

CHAPTER III

RESEARCH METHODOLOGY

A. Research Design

The design of this research is an experimental research, focusing on quantitative approach. According to Marguerite G Lodico, et al, experimental research is thought by many to be the only type of research that can suggest true causal relationships. Experimental research is distinctive from other forms of quantitative research that the researcher controls for or manipulates how groups of participants are treated and then measures how the treatment affects each group.¹

There are two variables, SQPL strategy and students' reading interest. SQPL strategy is an independent variable, while students' reading interest is a dependent variable. Therefore, the experimental class was provided with pre-test, treatment, and post-test. This research used a quasi experimental design: the pre-test, non-equivalent group design, because this research used experimental and control group. The dashed line separating the parallel rows in the diagram of the non-equivalent control group indicates that the experimental and control group have not been equated by randomization – hence the term ‘non-equivalent’.² They can be drawn in the following schema:

¹ Marguerite G. Lodico, et. al. *Methods in Educational Research*. (Josse Boss: a Wiley Imprint, 2010), page.282.

² Louis Cohen Lawarenc, et al. *Research Methods in Education*. (USA and Canada: Routlrdge, 2007), page. 288.

TABLE III.1
Control and experimental group pre-questionnaire and post-questionnaire design

| Group | Pre-Questionnaire | Treatment | Post-Questionnaire |
|------------------|--------------------------|------------------|---------------------------|
| Experimental (E) | O ₁ | X | O ₁ |
| Control (C) | O ₂ | - | O ₂ |

Where: E = experimental group

C = control group

O₁ = pre-questionnaire in experimental group

O₂ = pre-questionnaire in control group

O₁ = post-questionnaire in experimental group

O₂ = post-questionnaire in control group

X = Treatment

B. The Location and the Time of the Research

The research was conducted at first year of SMAN 1 Kundur. It is located at Sunaryo street, KM 3,5, Kundur Barat, Tanjungbatu, Karimun Regency. This research was conducted from December 2013 – January 2014.

C. The subject and the Object of the Research

The subject of this research was the first year at SMAN 1 Kundur, and the object of this research was using Student Qusetion for Purposeful Learning (SQPL) strategy and students' reading interest on recount text.

D. The Population and the Sample of the Research

The population of this research was the first year at SMAN 1 Kundur in 2013-2014 academic years. They consisted of 198 students and divided into six classes.

Based on the total number population, the writer took two classes as the sample. One class was as an experimental class and other was as a control class. The sample was chosen by using cluster sampling.³ The total of sample was 64 students. The writer took class X.E and X.D as the sample. The total population and the total sample are shown below:

TABLE III.2
The Total Population and the Total Sample of the First Year
SMAN 1 Kundur 2012-2013

| No. | Class | Total Population | Total sample |
|--------------|-------|------------------|--------------|
| 1. | X.A | 34 | 34 |
| 2. | X.B | 35 | 35 |
| 3. | X.C | 33 | 33 |
| 4. | X.D | 32 | 32 |
| 5. | X.E | 32 | 32 |
| 6. | X.F | 32 | 32 |
| Total | | 198 | 64 |

³ L.R.Gay & Peter Airasian, *Educational Research Competencies for Analysis and Application*, Sixth Edition, (New Jersey: Prentice Hall, 2000), page: 129.

E. The Technique of Data Collection

1. Interview

Interview was used to ask orally to the teacher about the problem that happened in learning activity and about the research.

2. Observation

Observation was used to get or collect the data or information needed about learning activity by seeing or hearing events, then recorded the result in the research project.

3. Questionnaire

To determine the students' reading interest, the writer used questionnaire. There were two kinds of questionnaire in this research; they are pre-questionnaire and post-questionnaire. This questionnaire consists of twenty items for the respondents. This technique was conducted to collect the data about the students' reading interest.⁴

TABLE III.3
The Blueprint of Questionnaire

| No. | Indicators of Interest | Number of Items |
|-----|---|-----------------|
| 1. | The students would like to read the text. | 1-2 |
| 2. | The students connect their ability with the material in reading text. | 3-4 |
| 3. | The students are encouraged to read English text. | 5-6 |
| 4. | The students would love to repeat reading English text. | 7-8 |

⁴Riduwan, *Belajar Mudah Penelitian untuk Guru, Karyawan, dan Peneliti Pemula* (Bandung: Alfabeta, 2004), p.87.

| | | |
|----|---|-------|
| 5. | The students increase their reading interest. | 9-10 |
| 6. | The students enjoy reading text. | 11-12 |
| 7. | The students share about what they read. | 13-14 |
| 8. | The students imagine what they reading. | 15-16 |
| 9. | The students give more attention in reading text. | 17-18 |
| 10 | The students do interaction (share their comprehension) after reading the text. | 19-20 |

According to Rensis Likert, Likert scale is the mostwidely used scale in survey research and certainly the one that has found its wayinto popular culture. The classic use of the Likert scale was to pose questions or items to participants and have them respond using an agreement scale by selecting a number that best represented their response.⁵ It dealt with the respondents' opinion in answering the following options:

| Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|-------------------|----------|---------|-------|----------------|
| 1 | 2 | 3 | 4 | 5 |

F. The Validity and the Reliability of the Questionnaire

1. The Validity of the Questionnaire

Validity is the degree to which the measurements actually reflect the true variation in the outcome of interest.⁶ Validity, on the other hand,

⁵ Marguerite G. Lodico, et. al. Op. Cit. Page: 495.

