

CHAPTER III

RESEARCH PROCEDURES

This chapter presents: (1) research method; (2) research variables; (3) operational definition; (4) population and samples; (5) techniques for collecting the data; (6) research instrument analysis; (7) research treatments; (8) techniques for analyzing data; and (9) pre-requisite analysis.

3.1 Research Method

The method of this research was an experimental method that is called quasi experimental method. According to Creswell (2012, p.309), quasi-experiments include assignment, but not random assignment of participants to groups. This is because the experimenter cannot artificially create groups for the experiment.

This is taken from one of the quasi experimental design to conduct this research with the first kind of series that is the pretest-posttest nonequivalent groups design. There were two groups which both were given pretest and posttest. It consists of experimental and control group. This design is often used quasi experimental group in educational research (Cohen, Manion, & Morrison 2007, p. 283). The design of the pre-test post-test non equivalent is as follows:

O₁	X	O₂	Experimental Group
O₃		O₄	Control Group

O₁ = Pretest for experimental group

X = Treatments (comic strip strategy) for experimental group

- O₂ = Posttest for experimental group
O₃ = Pretest for Control group
O₄ = Posttest for Control group
--- = Dashed line (Non random)

3.2 Research Variables

Variable is a characteristic or attribute of an individual or an organization that (1) researchers can measure or observe and (2) varies being among individuals or organizations studied (Creswell, 2005, p. 118). In addition, a variable is a concept a noun that stands for variation within a class of objects such as chair, gender, eye color, achievement, motivation, or running speed (Fraenkel & Wallen, 1990, p. 36)

There are two kinds of research variables in this research, they are dependent variable and independent variable. According to Fraenkle and Wallen (2012, p. 80), Independent variable is variable presumed to effect, to influence another variables, while dependent variable is variable presumed to be affected by one or more independent variables. The independent variable in this study is the use of comic strip strategy, and the dependent variable of this study is students reading comprehension at SMP PTI Pakjo Palembang.

3.3 Operational Definitions

Operational definitions in this study deal with: (1) The definition of teaching, (2) The definition of reading comprehension, (3) The definition of comic strip strategy.

1. Teaching

An activity transferring the knowledge to the student from the teacher by applying the certain strategy. In this case, teaching by using comic strip strategy.

2. Reading Comprehension

Reading is an active process of finding the meaning through printed material. Furthermore, reading is process of communication between the reader and the written in the way of getting the author's message from the text. In getting meaning from the text needs comprehension. Comprehension refers to understand about the text.

3. Comic Strip Strategy

Comic strip is defined in this study as a series of pictures inside boxes that tell a story. Moreover, Comic strips communicate using two major media—words and images—a somewhat arbitrary separation because comic strips' expressive potential lies in skillfully employing words and images together.

3.4 Population and sample

3.4.1 Population

Fraenkel, Wallen, and Hyun (2012, p. 91) state that a population is a group to which the result of the study are intended to apply. The population of this research is the eighth grade students of SMP PTI Pakjo Palembang. The total of population is 100 students in eighth classes for the eighth grade.

Table 4
Population of the study

No	Class	Students		Total
		Male	Female	
1	VIII.1	12	18	30
2	VIII.2	17	23	40
3	VIII.3	13	17	30
TOTAL OF STUDENTS				100

**(Source: SMP PTI Pakjo Palembang academic years 2014/2015)*

3.4.2 Sample

According to Fraenkel, et. al. (2012, p. 91), sample is a group of subjects on which information is obtained. In this study, the researcher took two classes as a sample to collect the data. In this study the researcher used non random sampling type of convenience sampling. Fraenkel, et. al. (2012, p. 99) state that a convenience sampling is a group of individuals who (conveniently) are available for study. In addition, Cohen, et.al (2007, p. 113) state that convenience sampling is opportunity sampling involves choosing the nearest individuals to serve as

respondents and continuing that process until the required sample size has been obtained or those who happen to be available and accessible at the time.

