

CHAPTER III

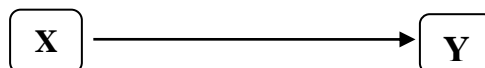
RESEARCH METHOD

In this chapter, the researcher describes: (1) research design; (2) research variables; (3) operational definitions; (4) population and sample; (5) data collection; (6) data instruments analysis; and (7) data analysis.

3.1. Research Design

Based on Creswell (2012, p. 338), correlation is a statistical test to determine the tendency or pattern for two or more variables or two sets of data to vary consistently. In this study, the researcher used correlational research in terms of explanatory research design. It was done to find out the correlation among variables, explained and interpreted the results.

The procedure was, first; the researcher identified the students' self-efficacy by using questionnaire. Second; by using writing test, the student's writing achievement was obtained. Then the correlation, and the influence between variables were analyzed through Statistical Package for Social and Science (SPSS) based on the results of the questionnaires and writing test. Last, explanation and interpretation of the results were discussed. The research design is as follows:



Where:

X : Self-Efficacy

Y : Students' writing achievement

3.2. Research Variables

In this study, there were two kinds of research variables: independent (X) and dependent variables (Y). Based on Fraenkel, Norman, Hellen (2012, p. 80), a common and useful way to think about variables is to classify them as *independent* and *dependent*. Independent variable is what the researcher chooses to study in order to assess their possible effect(s) on one or more other variables. The variable that the independent variable is presumed to affect is called a dependent variable. In commonsense terms, the dependent variable depends on what the independent variable does to it, how it affects it. It is possible to investigate more than independent (and also more than one dependent) variable in a study. Creswell (2012, p. 115-116) states that a dependent variable is an attribute or characteristic that is dependent on or influenced by the independent variable. The independent variable of this research was students' self-efficacy while the dependent variable was their writing achievements.

3.3. Operational Definitions

The title of this research is "The correlation between self-efficacy and writing achievement for the eighth grade students of SMP Negeri 28 Palembang". In this research, the *correlation* means the connection between students' self-efficacy and their writing achievement.

Self-efficacy is students' belief in their own capabilities to complete the tasks and achieve their goals that was obtained from the questionnaire of self-efficacy by Rahemi (2006). Furthermore, *writing achievement* refers to the score

that was obtained from the students' writing test on the given topic. The test is in the form of writing with the indicators; content, organization, grammar, vocabulary and mechanics.

3.4. Population and Sample

3.4.1. Population

Population is a group of individuals who have the same characteristic (Creswell, 2012, p. 142). Based on Fraenkel, Norman, & Hellen (2012, p. 92) population is all the member of particular. It is the group of interest to the researcher, the group whom the researcher would like to generalize the result of the study. The population of this research was the students of eighth grade at SMP Negeri 28 Palembang.

There were six classes of the eighth grade students of SMP Negeri 28 Palembang. The total number of the population was 221 students as presented in Table 1.

Table 2. Population of the Study

No	Class	Number of Students
1	VIII.1	38
2	VIII.2	38
3	VIII.3	38
4	VIII.4	38
5	VIII.5	38
6	VIII.6	38
Total		228

(Source :Staff Administration of SMP Negeri 28 Palembang in year 2016/2017)

3.4.2. Sample

A sample in a research study as the group on which information is obtained. (Fraenkel, et. al., 2012, p. 91). Sample can be defined as a group of people drawn from a population. According to Creswell (2012, p.142), a sample is a subgroup of the target population that the researcher plans to study for generalizing about the target population.

To select the sample, the researcher used convenience sampling. A convenience sample is a group of individual who (conveniently) are available for study (Fraenkel, et. al, 2012, p. 99). Class VIII.1, VIII.2 and VIII.3 selected as sample by the teacher of SMP Negeri 28 Palembang because they were available for study. The number students of VIII 1 class was 38 students, VIII 2 class was 38 students and VIII 3 class was 38 students. So, the total number of sample was 114 students. Meanwhile, Fraenkel et al., (2012, p. 103) state that for correlational studies, a sample of at least 50 is deemed necessary to establish the existence of a relationship. The distribution of the sample is as follows:

Table 3. Sample of the Study

No	Class	Number of Students
1	VIII.1	38
2	VIII.2	38
3	VIII.3	38
Total		114

3.5. Data Collection

In this study, there were two instruments that were used to collect the data. The instruments consisted of self-efficacy questionnaire and writing test. The questionnaire used to measure students' self-efficacy. Then for the students' writing achievement was used writing test.

