, L, N, O, P, S, T, U, V, W, Y, Z, and A3 got score 56 – 75 showed that their score was categorized as average. And A2 got score 76 – 85 showed that their score was categorized as good. After finishing try-out, then the researcher analyzes the test based students' score to know the instruction of the test clear or not and level of the test suitable or not.

## **2. Reliability**

According to Brown (2000: 398) a reliable test is consistent and dependable. A test said reliable if the subject give the same test to the same subject or matched subject on two different occasions, the test itself should yield similar result. And also, Ary, et al (2010: 236) said that reliability of a measuring instrument is the degree of consistency with which it measures whatever it is measuring. Richard (2009: 157) reliability refers to the consistency of the score obtained how consistent they are for each individual from one administration of an instrument to

another and from one set of items to another. Reliability of the test is the measurement that explains the consistency of the test. The test is consistence if those tests have the same relative score although examined frequent. In this research, the researcher used prompt test as an instrument to measure the students' achievement in reading. Before the researcher applied the instrument into the experimental and control class, the researcher want to know the reliability of the test. Therefore, the researcher applied the tryout of instrument and close seventh E class as a tryout class. In that class, the researcher doing the test before the researcher applied into control and experimental class. Researcher analyzes the reliability of the instrument in this aspect of the score that the student have. The students' score from first and second scorer in this case afterwards is used in statistical coefficient to analyze the reliability using SPSS statistics. In this research, the researcher used SPSS 16.0 for windows to know the reliability of test instruments. According to Riduwan (2014: 118), the criteria of reliability instrument can be divided into 5 classes as follows:

- a. If the *alpha cronbach* score 0.00-0.20: less reliable
- b. If the *alpha cronbach* score 0.211-0.40: rather reliable
- c. If the *alpha cronbach* score 0.41-0.60: enough reliable
- d. If the *alpha cronbach* score 0.61-0.80: reliable
- e. If the *alpha cronbach* score 0.81-1.00: very reliable

From the answer of students' response in try-out test the researcher then analyze using reliability test based on Cronbach's Alpha.

The result of reliability test was:

**Table 3.3 Reliability Testing for Multiple Choices**

Cronbach's Alpha	N of Items
.777	10

**Table 3.4 Reliability Testing for Essay**

Cronbach's Alpha	N of Items
.632	10

From the computation in SPSS, the reliability values of reliability are two score. The first value is the reliability of multiple choice tests. The value is 0.777. Based on the Cronbach scale above it lies on the Cronbach value between 0.61 – 0.80 so it can be said that the instrument was reliable. And the reliability value of essay test was 0.632. Based on the Cronbach scale above it lies on the Cronbach value between 0.61 – 0.80 so it can be said that the instrument was reliable.

### **E. Data Collection Method**

Data collection method is the method to obtain the data in the research. The researcher collects the data from the score of pre-test and post-test in reading descriptive text. The researcher gives the pre-test to know student's reading ability in descriptive text. The researcher gives the pre-test to know student's reading ability in descriptive text without using Generating Interaction between Schemata and Text (GIST) strategy. After the researcher get score from pre-test, the researcher apply GIST strategy treatment in doing reading descriptive text. Then, the researcher gives post-test to student. The result of pre-test and post-test then researcher compares using SPSS to know the affectivity. The technique of collecting data can be shown as:

#### 1) Pre-test

The researcher gave pre-test on February, 9<sup>th</sup> 2016. Pre-test was administered before the students were taught using GIST strategy. Pre-test is needed to know how far the students' reading comprehension ability before taught using GIST strategy. To find out the data, the researcher applying pre-test that consist of 20 items in the form of multiple choice and essay. The test is given to know the basic competence for student and to know them earlier knowledge before they get treatment. The test of pretest is 10 multiple choice and 10 essays about descriptive text. Time allocation of the test is 60 minutes.

## 2) Post-test

The researcher administered post-test on February, 16<sup>th</sup> 2016. After the pre-test, post-test was given after the researcher giving the treatment or GIST strategy to the students. The test is given to know the basic competence for student and to know them earlier knowledge after they get treatment. The test items in the post test were not really the same as the pre-test, but it has the same indicators and the text was almost the same in its difficulty level. The purpose of the post-test was to measure students' reading comprehension ability after taught by using GIST strategy. It is done to know the final score and to know the student difference achievement before and after they get treatment. The test of posttest is 10 multiple choice and 10 essays about descriptive text. Time allocation of the test is 60 minutes.

## F. Data Analysis

After the researcher got the data from pre-test and post-test score, the researcher analyzed the data. The researcher used to know the significant different on the students' score before and after taught GIST strategy. The researcher is used the application SPSS statistics 16.0 for windows to analyzes Paired-Sample T-test.

There are some steps in analyzing data in SPSS 16.0. Firstly, the researcher input the data in SPSS statistics to know the frequency of pre-test and post-test score. After that, by using this application the researcher know

the mean, median, mode and standard deviation. Then, from the compare of data the researcher know the pair samples statistics and finally the researcher find pair sample correlation from two tails and degree freedom. After the researcher knows the result of significant two tails from SPSS statistics, the researcher can give the conclusion about the effectiveness or not about the treatment GIST strategy in reading descriptive text. This strategy is used to find the significant different on the students reading descriptive text using GIST strategy. If the significant two tails is smaller hat the level of significant (0.05), the alternative hypothesis ( $H_a$ ) is accepted. It means that, there is different score of students' achievement before and after taught using GIST strategy. On the other hand, if the significant two tails is bigger that the level significant (0.05) the null hypothesis is rejected. Indicating that, there is no different score of students' achievement before and after taught using GIST strategy.

#### **G. Research Procedure**

The procedure of pre-experimental research that use one group pre-test and post-test design as follow:

1. The researcher administer a pre-test with a purpose to measure students' reading achievement in reading descriptive text before taught using GIST strategy.

2. The researcher gives the experimental treatment in teaching reading descriptive text using GIST strategy to student. There are some steps in giving treatment in the classroom. Those are:
  - a. The researcher comes into the classroom and start teaching and learning material about the treatment of GIST strategy.
  - b. In 10 minutes beginning, the researcher gives introduction activity.
  - c. Then in 60 minutes later, the researcher gives lesson about GIST strategy of descriptive text in focus for seventh grade Junior High school. As follows:
    1. Students are asked to identify text of descriptive text.
    2. The teacher asks the students to read the first paragraph of the text and ask students to identify 15-20 words contained in the first paragraph.
    3. The teacher asks the students to write their own sentences of the first paragraph by 15-20 said they get.
    4. Followed by students read the next paragraph and identifying the words contained in that paragraph to be rewritten later with their own words.
    5. Students perform these activities until the last paragraph.
    6. The teacher asks students to discuss with their group about the result of paragraph that the get by their own word.
    7. The teacher and students discuss about the content of the text.
  - d. Asking and answering the student question about GIST strategy.

- e. In the next treatment the researcher applied the same way when giving the treatment in three times in duration 80 minutes in each treatment.
3. At the last meeting, the researcher administering the post-test with a purpose to measure students' reading achievement in descriptive text. The procedure of giving post-test was same the procedure in pre-test. It means that pre-test and post-test is equal in the part of instruction