Then, the researcher determined the class of sample by using teacher recommendation. The teacher recommended to take VIII.1 class and VIII.3 class as sample. The number of students of VIII.1 class was 30 students and VIII.3 class was 30 students. So, the total number of sample was 60 students. Then, the sample was divided into two groups, VIII.1 class as the experimental group and VIII.3 class as the control group. The sample of this study is show in Table 5.

Table 5
Sample of the Study

No	Class	Group	Number of Students		Total
			Male	Female	
1	VIII.1	Experimental	12	18	30
2	VIII.3	Control	13	17	30
Total					60

*(Source: SMP PTI Pakjo Palembang academic years 2014/2015)

3.5 Techniques for Collecting Data

3.5.1 Test

Brown (2000, p. 384) states that test is a method of measuring person ability, knowledge, or performance in a given domain. In this study, multiple choice questions was given for the eighth grade students at SMP PTI Pakjo Palembang, and the test items were taken from *English in Focus* book and *Practice your English Competence* book. The test consists of 60 multiple choice items.

The test is a means of measuring the knowledge, skill, feeling, intelligence or aptitude an individual or group. In this study, the writer gives test, the same test were given of pre-test and post-test.

1. Pretest

The pre-test was conducted in the beginning of study before the treatment was given to the experimental and control group. The purpose of conducting pre-test is to find out the students' initial ability in control and experimental group. Both control and experimental group answered forty questions of reading text question.

2. Posttest

Post-test was given after treatment. Post-test is conducted in order to know the students' reading comprehension skill by using Comic Strip strategy after treatment to the experimental group. It was also given for both groups. The items and time limitation that were used in the post-test were basically the same with those used in pre-test.

3.6 Research Instrument Analysis

The analysis done to the instruments of the research before used in pretest and posttest activity.

3.6.1 Validity

Validity is the extent to which an instrument measures what it is supposed to. Validity is established by correlating the scores with a similar instrument. A test considered good if it is valid and reliable. Validity is the extent to which an evaluative device measures what is supposed to measure (Moore, 2005, p. 173).

According to Fraenkel and Wallen (2012, p. 85), the validity refers to appropriateness, correctness, meaningfulness and usefulness of the specific inferences researchers make based on the data they collect. In giving the test to the students, the writer should consider about the validity of the test. It depends not only on the instrument itself but also on the instrumentation in process and characteristic of the group studied.

1. Construct Validity

According to Hughes (1989, p. 26) an Instrument is said to have construct validity if it can be demonstrated that it measures just the ability which it is supposed to measure. Fraenkel, et. al, (2012, p. 148) state that construct validity refers to the nature of the psychological construct or characteristic being measured. The writer asked three lecturers as validator to estimate her instruments. The three validators were M. Holandyah, M.Pd as validator 1, Manalullaili, M. Ed as validator II, and Amalia Hasanah, S. S., M. Pd as validator III. The writer asked three validators to add criteria for scoring item questions, to give clear directions and separated each paragraph followed by questions of every text, to revise some item questions of the test and to revise a few things in lesson plan. From the result of the three validators, it can be assumed that the test instrument and lesson plans were appropriate for her research study.

2. Validity Test of Each Question Item

In this study, to know the validity of the test the writer did try out of 60 multiple choice questions to the students of SMP Negeri 2 Tanjung Batu on Tuesday 23th of September 2014 at 11.20-12.00 p.m, the instruments of the test were administered to 30 students (VIII.A) of the eighth grade students of SMP Negeri 2 Tanjung Batu. From the students' answer, the correct answer was labelled 1, and the wrong answer was labelled 0.

From the result analysis of validity of each question item, it was found that there were 20 question items considered invalid. They were question item number 1, 4, 6, 10, 12, 16, 19, 23, 24, 26, 27, 28, 32, 36, 44, 45, 47, 55, 56 and 58. Then, there are 40 question items considered valid since the scores of significance are higher than 0,361. They are questions item number 2, 3, 5, 7, 8, 9, 11, 13, 14, 15, 17, 18, 20, 21, 22, 25, 29, 30, 31, 33, 34, 35, 37, 38, 39, 40, 41, 42, 43, 46, 48, 49, 50, 51, 52, 53, 54, 57, 59 and number 60. The result analysis of each question item was shown in the following table 6.

