

## CHAPTER III

### RESEARCH METHOD

#### A. Research design

This research was pre experimental design because it is aimed to find out the effect of semantic mapping strategy toward students' writing skills. Sugiyono (2012: 111) states that pre-experimental research is a research which involves some characteristics of experimental research. This design, basically involve one group which is experimental group. The experimental group was given a treatment by applying semantic mapping strategy to improve students' writing skills.

Based on the researcher's viewed above, it could be concluded that the research design which was used to find out whether peer feedback technique gives significant effect toward students' writing skill. It was conducted by *The One-Group Pre test Post test Design*. The study would

be conducted into two steps: pre-test and post-test. The pre-test would be given at the first meeting of the research to see the students' skill before doing the treatment and the post-test would be done at the last meeting of the research to find the result and the component that could be affected by Peer Feedback of the treatment given. The success of the treatment would be determined by comparing pre-test and post-test scores (Gay, 1987: 281).

Table 3.1

### Research Concept

| Group | Pre-test | Treatment | Post-test |
|-------|----------|-----------|-----------|
| A     | O        | X         | OA        |

A : Experimental class

O : Pre-test

X : Treatment of experimental class by using Semantic Mapping

OA : Post-test

By doing this research, researcher was given pre test before giving the treatment after that researcher provided some treatments by using semantic mapping strategy. At the end of the research the researcher gave post test to the student to know their ability in writing.

Table 3.1

### Procedure of One-Group Pre-Test-Post Test Design

| STEPS  | PROCEDURES                      | AIM  |
|--------|---------------------------------|--|
| Step 1 | Pre test<br>(Writing Test)      | To measure the degree of the dependent variable before the treatment |
| Step 2 | Treatment<br>(semantic mapping) | To influence the dependent variable                                  |
| Step 3 | Post test<br>(Writing Test)     | To measure the degree of change on dependent the variable            |

### B. Population and Sample

## 1. Population

According to Sugiyono (2012: 119) the population is generalization area consist of object/subject that has quality and special characteristic to learn and get conclusion by researcher. The population of this research was the ten class students of state senior high school 2 kota Pariman 2017/2018 academic years. It was distributed one class namely 31 students. Total numbers of eleven class students of state senior high school 2 Kota Pariaman are 127 students consist of nine classes (XIS<sub>1</sub>, XIS<sub>2</sub>, X IS<sub>3</sub>, X IS<sub>4</sub>.)

**Table 3.3**

**Population of research Class X state senior high school 2 Kota**

**Pariaman**

**Total stu**

X IPS<sub>1</sub>

XIPS<sub>2</sub>

31

XIPS<sub>3</sub>

31

XIPS<sub>4</sub>

29

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*Source: Officer of state senior high school 2 kota pariman.*

The students were chosen as population based on assumption that they have learnt English, so that they have experience in writing English and they also learnt with the same material and syllabus.

## 2. Sample

Sample is the process of selecting a number of individual for the research in such a way that individual represents the larger group from which they are selected. The purpose of sampling is to gain information about the population by using the sample.

Based on the limitation of the research, the researcher took only one classes of the population. The researcher took sample by using cluster random sampling, it was done by selecting group not individual because all members of selected group have similar characteristics. It means that the subjects of this research have the same background of knowledge, the same ability and the same teacher that teach them. After doing cluster random sampling, the researcher took X IPS<sub>1</sub>. The total number of sample is 127 students, 31 students for the sample.

### C. Place And Time Research

This research is State senior High School 2 Kota Pariaman. The treatment is conducted at ten class students at first semester. This research is done six times meeting started on Augustus 23<sup>rd</sup> 2017 until September 27<sup>th</sup> 2017 where the researcher give student the pre-test in the first meeting, give treatment four time for four weeks and. And the last meeting, the researcher gave post-test in order to know the students' writing skill. To see whether the use of Semantic Mapping Strategy gives significant effect on students' writing skill, the researcher compares the pre-test and post-test result in the clas

### D. Instrument of the research

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The instrument of this research is written test that is used to collect the data about the improvement of student's writing ability after implementing semantic mapping strategy. A test must have content validity and reliability. Arikunto (2001:62) says that one of the characteristics of test validity is content validity. It means the test is valid if it fixes with the material that has been given to the students and it is based on the Curriculum and Syllabus. The writer will use the Curriculum or Syllabus and teaching material to construct the test.

