CHAPTER III

RESEARCH METHODS

This chapter discusses the methods the researcher used in conducting this research. It covers research design, population and sample, variable, technique of data collection, validity and reliability of the research instrument, technique of data analysis, and hypothesis testing.

A. Research Design

This research belongs to quantitative research. According to Oberiri (2017: 41), quantitative approach deals with quantifying and analyzing variables in order to get results. The data analyzed in quantitative research was in the form of number or score.

In quantitative research, there are two kinds of research, experimental and non-experimental research. Experimental research is a research that conducts the manipulation of variables by treatment, while non-experimental research does not conduct any manipulation (Bonds-Raacke & John, 2014: 61). Since this research was conducted manipulation by treatment, thus this research was classified as experimental research.

There are some kinds of experimental research: pre-experimental, quasi experimental, and true experimental. In this research, the researcher used quasi experimental research with two group post-test. The implementation of the research process could be seen in the following table:

Table 3.1 Research Design Framework

Class	Treatment	Post Test
Experimental Class	X	✓
Control Class	Y	✓

X = treatment (THIEVES strategy)

Y = without treatment (conventional strategy)

As shown by the table, this research involved two classes; experimental class and control class. The different treatments were applied to the two classes. The experimental class was treated with THIEVES strategy, while the control class was taught with conventional strategy. The treatments were conducted twice in each class. After given treatment, a post-test was conducted for both of classes. This research has been conducted from November 25th, 2021 to December 2nd, 2021 at SMPN 1 Trenggalek in the academic year 2021/2022.

B. Population, Sampling, and Sample

1. Population

Population is the study's target population being studied or treated. According to Wani, population refers to any group of humans or nonhuman entities such as objects, educational institutions, time units, and so on. In this research, the population was all of the eighth-grade students of SMPN 1 Trenggalek which consisted of nine classes (VIII A-VIII I) with around 29-32 students in each class. The total population was 272 students. It could be seen in the table as follows:

Table 3.2 The Population of Eighth Grade Students of SMPN 1 Trenggalek

No.	Class	Number of Students
1	VIII A	32
2	VIII B	32
3	VIII C	30
4	VIII D	30
5	VIII E	29
6	VIII F	30
7	VIII G	30
8	VIII H	29
9	VIII I	30
Total of Students		272

2. **Sampling**

Since the population has a large of number, then sampling needs to be conducted. According to Majid (2018: 3), sampling is the process of selecting a representative sample of individuals from the population of interest. Sampling is a technique to select sample. In this research, sampling used by the researcher was purposive sampling. This sampling was conducted based on sample selected by the school principal through the English teacher.

3. **Sample**

Sample is a selected group from the population. Sample can be used to represent a population. Based on the sampling, the selected sample was class VIII B and class VIII C, where class VIII B was selected as the experimental class which consisted of 32 students and class VIII C was selected as the control class which consisted of 30 students. It could be seen at the table as follows:

Table 3.3 The Sample of the Research

Experimental Class	Control Class	Total
32	30	62

C. Variable

Variable refers to characteristics of an individual or an organization being studied that can be measured or observed (Craswell, 2018: 93). This research aimed to find the cause-effect relationship between two variables which were to see how effective THIEVES strategy is in improving students' reading comprehension. There were two variables, independent and dependent variables.

a. Independent variable is something that influence or affect another one in experimental studies. In this research, the independent variable was THIEVES strategy, while

b. Dependent variable is that which is influenced by the independent variable. In this research, the dependent variable was students' reading comprehension.

D. Procedure Applying Treatment (THIEVES Strategy)

In this research, the treatment was conducted twice in the experimental class. The purpose of this treatment was to help students understand the text easily. The students were guided to follow the step by step of THIEVES strategy.

At the first meeting, the researcher explained about descriptive text briefly. After that, students were given stimulation to pay attention to the topic by giving THIEVES worksheet and the text. The researcher wrote down the

component of THIEVES on the whiteboard and explained it. Students were asked to do the worksheet individually and then try to steal the information from the text before they read the whole of the text. They were asked to do it with followed step-by-step the components of THIEVES which were:

a. T : Read the title and predict what the text will be about.

b. H : Look at the headings and then turn it into important question you think the text will answer.

c. I : Use the introduction or first paragraph to predict the main idea.

d. E : Read the first sentence of each paragraph and then what do you think this text is going to be about based on them.

e. V : Look the visual (picture) and predict how it will help you to understand the text.

f. E : Read the end-of-chapter. What information do you think is important.

g. S : Why do you think the author wrote this?

