CHAPTER III
METHODOLOGY

This chapter consists of six subchapters. First, the explanation of the research design. Second is the description of the participant. Third is about research procedure. Fourth is about instrument that is used in collecting data. Fifth is the brief explanation on how the data is analyzed by the writer. Then, the last is about the hypothesis testing.

3.1 Research Design

This research employed quantitative using survey, correlation and comparative design. The survey was used to collect data about the student self-evaluative judgment of teacher and peers written corrective feedback. Teacher and peer WFC methods applied in this study were adopted by Zhang (2017). The result of the survey became a reference to determine what types of corrective feedback that developed student's writing ability. In this case, questionnaire was used to accumulate data from 105 respondents. Questionnaires were the superior research method in order to minimize the influence of the researcher on the respondent's answering. This study also employed correlation design which was causal relationship between two variables; student self-evaluative judgment of both WCF (independent variable) and student writing ability (dependent variable). This result would give prediction based on those relationships. Comparative study was also conducted to comprehend similarity and difference of both student self-evaluative judgment of teacher and peers WCF.

3.2 Participants

The participants of this study were the whole students of MTs. Muhammadiyah 10 Gresik.

Table 3.1 Participant of Study

Class	Students
7	35
8	32
9	38
Total	105

Data source: from MTs. Muhammadiyah 10 Gresik

MTs. Muhammadiyah 10 Gresik became the participant of study because it had reputable track on the development of English. A number of 90% students of MTs. Muhammadiyah 10 Gresik lived on Islamic boarding school named Pondok Pesantren Muhammadiyah Ulul Albab where they studied English intensively. They had been trained to use foreign language for daily especially English and Arabic language.

They were between 12 to 15 years old, and have studied English formal and non-formal during 3 years in average. All of the participants have already got teacher and peer written corrective feedback method on their writing from their own teacher during February to May 2019. Thus, it was not committed by researcher. It was divided into 2 sessions in applying teacher and peer WCF. The first session was for teacher WCF, and then second session was for peer WCF. For the first session, student was asked to write the text based on their writing material in the class. It was determined that 70 minutes should be allocated for each writing task. The 70 minutes consisted of 50 minutes for the initial writing and 20 minutes for feedback review. The writing was expected to contain a minimum of 200 words. Then teacher identified all linguistic errors (including grammatical errors, errors concerning word use, and spelling errors) by underlining them and writing the correct forms above the errors.

In the other meeting, the student's writing together with the comprehensive CF on their writing were returned, and the participants were then given approximately 20 minutes to carefully review the corrective comments. During these 20 minutes, the students read the corrected writing and review each

corrected error. At the end of this period, the writing was collected again by the researcher. For the second session, peer written corrective feedback was introduced to student. Student was asked again to write the text as same as asked in the first session, and then teacher asked their peer to identified all linguistic errors. In the other meeting, the student's writing together with the comprehensive CF on their writing were returned, and the participants were then given approximately 20 minutes to carefully review the corrective comments given from their own peer. During these 20 minutes, the students read the corrected writing and review each corrected error. At the end of this period, the writing was collected again by the researcher.

3.3 Research Procedure

The data of student's self-evaluative judgment of teacher and peer written corrective feedback were collected by using questionnaire. Student writing ability score were also taken to correlate with student self-evaluative judgment to make prediction based on this relationship. Then, to know similarity and difference of both students self-evaluative judgment of teacher and students self-evaluative judgment of peer written corrective feedback, the researcher compared both of them.

3.4 Instruments

The present research employed close questionnaire. It used 5-point Likert-scale questionnaires (see appendix 1) for students to know their self-evaluative judgments of teacher and peers WCF. It consisted of eight aspects that were used based on the student self-evaluative judgment questionnaires in previous investigations by Tsao (2017). Various analyses of student's responses to the questionnaire were done to evaluate how well the items and scale worked. It showed valid and reliable questionnaire used to measure student self-evaluative judgment both teacher and peer WCF. It mentioned reliability coefficients ranging from .89 to .95, convergent validities ranging from .54 to .74, and discriminant

validities ranging from .73 to .86. In current research, there were two kinds of questionnaires to measure both student self-evaluative judgments of teacher and peers WCF. For example, the students were asked questions about their willingness to receive WCF, the importance of receiving WCF, the follow-up action done by student after receiving WCF, and their perceptions of the effects of WCF. The answers to each questionnaire item were given a numerical score (i.e., strongly disagree=1, disagree=2, neutral=3, agree=4, strongly agree=5). The questionnaires were answered by one class at the time, distributed and collected by the researcher to make sure the whole participant was active.