The test (written test) is reliable if it has stability consistently, even though, the test is given on two different occasions and the result are similar. The topics of written test are created by considering the ESL criteria (Jacob, 1981) which appropriate to the level of grade X student of State Senior High School.

The written test in pre test and post test is the same writing test. In this case, the students are allowed to choose one of the topics given and create their paragraph. The topics are:

1. Family      2. Friend

3. Idol      4. Hero

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**Table 3.4**  
**Sample of Instrument in Giving Writing Scores**

1. Pre-test

| No. of Students | Aspects      |                   |          |              |               |             |
|-----------------|--------------|-------------------|----------|--------------|---------------|-------------|
|                 | Content (30) | Organization (20) | Voc (20) | Grammar (25) | Mechanics (5) | Total (100) |
| 1               |              |                   |          |              |               |             |
| 2               |              |                   |          |              |               |             |
| ↓               |              |                   |          |              |               |             |
| 34              |              |                   |          |              |               |             |

2. Post-test

| No. of Students | Aspects      |                   |          |              |               |             |
|-----------------|--------------|-------------------|----------|--------------|---------------|-------------|
|                 | Content (30) | Organization (20) | Voc (20) | Grammar (25) | Mechanics (5) | Total (100) |
| 1               |              |                   |          |              |               |             |
| 2               |              |                   |          |              |               |             |
| ↓               |              |                   |          |              |               |             |
| 34              |              |                   |          |              |               |             |

While, the researcher uses the Jacobson criteria (1981:90) in scoring the student's writing. Those criteria are listed from table below:

**Table 3.5**  
**Indicator of Writing Based on Jacobson**

| No. | Items   | Criteria of Each Item  | Score                            |
|-----|---------|--|----------------------------------|
| 1   | Content | a. Excellent to very good: Knowledgeable; substantive; thorough development of thesis; relevant to assigned topic.<br>b. Good to average: some knowledge of subject; adequate range; limited development of thesis; mostly relevant to topic, but lacks detail.<br>c. Fair to poor: limited knowledge of subject; little substance; inadequate development of topic.<br>d. Very poor: does not show knowledge of subject; non-substantive; not pertinent; or not enough to evaluate. | 30-27<br>26-22<br>21-17<br>16-13 |

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|   |              |  |  |
|---|--------------|--|--|
| 2 | Organization | <p>a. Excellent to very good: Fluent expression; ideas clearly stated/ supported; succinct; well organized; logical sequencing; cohesive.</p> <p>b. Good to average: somewhat choppy; loosely organized but main ideas stand out; limited support; logical but incomplete sequencing.</p> <p>c. Fair to poor: non-fluent; ideas confused or disconnected; lacks logical sequencing and development.</p> <p>d. Very poor: does not communicate; no organization; or not enough to evaluate.</p>   | <p>20-18</p> <p>17-14</p> <p>13-10</p> <p>9-7</p>  |
| 3 | Vocabulary   | <p>a. Excellent to very good: sophisticated range; effective word/ idiom choice and usage; word form mastery; appropriate register.</p> <p>b. Good to average: adequate range; occasional errors of word/ idiom form, choice, usage but meaning not obscured.</p> <p>c. Fair to poor: limited range; frequent errors of word/ form choice, usage; meaning confused or obscured.</p> <p>d. Very poor: essentially translation; little knowledge of English vocabulary, idioms, word form, or not enough to evaluate.</p>  | <p>20-18</p> <p>17-14</p> <p>13-10</p> <p>9-7</p>  |
| 4 | Language Use | <p>a. Excellent to very good: effective complex constructions; few errors of agreement, tense, number, word order/ function, articles, pronouns, prepositions.</p> <p>b. Good to average: effective but simple construction; minor problems in complex constructions; several errors of agreement, tense, number, word order, function, articles, pronouns, prepositions but meaning seldom obscured.</p> <p>c. Fair to poor: major problems in simple/ complex constructions; frequent errors of negation, agreement, tense, number, word order/ function, articles, pronouns, prepositions and/ or fragments, run-ons, deletions; meaning confused or obscured.</p> <p>d. Very poor: virtually no mastery of sentence constructions rules; dominated by errors; does not communicate; or not enough to evaluate.</p> | <p>25-22</p> <p>21-18</p> <p>17-11</p> <p>10-5</p> |