After finishing the worksheet, the students were asked to answer exercises related to the text used in doing the worksheet. Then, the researcher assessed their understanding.

At the second meeting, the treatment was the same as in the previous meeting. Students were asked to do the worksheet of THIEVES strategy. After that, the researcher assessed their progress. And then, in the last meeting, the researcher conducted post-test. This test used to measure whether there is significance different score on students' reading comprehension or not.

E. **Technique of Data Collection**

Technique of data collection is the way how the data in research is collected. Technically, this research was quantitative with quasi experimental research design where the data was collected by conducting a post-test. Thus, the instrument that used in this research was a test.

Test is one of the most assessment tools commonly used in measuring students' ability. According to Brown (2003: 3), test is a method of measuring a person's ability, knowledge, or performance in a particular domain. Thus, to measure the students' ability in reading, the researcher gave a post-test. The post-test was given in the experimental class and the control class after being given treatment. In this research, the test was given in the form of an objective test which was 20 items of multiple choices with the time allocation was 35 minutes.

F. **Validity and Reliability of the Research Instrument**

In quantitative research, validity and reliability are requirements that must be met in the research instrument. Because these two requirements determine whether the instrument is good or bad which affects the quality of the data. Thus, the researcher was conducted a try-out before administering the test. The try-out was carried out in Class VIII A which followed by 31 students. The scores of the try-out could be seen in *appendix 1*.

1. **Validity of the Research Instrument**

According to Fraenkel et al. (2012: 147), validity refers to the appropriateness and correctness of the research instrument a researcher makes. In this research, to measure the validity of the research instrument, the researcher checked the content and the construct of validity.

a. Content of validity

Content of validity refers to the content and format of the instrument. In this research, the researcher asked the students to do a try-out test. The instrument has fulfilled the requirements of the content of validity which is it was relevant to the eighth grade of junior high school RPP or syllabus as presented in the following matrix:

Table 3.4 The Matrix of the Content of Validity

No.	Material	Basic Competence	Indicators
1	Descriptive Text	3.6 Implementing social functions, text structures and linguistic elements of spoken and written transactional interaction texts that involve the act of giving and asking for information regarding the whereabouts of	a) The students are able to identify social functions of descriptive text. b) The students are able to identify text structures of descriptive text. c) The students are able to identify linguistic elements of descriptive text. d) The students are able to identify the topic and the main idea of the text.

		people, objects, animals, according to the context of their use.	

b. Construct of validity

Construct of validity refers to the construct of characteristics being measured by the instrument. In this research, the instrument or the test item was relevant to the material the subject taken, so that it was relevant to the reading in descriptive text. The blueprint of the instrument was as follows:

Table 3.5 Blueprint of Reading Comprehension in Descriptive Text Test

No.	Indicators	Item Number
1.	Students are able to determine the main idea in descriptive text.	2, 5, 10, 14, 17
2.	Students are able to make inferences in descriptive text.	1, 4, 8, 13, 18
3.	Students are able to find the similar meaning of word in descriptive text.	3, 11, 15, 16
4.	Students are able to identify supporting details in descriptive text.	6, 7, 9, 12, 19, 20

c. Face validity

Face validity is a subjective judgment of whether the research instrument measures what it is supposed to measure. In this research, the researcher checked the face validity of the research instrument by consulting to the advisor and English teacher as validators.

After the researcher checked those kinds of validity, the researcher measured the validity of the research instrument using SPSS 21 *Pearson Correlation*. To determine whether the test item was valid or not, the researcher compared the result with the distribution of r_{table} value as follows:

Table 3.6 The Distribution of r_{table} Value

N	The Level of Significance	
	5%	1%
20	0.444	0.561
21	0.433	0.549
22	0.432	0.537
23	0.413	0.526
24	0.404	0.515
25	0.396	0.505
26	0.388	0.496
27	0.381	0.487
28	0.374	0.478
29	0.367	0.470
30	0.361	0.463
31	0.355	0.456
32	0.349	0.449
33	0.344	0.442
34	0.339	0.436
35	0.334	0.430

Since the number of students of VIII A was 31, so that the r_{table} value was 0.355 in the level of significance 5%. After measuring by SPSS, it was obtained the result that all the test items were valid which r_{count} value > r_{table} value as attached in *appendix 2*.