Table 6
Result of Validity Test

No	Question items	Sig. (2-tailed) of Person Correlation	Rtable	Result
1	Item no 1	0,000	0.361	Invalid
2	Item no 2	0,563	0.361	Valid
3	Item no 3	0,651	0.361	Valid
4	Item no 4	0,164	0.361	Invalid

5	Item no 5	0,617	0.361	Valid
6	Item no 6	0,105	0.361	Invalid
7	Item no 7	0,363	0.361	Valid
8	Item no 8	0,574	0.361	Valid
9	Item no 9	0,444	0.361	Valid
10	Item no 10	0,035	0.361	Invalid
11	Item no 11	0,670	0.361	Valid
12	Item no 12	0,326	0.361	Invalid
13	Item no 13	0,486	0.361	Valid
14	Item no 14	0,670	0.361	Valid
15	Item no 15	0,508	0.361	Valid
16	Item no 16	0,210	0.361	Invalid
17	Item no 17	0,794	0.361	Valid
18	Item no 18	0,651	0.361	Valid
19	Item no 19	0,188	0.361	Invalid
20	Item no 20	0,651	0.361	Valid
21	Item no 21	0,394	0.361	Valid
22	Item no 22	0,574	0.361	Valid
23	Item no 23	0,164	0.361	Invalid
24	Item no 24	0,072	0.361	Invalid
25	Item no 25	0,508	0.361	Valid
26	Item no 26	0,136	0.361	Invalid

27	Item no 27	0,236	0.361	Invalid
28	Item no 28	0,189	0.361	Invalid
29	Item no 29	0,385	0.361	Valid
30	Item no 30	0,724	0.361	Valid
31	Item no 31	0,444	0.361	Valid
32	Item no 32	0,064	0.361	Invalid
33	Item no 33	0,394	0.361	Valid
34	Item no 34	0,724	0.361	Valid
35	Item no 35	0,486	0.361	Valid
36	Item no 36	0,136	0.361	Invalid
37	Item no 37	0,709	0.361	Valid
38	Item no 38	0,857	0.361	Valid
39	Item no 39	0,385	0.361	Valid
40	Item no 40	0,596	0.361	Valid
41	Item no 41	0,574	0.361	Valid
42	Item no 42	0,670	0.361	Valid
43	Item no 43	0,563	0.361	Valid
44	Item no 44	0,239	0.361	Invalid
45	Item no 45	0,035	0.361	Invalid
46	Item no 46	0,875	0.361	Valid
47	Item no 47	0,236	0.361	Invalid
48	Item no 48	0,428	0.361	Valid

49	Item no 49	0,978	0.361	Valid
50	Item no 50	0,384	0.361	Valid
51	Item no 51	0,724	0.361	Valid
52	Item no 52	0,724	0.361	Valid
53	Item no 53	0,709	0.361	Valid
54	Item no 54	0,579	0.361	Valid
55	Item no 55	0,164	0.361	Invalid
56	Item no 56	0,036	0.361	Invalid
57	Item no 57	0,486	0.361	Valid
58	Item no 58	0,188	0.361	Invalid
59	Item no 59	0,864	0.361	Valid
60	Item no 60	0,651	0.361	Valid

3. Content Validity

In this study, the writer used content validity to analyze the research instrument. According to Hughes (1989, p. 22), a test is said to have content validity if its content constitutes a representative sample of the language skills, structures, etc. which it is meant to be concerned. A content validity is very important since it is an accurate measure of what it is supposed to measure. In order to judge whether or not a test has content validity, a specification of the skills or structures should be made based on the curriculum and syllabus. Then, the result analysis in constructing the content validity is presented in the specification table including: Objectives of the test, text material, indicator,

number of items, total of the question, types of test, and answer key. The test specification table is displayed in Table 7.