⁶ Lucienne T.M. Blessing & Amaresh Cakrabarti, DRM, a Design Research Methodology (London: Springer, 2009), Page: 124.

focuses on ensuring that what the instrument claims to measure is truly what it is measuring. To measure the validity of questionnaire used in this research, the writer distributed the questionnaire in other class as try out class that was X.F class. After that, the writer used computer to know the validity of questionnaire items.

Table III.4
Recapitulation of Research Instrument Validity

| Number of Item | t Test | | t Table | Validity | Classification |
|---------------------------|---------------|----------|----------------|-----------------|-----------------------|
| | 1 | 2 | | | |
| 1 | 0.509 | 0.549 | 0.349 | Valid | Used |
| 2 | 0.554 | 0.602 | 0.349 | Valid | Used |
| 3 | 0.453 | 0.462 | 0.349 | Valid | Used |
| 4 | 0.422 | 0.450 | 0.349 | Valid | Used |
| 5 | 0.393 | 0.389 | 0.349 | Valid | Used |
| 6 | 0.466 | 0.446 | 0.349 | Valid | Used |
| 7 | 0.635 | 0.606 | 0.349 | Valid | Used |
| 8 | 0.550 | 0.586 | 0.349 | Valid | Used |
| 9 | 0.521 | 0.503 | 0.349 | Valid | Used |
| 10 | 0.363 | 0.381 | 0.349 | Valid | Used |
| 11 | 0.656 | 0.707 | 0.349 | Valid | Used |
| 12 | 0.586 | 0.641 | 0.349 | Valid | Used |
| 13 | 0.542 | 0.488 | 0.349 | Valid | Used |
| 14 | 0.639 | 0.696 | 0.349 | Valid | Used |
| 15 | 0.518 | 0.576 | 0.349 | Valid | Used |
| 16 | 0.477 | 0.471 | 0.349 | Valid | Used |
| 17 | 0.526 | 0.590 | 0.349 | Valid | Used |
| 18 | 0.646 | 0.739 | 0.349 | Valid | Used |
| 19 | 0.636 | 0.596 | 0.349 | Valid | Used |
| 20 | 0.537 | 0.536 | 0.349 | Valid | Used |

Based on the table above, it was found that all of items in questionnaire were valid.

2. The Reliability of the Questionnaire

Reliability is the reproducibility of measurement.⁷ Reliability refers to the consistency of scores, that is, an instrument's ability to produce "approximately" the same score for an individual over repeated testing or across different raters.⁸ The reliability was measured from the coefficient correlation of the first try out and the next try out. In determining the reliability of questionnaire, the researcher used the software SPSS 16 version to calculate it.

Table III.5
Reliability of Research Instrument

| Correlations | | | |
|---------------------|---------------------|--------|--------|
| | | TO1 | TO2 |
| VAR00001 | Pearson Correlation | 1 | .979** |
| | Sig. (2-tailed) | | .000 |
| | N | 32 | 32 |
| VAR00002 | Pearson Correlation | .979** | 1 |
| | Sig. (2-tailed) | .000 | |
| | N | 32 | 32 |

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

Based on the table above, it can be seen that the score obtained is 0.979; the r-table is compared by getting the degree of freedom (df) 31. Then, the score obtained (0.979) compared to r-table of product moment at

⁷ *Ibid.* Page: 129.

⁸ Marguerite G. Lodico, et. al. Op.cit. Page: 87.

significance level of 5% and 1% ($0.349 < 0.979 > 0.449$). It means that the questionnaires were reliable.

G. The Data Analysis

In order to find out whether or not there is a significant difference between using and without using SQPL strategy toward students' reading interest, the data were analyzed statically. In analyzing the data of students' reading interest by using SQPL strategy, the writer gave the criteria as follows:⁹

1. 0% - 20% = very low
2. 21% - 40% = Low
3. 41% - 60% = Enough
4. 61% - 80% = strong
5. 81% - 100% = very strong

In order to analyze the data, the writer used the score of post-questionnaire of the experimental group and control group. The score was analyzed by using Chi Square Test formula to know the difference of data frequency. The data were analyzed by using formula as follows:¹⁰

⁹Riduwan, *Skala Pengukuran Variabel-variabel Penelitian* (Bandung: Alfabeta, 2005), Page:15.

¹⁰ Anas Sudijono, *Pengantar Statistik Pendidikan* (Jakarta: Raja Grafindo Persada, 2008), Page: 298.

$$\sum \frac{(f_o - f_t)^2}{f_t}$$

X^2 = Chi Square

F_o = Observation Frequency

F_t = Expected Frequency

The table of chi square has the function to see if there is a significant difference among the frequency of experimental and control group. The chi square-obtained value is consulted with the value of chi square-table by using degree of freedom. The formula of degree of freedom is as follows:¹¹

$$df = (c-1)(r-1)$$

Where:

df : the degree of freedom

c : the number options of questionnaire

r : the number of class sample

If the writer has consulted the chi square-obtained value with chi square-table by using degree of freedom, the writer can conclude that if $x^2_o < x^2_t$, H_0 is accepted. It means that there is no difference between using and without using SQPL strategy to increase students' reading interest. If $x^2_o > x^2_t$, H_a is accepted. It means that there is a significant difference between using and without using SQPL strategy to increase students' reading interest.

¹¹Ibid., Page: 300.