2. **Reliability of the Research Instrument**

Reliability refers to the consistency of scores from one administration of an instrument to another (Fraenkel et al., 2012: 154). In theory, consistency can be seen when there are two data or two raw scores.

These data can be obtained through split-half, test-retest, or inter-rater. In this research, the researcher used split-half which is a technique of testing instrument reliability by dividing the data into two parts. To determine whether the research instrument was reliable or not, it could be seen in the table of reliability as follows:

Table 3.7 The Level of Reliability

Interval Coefficient Score	Level of Reliability
0.00 – 0.20	Less reliable
0.21 – 0.40	Rather reliable
0.41 – 0.60	Quite Reliable
0.61 – 0.80	Reliable
0.81 – 1.00	Very reliable

To measure the reliability of the research instrument, the researcher used SPSS 21 *Guttman Split-Half*. The result of the reliability testing could be seen as follows:

Table 3.8 The Result of the Reliability Testing

Reliability Statistics

Cronbach's Alpha	Part 1	Value	.805
		N of Items	10[a]
	Part 2	Value	.784
		N of Items	10[b]
	Total N of Items		20
Correlation Between Forms			.655
Spearman-Brown Coefficient	Equal Length		.791
	Unequal Length		.791
Guttman Split-Half Coefficient			.785

a. The items are: Item1, Item2, Item3, Item4, Item5, Item6, Item7, Item8, Item9, Item10.

b. The items are: Item11, Item12, Item13, Item14, Item15, Item16, Item17, Item18, Item19, Item20.

From the table above, it showed that the *Guttman Split-Half Coefficient* value was 0.785 which was in the interval coefficient score 0.61 – 0.80. Thus, it could be concluded that the research instrument was reliable.

G. Techniques of Data Analysis

To conduct data analysis, the researcher needed to ensure that the data met the elements of normality and homogeneity.

1. Normality Testing

The normality test was used to know whether the data were normally distributed or not. This normality testing aimed to see the high and low scores frequency. The data or scores could be said to be normally distributed if the number of data above and below the mean was the same.

In this research, the researcher tested the normality by using SPSS 21 *Shapiro-Wilk* and the hypothesis was formulated as follows:

H_0 : The data were normally distributed.

H_1 : The data were not normally distributed.

The null hypothesis could not be rejected if the result was *sig α ≥ 0.05*, while the alternative hypothesis was accepted if the result was *sig α < 0.05*.

2. Homogeneity Testing

The homogeneity test was used to know whether the data were obtained from the sample were homogeneous or not. Actually, this

homogeneity testing aimed to ensure that the number of data or scores were homogeneous. In other words, the diversity was not much different.

In this research, the researcher tested the homogeneity by using SPSS 21 *Levene Test,* and the hypothesis was formulated as follows:

H_0: The data were homogeneous.

H_1: The data were not homogeneous.

The null hypothesis could not be rejected if the result was *sig α ≥ 0.05*, while the alternative hypothesis was accepted if the result was *sig α < 0.05*.

H. Hypothesis Testing

To investigate whether there was a significant difference score in reading comprehension between the eighth grade students of SMPN 1 Trenggalek that was taught by using the THIEVES strategy and those that was not taught by using THIEVES strategy, the researcher used SPSS 21 *Independent Sample T-test* for testing the hypothesis by using the post-test scores of experimental class and control class. The null hypothesis could not be rejected if the result was P-value (sig) > 0.05, while the alternative hypothesis was accepted if the result was P-value (sig) ≤ 0.05.

Since this research aimed to find out the significant difference score. So, if the null hypothesis was bigger than 0.05 then there was no significant difference score on reading comprehension between the eighth grade students of SMPN 1 Trenggalek that were taught by using the THIEVES strategy and those that were not taught by using THIEVES strategy. Meanwhile, if the

alternative hypothesis was smaller than 0.05 then there was a significant difference score on reading comprehension between the eighth grade students of SMPN 1 Trenggalek that were taught by using the THIEVES strategy and those that were not taught by using THIEVES strategy.