Table 7
Test of Specification Table

Objective	Test Material	Indicator	Number of Items	Total	Types of Test	Answer Key
The Students are able to respond the written meaning of reading text	Octopus	The Students able to; -To identify main idea	1, 2, 9, 15, 26, 25, 24, 36	8	Multiple Choice	b, c, d, d, c, b, a, b.
	The Lion and The mosquito					
	Bunaken National Marine Park	To find inference word	3, 4, 11, 14, 27, 19, 32,	8		a, d, b, d, c, a, c, a
	The Grasshopper and the Ants					
	Disney World Resort	to find the detil and actual information	12, 13, 15, 28, 39, 38, 29, 21	8		c, d, c, b, c, a, d, a
	My Vacation in Bali					
	The Wind and The Sun	to find synonym and antonym	6, 7, 8, 17, 35, 18, 22, 30, 31	9		a, c, d, b, b, a, d, a, b
	Bali					
	School's Sport Day	to find concluding sentence	5, 10, 20, 37, 39, 40, 34.	7		b, c, d, c, a, b, b
	The Donkey and The Wolf					
Total				40		

3.6.2 Reliability Test

Moore (2005, p. 172) states that reliability is the consistency with which a measurement device gives the same results when the measurement is repeated.

The score is considered reliable if the score of significance is at least or preferably higher than 0.70 (Fraenkel & Wallen, 1990, p. 136). In addition, Fraenkel and Wallen (1990, p. 134) mention that a reliability coefficient expresses a relationship between scores of the same individual on the same instrument at two different times. The result analysis in measuring test-retest method was displayed in Table 8.

Table 8
The Result of Reliability Statistics

		test1	test2
test1	Pearson Correlation	1	,696**
	Sig. (2-tailed)		,000
	N	30	30
test2	Pearson Correlation	,696**	1
	Sig. (2-tailed)	,000	
	N	30	30

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

3.7 Research Treatments

Treatments were designed at least for twelve meeting not including pretest and posttest activities. The treatments were given in both groups (control and experiment) with similar teaching materials but different strategies. In this part, the table is presented in terms of the number of materials, kinds of materials, and the resource of the materials. For research treatments, they are presented in paragraph and illustrated through a table of teaching materials.

3.7.1 Readability

According to Caldwell (2008, pp. 18-19), the use of readability formulas is to determine the difficulty level of text and to structure their passages from easy to more difficult. Readability formula test can be measured using online readability test which can be accessed from <http://www.readabilityformula.com>.

There are some categories in reading text level. They are (1) *very easy level* whenever the result of flesh reading ease score is within 90-100, (2) *easy text level* whenever the result of flesh reading ease score is within 80-98, (3) *fairly easy text level* whenever the result of flesh reading ease score is within 70-79, (4) *standard text level* whenever the result of flesh reading ease score is within 60-69, (5) *fairly difficult text level* whenever the result of flesh reading ease score is within 50-59, (6) *difficult text level* whenever the result of flesh reading ease score is within 30-49, and (7) *very confusing text level* whenever the result of flesh reading ease score is within 0-29. The result analysis of readability test for research instrument was described in table 9.

Table 9
Result of Readability Test for Research Treatments

No	Text Title	Text Statistics			Flesh Reading Ease Score	Test Category
		Number of Sentence	Syllable per sentence	Character per word		
1	The Price and His Best Friends	15	17	4.4	76.7	Fairly Easy
2	The Singer and the Dolphin	70	12	12	92.7	Very easy

3	Mantu's Little Elephant	20	11	4.2	85	Easy
4	The Owl and the Nightingale	22	10	4.1	85.2	Easy
5	The Caliph and the Clown	67	23	4	76.7	Fairly easy
6	The Crow and the Oyster	15	15	3.8	88.9	Easy
7	The Fox and the Crow	7	29	3.9	76.7	Fairly Easy
8	The Lion and the Hare	16	11.5	41.3	66	Standard
9	The Wind and the Sun	21	10	3,5	99,2	Very easy
10	The Lion and the Mosquito	18	11	4	85.8	Easy

3.7.2 Research Teaching Schedule

Treatments were designed at least for twelve meeting including pretest and posttest activities. The students are divided into two groups. Class VIII.1 for experimental and class VIII.3 for control. Class VIII.1 was taught using comic strip strategy, and class VIII.3 was taught using the traditional teaching method that was usually used by the teacher. Experimental and control group were taught for 12 meetings. Each meeting took 80 minutes (2 x 40'). The writer used the English text book. The teaching material table is displayed in Table 10.