3.5.1. Self-Efficacy's Questionnaire

According to Johnson and Christensen (2012, p. 191), questionnaire is a self-report data collection instrument that each research participant fills out as part of a research study. For the students' self-efficacy, self-efficacy questionnaire was conducted. There were 10 items in the self-efficacy questionnaire from Rahemi (2006). There were five possible response to each statements ranging from 'Strongly Agree' (number 5) to 'Strongly Disagree' (number 1). The students gave respond the questionnaire in about 30 minutes.

3.5.2. Writing Test

Test is an examination of person's knowledge or ability. Based on Brown (2007, p. 384), test is a method of measuring persons' ability or knowledge in a given domain. In this study, writing test used as the test instrument. The purpose of the test is to measure the students' writing achievement. The students' writing test was in the form of descriptive paragraph. The researcher gave five topics and the students chose one of them. The students wrote an descriptive paragraph and they had 45 minutes for writing. The students' writing test was analyzed by three raters. The raters scored the test based on the rubric of writing test.

3.5.3. Descriptive Writing Rubrics

In this study, the researcher used writing scoring rubric by Brown (2007) to analyzed the data related to the students' paragraph writing test. There were five aspects presented in the scoring rubric for writing; content (30%), organization (20%, grammar (20%), vocabulary (15%), and mechanics (15%). From the analytic scoring rubric for writing, each aspect is scored from 4-1. To get the students' writing score, the researcher used the formula based on the rubric by Brown. The complete rubric can be seen in Appendix C.

$$Score = \frac{3C+2O+2G+1.5V+1.5M}{40} \times 100$$

3.6. Validity and Reliabilty of the Instruments

In this research the questionnaire and real test were administered, the researcher firstly considered the validity and reliability. Johnson and Christensen (2012, p. 137) explain that validity and reliability are the two most essential psychometric properties to consider in using a test or assessment procedure. Validity refers to the accuracy of the inferences or interpretations make from the test scores, while reliability refers to the consistency or stability of the test scores.

3.6.1. Test Validity

According to Fraenkel, et. al. (2012, p. 147), validity is the most important idea to consider when preparing or selecting an instrument for use. Term "validity" refers to the appropriateness, meaningfulness, correctness

and usefulness of the inferences of researcher makes (Fraenkel and Wallen, 2009, p. 147). It means validity test used to measure whether the obtained data of an instruments was valid or not. This study used construct validity.

3.6.1.1. Construct Validity

According to Robinson (2014, p. 346), construct validity defines how well a test or experiment measures up to its claims. In this part, the construct validity of the research instruments involved two types. They were writing test and questionnaire.

In this study, the researcher found out the validity of the writing test by having expert judgment from at least three validators to evaluate whether the components of the instrument are valid or not to be applied in research activities. The researcher have several criteria in choosing expert judgment. The criteria of raters are:

1. Rater had TOEFL score higher than 550
2. A lecture of English had passed master degree
3. Rater had experience at least 2 years in teaching writing

In this study, the researcher asked English lecturers at UIN Raden Fatah Palembang to estimate the validation forms. There are three validators. The result analysis of the first validators that the instrument could be used with some revision. The result analysis of the second validator that the instrument could be used with some revision.

And the third, the result analysis of instrument could be used with some revisions. Overall, it was good and appropriate to be applied for the sample. Finally, after the research instruments had been revised, the research instruments had construct validation from the three validators. It can be assumed that the instruments were appropriate to be used (can be seen in appendix C).

In addition, the researcher used ready made a questionnaire of self-efficacy by Rahemi (2006). The validity of the questionnaire were administered a total of 80 high school students and 20 high school English teachers participated. Accordingly, the translated items of the questionnaire were evaluated and judged by three experts; the whole items (22) were then validated through panel analysis. It resulted in eliminating some overlapping items, revising the wording of some other items, and changing the item order. Consensus was then reached for selecting 10 items out of 22.

3.6.2. Test Reliability

Firstly, in this study, the researcher used inter-rater reliability to know whether the test was reliable or not. Inter-rater reliability occurs when two or more scorers yield inconsistent score of the same test, possibly for lack or attention for scoring criteria, inexperience, inattention, or even preconceived biases (Brown, 2004, p. 21). By using Pearson Product Moment Correlation Coefficient, the reliability of the test could be obtained since the results from each rater correlated. The test was reliable if the result of the data

measurement is higher than 0,70. Johnson and Christensen (2012, p. 340) state that when used to check reliability of scores, the coefficient should be at least 0.70, preferably higher. Further, to get the reliability of the writing test, inter-rater reliability was used. The score of students' writing test were calculated by three raters.