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|   |           |   |   |
|---|-----------|---|---|
| 5 | Mechanics | a. Excellent to very good: demonstrates mastery of convention few errors of spelling punctuations, capitalizations, paragraphing.                                     | 5 |
|   |           | b. Good to average: occasional errors of spelling, punctuations, and capitalizations, paragraphing: poor handwriting, meaning confused or obscured                    | 4 |
|   |           | c. Fair to Poor: Frequent errors of spelling, punctuations, capitalizations, paragraphing; poor handwriting, meaning confused or obscured.                            | 3 |
|   |           | d. Very poor: no mastery of conventions dominated by errors of spelling, punctuation, capitalization, paragraphing: handwriting illegible: or not enough to evaluate. | 2 |

## E. Procedures of Doing Research

### 1. Preparing

In this study, the writer chooses one class to collect the data. In pre-experimental class, the writer uses the Semantic mapping strategy to teach the students English activities. However, the material of the teaching is the writing. Finally, the writer has proposed this procedure:

- a. Determine the research place and time
- b. Preparing the pre test
- c. Preparing the lesson plan arranged by curriculum.
- d. Explain to the students about the planning in learning process.
- e. Preparing the post test

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## 2. Learning Process

**Table 3.6**  
**Treatment procedure of teaching writing in the classroom**

| Activity      | Descriptive of Activity   |
|---------------|---|
| Pre Activity  | <ol style="list-style-type: none"> <li>1. Greeting the students</li> <li>2. Asking the students to read the holy Qur'an or asmaul husna or pray before start the lesson</li> <li>3. Checking the students attendance</li> <li>4. Reviewing or asking about the last material</li> <li>5. Telling the purpose and benefit of the lesson</li> <li>6. Telling the strategy of evaluation</li> <li>7. Telling about the relation materials that will be held with daily life</li> </ol>   |
| Main Activity | <p><b>Observing</b></p> <ol style="list-style-type: none"> <li>1. Students read descriptive text about person.</li> <li>2. Students follow the text to know how to pronounce the word of descriptive text about person.</li> <li>3. Students read skimming to get the general information and read scanning to find the specific information</li> </ol> <p><b>Questioning</b></p> <p>Guidance and direction from the teacher. Students ask the distinction between some descriptive text about person in different context.</p> <p><b>Exploring</b></p> <ol style="list-style-type: none"> <li>1. Teacher introduces learning objective to students</li> <li>2. Teacher explains about definition, purpose and generic structure of descriptive text about person.</li> <li>3. Teacher gives the example of descriptive text about</li> </ol> |

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|      |  |
|------|--|
|      | <p>person.</p> <ol style="list-style-type: none"> <li>4. Students read some example of descriptive text about person in others source.</li> <li>5. Teacher write a topic of lesson on the white board about the person</li> <li>6. Teacher writes the key words related to the key words as they can describe about the person</li> <li>7. Students choose one of the topic namely family, friend or idol</li> </ol> <p><b>Associating</b></p> <ol style="list-style-type: none"> <li>1. The teacher displays the target word about the person</li> <li>2. The teacher invited the students to generate words as many words in categories</li> </ol> <p>The teacher asks to the student to write the generated words in categories</p> <ol style="list-style-type: none"> <li>3. The teacher asks to the student to construct a map of the list word</li> <li>4. The teacher asks to the student to write the list word</li> <li>5. The teacher leads a discussion that focuses identifying meanings and uses of words</li> <li>6. The teacher invite the students to write text based on the the topic of our mapping.</li> </ol> <p><b>Communicating</b></p> <ol style="list-style-type: none"> <li>1. Teacher evaluates students' writing.</li> <li>2. Teacher gives the reward to appreciate students' work in their team.</li> <li>3. Students express their experience that they have gotten for learning process, the difficult thing and easy to learn by using the technique to solve the problem.</li> </ol> |
| Post | <ol style="list-style-type: none"> <li>1. Teacher asks the students about understanding</li> </ol>   |

|          |  |
|----------|--|
| Activity | materials that students have gotten<br>2. Students are asked to make conclusion about the lesson |
|----------|--|

### 1. Evaluation

After doing the learning process so the next step is the final test. The test had been given topic as a sample. The test is an written test. The students has been given explanation about the components of writing that were measured. They are content, organization, vocabulary, language use, mechanic. Each of components has 5 point as the highest mark. The score range between 0-5 that is multiplied 4. The students present free descriptive text, the text has been learnt before in class or the other text that is include descriptive text.