Table 10
Teaching Material for Research Treatments

No	Research Schedule		Teaching Material	Meeting	Time Allocation
	Control	Experiment			
	date/Time	Date/Time			
1	Sep 30, 2014 09.00-10.30	Sep 30, 2014 11.00- 12.30	The Prince and his Best Friends	1st	2x40"
2	Oct 1, 2014 09.00-10.30	Oct 1, 2014 11.00-12.30	The Singer and the Dolphin	2nd	2x40"
3	Oct 7, 2014 09.00-10.30	Oct 7, 2014 11.00-12.30	Mantu's Little Elephant	3rd	2x40"
4	Oct 8, 2014 09.00-10.30	Oct 8, 2014 11.00-12.30	The Owl and the Nightingale	4th	2x40"
5	Oct 14, 2014 09.00-10.30	Oct 14, 2014 11.00- 12.30	The Caliph and the Clown	5th	2x40"
6	Oct 15, 2014 09.00-10.30	Oct 15, 2014 11.00- 12.30	The Crow and the Oyster	6th	2x40"
7	Oct 21, 2014 09.00-10.30	Oct 21, 2014 11.00- 12.30	The Fox and the Crow	7th	2x40"
8	Oct 22, 2014 09.00-10.30	Oct 22, 2014 11.00- 12.30	The Lion and the Hare	8th	2x40"
9	Oct 28, 2014 09.00-10.30	Oct 28, 2014 11.00- 12.30	The Wind and the Sun	9th	2x40"
10	Oct 29, 2014 09.00-10.30	Oct 29, 2014 11.00- 12.30	The Lion and the Mosquito	10th	2x40"

3.8 Techniques for Analyzing the Data

In analyzing the data, the writer obtained from quasi-experimental study were submitted for statistical analysis using the Statistical Package for the Social

Science (SPSS) version 22 software. The writer analyzed the data from the test (pretest and posttest). First the data concerned with the posttest. In analyzing the data obtained from the text, the writer used some techniques, they are:

3.8.1 Data Descriptions

1. Distribution of Frequency Data

In distributions of frequency data, the students' score interval, frequency, percentage are achieved. The distributions of frequency data are got from students' pretest score in control group, students' posttest score in control group, the students' pretest score in control group, the students' pretest score in experimental group, and students' posttest score in experimental group.

2. Descriptive Statistics

In descriptive statistics, number of sample, the score of minimal, maximal, mean, standard deviation, and standard error of mean are obtained. Descriptive statistics are got from students pretest score in control group, students' posttest score in control group, students' pretest score in experimental group, and students' posttest score in control group.

3.9 Prerequisite Analysis

Before analyzing the obtained data, pre-requisite analysis should be done to see whether or not the data is normal and homogen.

1. Normality Test

Normality test is used to measure whether the obtained data are normal or not and to measure students' pretest and posttest score in control group and experimental group.

Normality test analyzed the students' pre-test and post-test score in control and experimental group, based on the students' pre-test and post-test in the control and experimental group by using Kolmogorov-Smirnov test with an assist of SPSS 22. According to Flynn (2003, p.17), value less than 0.05 indicates that the data are non-normal. It is mean that the data can be stated normal if the p-output was higher than mean significant different at 0.05 level.

2. Homogeneity Test

Homogeneity Test is used to measure the obtained scores whether it is homogen or not. The scores are categorized homogeneous when the p-output is higher than mean significant difference at 0.05 level (Basrowi, 2007, p. 106). The homogeneity test is used measure students' pretest and posttest score in control and experimental group. The leavene statistics in SPSS 22 is used.

3.10 Hypothesis Testing

In measuring a significant difference on students' reading comprehension, pretest and posttest scores, independent sample t-test was used to compare two population means. There were two samples in which calculated to compare the subjects' mean acores on the pretest and posttest, to see if there were significant difference between the students posttest scores in experimental group and control group. It was used to decide the students' development in their reading narrative comprehension achievement. For measuring mean difference using independent sample t-test, a significant difference was found whenever the p-output is lower than 0.05 level.