

CHAPTER 3

RESEARCH PROCEDURES

3.1 Research Method

In conducting the research, the writer needs to determine an appropriate method. In this research, the writer used the experimental research method. The only method of the research approach that can test hypotheses to determine cause-and-effect relationships is experimental research, which also offers the strongest line of reasoning concerning the relationships between variables. Gay et al. (2012) said that “in experimental research the researcher manipulates at least one independent variable, controls other relevant variables, and observes the effect on one or more dependent variables” (p. 249). It means that experimental research is a kind of research to find out the cause and effect of the relationship between two or more variables.

Experiment is used to find out the effect in using the treatment. In this present research, the experiment research was used to determine the effect of using the Jigsaw strategy as the technique in teaching reading comprehension.

3.2 Variables of the Research

Variable is often the subject of the research that takes centre stage. Based on Best & Kahn (2006), variables are “the conditions or characteristics that the experimenter manipulates, controls, or observes” (p. 162). It implies that the situation or condition that can be experimented with is a variable. It is subject to manipulation, control, or observation. The research’s primary focus is on the variables. There were two variables in this research. The independent variable is the variable which is not influenced by dependent variable. The independent variable of this research is Jigsaw strategy symbolised by (X). In addition, the dependent

variable is the variable which is influenced by independent variable. The dependent variable of this research is reading comprehension symbolised by (Y).

3.3 Research Design

Research design is the form of research that is used in the research. This research was conducted by using one group pretest-posttest design. In the one group pretest-posttest design, one group is measured or observed both before and after receiving some form of treatment (Fraenkel et al., 2012). It means, in one group pretest-posttest design, the sample is given a test before and after the treatment, so the design of this research can be described, as follows.

Table 3.1 The One Group Pretest-Posttest Design

O₁	X	O₂
Pretest	Treatment	Posttest

(Fraenkel et al., 2012, p. 271)

The students were given a pretest (O₁) before treatment using the Jigsaw strategy (X). The purpose was to know their prior knowledge about reading comprehension before the treatment. Then, they are treated using the Jigsaw strategy that conducted six meetings as explained in *Rencana Pelaksanaan Pembelajaran (RPP) penelitian*. After that, they were given a posttest (O₂) using the Jigsaw strategy after the treatment. The purpose was to know their reading comprehension after the treatment. Furthermore, the result of the posttest is compared with the result of the pretest to determine if there are significant benefits after treatment.

3.4 Population and Sample

3.4.1 Population

In general, the population is all the objects or groups which are observed. According to Best & Kahn (2006), “a population is any group of individuals that has one or more characteristics in common and that are interest to the researcher” (p. 13). In this research, the population was from all the classes in grade VIII at one

of the junior high schools in Tasikmalaya. It totalled 11 classes, from class VIII-A to VIII-K.

3.4.2 Sample

The chosen population is used as the sample in conducting the research. According to Best & Kahn (2006), “a sample is a small proportion of the population that is selected for observation and analysis” (p. 13). In this research, the sample was one class in grade VIII, which is VIII-G, at one of the junior high schools in Tasikmalaya.

3.5 Data Collection Technique

To get the data in this research, the writer used the test. The test consisted of 25 items. The forms of the test are multiple choice. The test covers the questions of word meaning, word synonyms or antonyms, specific and general information, and finding out the text’s main idea. The test in this research consisted of pre-test and post-test. The pre-test was conducted to know the students’ prior knowledge and the post-test was undertaken to know students’ reading comprehension after receiving the treatment.

3.6 Research Instrument

Usually, an instrument is used to collect the data in the research. In this research, the writer used the test as an instrument to know students’ reading comprehension. Before giving the test to the class, it was given to the non-sample class to examine its validity and reliability.

3.6.1 Validity

In this research, the exercises were filled in, and then the validity test of 50 questions was conducted, and 25 questions were taken as pre-test and post-test. To know whether the test is valid or not, the writer compared r_{hitung} and r_{tabel} ($df (29) = 0.367$). From the total of 50 questions tested for validity, the results obtained 26 valid questions. The following data below are the results of the validity test that was given to the non-sample class.

Table 3.2 Result of Validity Test

No	Question Number	Coefficient Validity	Interpretation
1	1	0.382	Valid
2	2	0.461	Valid
3	3	0.423	Valid
4	6	0.489	Valid
5	7	0.607	Valid
6	9	0.469	Valid
7	11	0.469	Valid
8	22	0.464	Valid
9	23	0.464	Valid
10	24	0.570	Valid
11	26	0.570	Valid
12	27	0.570	Valid
13	28	0.405	Valid
14	31	0.671	Valid
15	32	0.522	Valid
16	33	0.625	Valid
17	35	0.598	Valid
18	39	0.684	Valid
19	40	0.374	Valid
20	41	0.488	Valid
21	42	0.434	Valid
22	45	0.461	Valid
23	46	0.385	Valid
24	47	0.461	Valid
25	48	0.474	Valid
26	50	0.516	Valid

3.6.2 Reliability

The reliability test of the questions was carried out to show that the questions in this research were reliable and revealed the truth in the field, so that with the hope that the question instrument can be trusted in the field to be used.

Table 3.3 Result of Reliability Test

Reliability Statistics	
Cronbach's Alpha	N of Items
0.890	26

Table 3.4 Internal Consistency

Cronbach's Alpha	Internal Consistency/Reliability Test
$\alpha \geq 0.9$	Excellent (High-stakes testing)
$0.7 \leq \alpha < 0.9$	Good (Low-stakes testing)
$0.6 \leq \alpha < 0.7$	Acceptable
$0.5 \leq \alpha < 0.6$	Poor
$\alpha < 0.5$	Unacceptable

The reliability value can be said to be sufficient if compared the Cronbach's alpha score with internal consistency. In this research, it has been carried out the result of Cronbach's alpha with the total of 26 questions are $\alpha = 0.890$ (Excellent or high-stakes testing) which means that the reliability value is sufficient.

3.7 Data Analysis Technique

The class was given a pre-test to evaluate the students' reading comprehension before applying the Jigsaw strategy. After utilising Jigsaw strategy to treat the class, the class took a post-test to determine whether it effectively taught reading comprehension. The writer reviewed the outcomes of the pre-tests and post-tests using SPSS to determine if there are significant benefits after treatment.

3.8 Steps of the Research

Research needs systematic research steps. The steps of this research as follows.

1. Formulating the problem,
2. Formulating the hypothesis,
3. Literature review,
4. Collecting the data,
5. Analysing the data,
6. Making conclusion.