### F. Types of Data

The research collected the data in form of quantitative. The term quantitative data was used as a type of information that can be counted or expressed numerically. This type of data was often collected in experiments, manipulated and statistically analyzed. Quantitative data could be represented visually in tables. The data quantitative got from the result of students' writing test in form of written work.

### G. Technique of Data Collection

The data of this research is collected by giving writing test. The data of this research is student's score in pre test and post test. Pre test is the process of identifying the students' ability before giving the treatment.

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Treatment is the process of implementing semantic mapping strategy in teaching and learning process to improve the student's writing ability.

The researcher conducted for four meetings. The material that is taught was descriptive text by implementing semantic mapping strategy. In this section, the researcher will prepare an instructional design for each meeting.

While, post test is the process of giving the test after giving the treatment. It is aimed to conclude the contribution of semantic mapping strategy in teaching and learning writing process to students' writing ability.

#### H. Technique of Data Analysis

This research would involved many variables, therefore, various data were needed to be analyzed and described to find the accurate result of the experiment. There is a kind of main data, generally, that the researcher tries to analyze through this research students' writing products

(Writing Test).

It will be analyzed by using ESL Composition Profile which consists of five components such as: Content, Organization, Vocabulary, Language Use, and Mechanics. The researcher tried to know about component that affected by peer feedback technique.

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Furthermore, the data was analyzed by using t-test formula as suggest by Gay and Subana. T-test means a statistical procedure used to determine whether there is any significant difference between the mean of the two sets of scores or between two coefficients of correlation. The purpose saw writing skill achievement. It was used to see the different quality of the student's writing before and after using peer feedback technique.

In analyzing students' test score, some steps have been done before analyzed the different mean using t-test formula as follows:

- a. This formula was applied to decide mean of students' test score in experim class (Subana, 2000:63-65).

$$\bar{X}_1 = \frac{\sum f_{ixi}}{\sum f_i}$$

Where:

$\bar{X}_1$  : Mean score of students

$\sum f_{ixi}$  : Total of score every student

$\sum f_i$  : Total of students

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- b. This formula was applied to decide standard deviation of experimental class (Subana, 2000:91-92).

$$S^2 = \frac{n \sum f_{ixi}^2 - (\sum f_{ixi})^2}{n(n-1)}$$

Where:

$S^2$  : Standard Deviation

n : Total of students

$\sum f_i X_i$  : Total of score every student

Standar deviation (dsg)

$$SD_D = \sqrt{\frac{\sum D^2}{N} - \left(\frac{\sum D}{N}\right)^2}$$

Where:

D : Difference

SD : Standard Deviation

$\sum$  : Total of differences between variables X and Y

$\sum D$  : X - Y

N : Number of students

After that the data was analyzed above formula and next analyzed by t-test formula as follows.

$$t = \frac{\bar{D}}{\sqrt{\frac{\sum D^2}{N(N-1)}}}$$

Where:

t : t-test

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D : Deviation (variable X-Y)

$\Sigma D$  : Sum of Deviation (variable X-Y)

N : Number of students

The t-table was employed to see whether there was a significant difference between the mean score of pre-test and post-test in experimental class. The value of t obtained is consulted with the value of t-table. The data is analyzed by using simple regression for hypothesis with 1% of significance level, 5% (=0,05) of significance level and the value of t-table of the level of freedom  $df = N-1$ .

If the value t-obtained or t-test is higher than the value of t-table, the null hypothesis is accepted. On the contrary, if the value of the t-obtained is equal, higher or lower than the value t-table, the alternative one is accepted (t-obtained).

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