In addition, the reliability of Self-efficacy questionnaire was obtained by Rahemi (2006), the instrument was piloted to 35 volunteer highschool students as to check for the reliability. It was reliable if the result of the data measurement is higher than 0,70. Cronbach Alpha Coefficient calculated for the scale (.82) was considered to be satisfactory. Thus, the instrument was ready to be administered.

3.7. Data Analysis

After all the results of the instruments have revealed, the researcher analyzed the data, the steps were;

3.7.1. Instrument Analysis

Before finding out the correlation between students' self-efficacy and their writing achievement, the researcher found out the score of the instrumens.

3.7.1.1. Questionnaire Analysis

Firstly, the data from questionnaire based on Rahemi (2006) analyzed to determine the students' self-efficacy by observing circled a number in the column. The scoring system was used *likert-scale* (Appendix B). To got the score of students' self-efficacy, the researcher

counted the self-efficacy questionnaire sum up all the result of 10 statements. It means that the higher score was 50 and the lowest score was 10. After that, the results were classified into the following categories as presented.

Table 4. Category Score of Students' Self-Efficacy

No.	Score Range	Category
1.	38 – 50	High
2.	24 – 37	Medium
3.	10 – 23	Low

Source: Bandura (1993)

3.7.1.2. Writing Test Analysis

The students' writing test was analyzed by three raters, those who validate the writing test, by using writing rubric from Brown (2007) (See Appendix E). There were five aspects of the scoring system follows:

1. Content
2. Organization
3. Grammar
4. Vocabulary
5. Mechanics

The scale of all aspects was from four to one and then the researcher sum all of the score of students that was analyzed by three raters, by using writing rubric from Brown (2007).

$$Score = \frac{3C+2O+2G+1.5V+1.5M}{40} \times 100$$

After that, the students' scores from raters are divided by three to obtain the average or total score. As a result, the highest score of all was 100 and the lowest was 25. Then, it categorized based on the following categories:

Table 5. Category Score of Writing Achievement

Score	Category
91 – 100	Excellent
81 – 90	Very Good
71 – 80	Good
61 – 70	Fair
51 – 60	Poor
Less than 50	Very Poor

Source: SMP Negeri 28 Palembang

3.7.2. Pre-requisite Analysis

As the matter of fact, it was essential to do pre-requisite test since the study was in the notion of parametric statistics, correlation and regression. Thus, before analyzing the data, the researcher was tried to find out whether the data distribution from each variable was normal and linear or not between two variables. In pre-requisite analysis, there were two analysis should be conducted. There were normality test and linearity test.

3.7.2.1. Normality Test

Normality test used to see if the distribution of all data were normal. The data obtained from questionnaire of self-efficacy and writing

test. The data can be classify into normal when the p-value is higher than 0.19 level (Lodico, et al. 2010 p. 340). In measuring normality test, the researcher used one sample Kolmogorov-Smirnov test in SPSS 20 (Statistical Package for the Social and Science) software application. The result showed that .102 for Self-efficacy and .530 for writing achievement. (See Appendix P). In short, both of variables data were normal.

3.7.2.2. Linearity Test

The linearity test was conducted in order to recognize whether the data between the variables were linear or not. To find out the linearity from questionnaire and test, *Test for Linearity* in Statistical Package for the Social and Science (SPSS) used. Therefore, if the p-value (linearity) is higher than 0.05 ($p\text{-value} < 0.05$), the data correlation is linearity. Then, after the researcher conduct those test. If the data are normal and linear, the further analysis were be able to be administered. The result show that, the deviation from linearity between self-efficacy and writing achievement was .111. To sum up all the data were linear (see appendix Q)

3.7.3. Corelation Analysis

In finding the correlation between students' self-efficacy and their writing achievement, Person Product Moment used. Correlation was found if the interval correlation was higher than 0.19 (Lodico, et al. 2010 p. 340). If

the p-value is less than 0.19, there is no significant correlation. Meanwhile, if the p-value is greater than 0.19, there is a significant correlation.

3.7.4. Regression Analysis

The influence of self-efficacy to writing achievement was found out by using Regression Analysis. The significance of influence was determined by comparing the R-Square with 0.19. The influence was significant found if R-Square was higher than 0.19 (Lodico et al. 2010, p. 340). If there is a correlation between self-efficacy and writing achievement, it was continued to find out the influence between two variables. To know the influence and percentage between variable R-square was administered. If R-square is equal 0.49 ($R=0.49$), there is a significant influence between self-efficacy and writing achievement. While, If R-square is not equal 0.49 ($R\neq 0.49$), there is no a significant influence. Regression analysis was applied by using the Statistical Package for the Social and Science (SPSS) 20th version computer program.