After collecting the data of student self-evaluative judgment of both teacher and peer WCF, the researcher took students writing ability score from their daily writing exercise appropriated with their writing material in each class. Descriptive text was for first grade, recount text was for second grade, and report text was for third grade. Student was given the test after getting the basic material from their teacher. It was held to measure the competence of the basic material in each class. The content validity of writing ability test could be seen in below table.

Table 3.2 Content Validity of Writing Ability Test

Class	Basic Material	KI	KD	Indicator of competence achievement	Items/ Questions
VII	Descriptive text	4. Try, process, and serve in a concreate and abstract domain as has been learned at school.	4.7.2 Arrange a simple descriptive text related to human, animal, and thing by paying attention to the structure of text, and language	4.7.2.2 Learn and make descriptive text by paying attention to the structure of text, and language features related to human, animal, and	Question: Handwrite a descriptions text on a piece of paper about student's village. Question Indicator: -50 minutes for doing the task. - The writing is

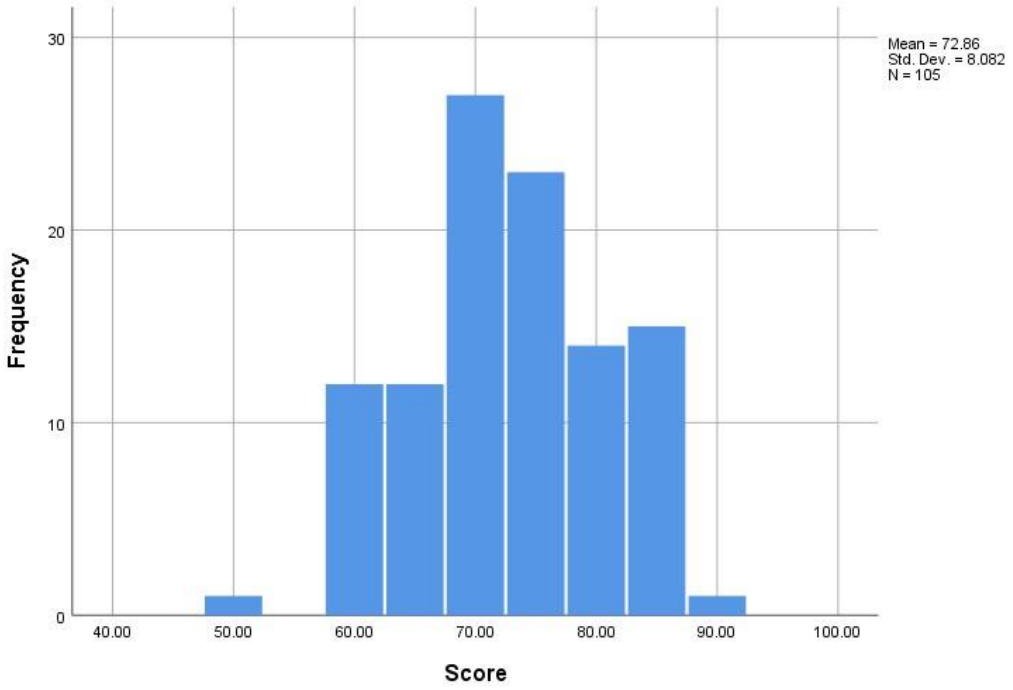
			features .	thing	expected to contain a minimum of 200 words -The writing consist of the purpose of text: Describing student village to make student's village stand out, to show student pride of their village, to promote, criticize, and praise their village. -The writing must follow generic structure of descriptive text: identification, and description. -The writing must follow language features of descriptive text: The use of simple present tense, noun, adjective, and action verb.
VIII	Recount Text	4. Try, process, and serve in a concreate and abstract domain as has been learned at school.	4.11.2 Arrange a simple recount text related to personal experiment in the past by paying attention to the	4.11.2.1 Learn and make a simple recount text related to personal experiment in the past by paying attention to	Question: Handwrite a recount text on a piece of paper about your personal experiment in the past (student's experiment in the past)

			structure of text, and language features.	the structure of text, and language features.	Question Indicator: -50 minutes for doing the task. - The writing is expected to contain a minimum of 250 words -The writing consist of the purpose of text: Informing and entertaining the reader about student's personal experience in the past. -The writing must follow generic structure of recount text: orientation, events, and reorientation. -The writing must follow language features of recount text: Introducing personal participant, The use of cronological connection, linking verb, action verb, and simple past tense.

IX	Report Text	4. Understanding and applying factual and conceptual competence of the material that has been learned in the school based on an appropriate theory.	4.9.2 Arrange a simple report text related to the topic including in other subject in IX grade by paying attention to the structure of text, and language features.	4.9.2.1 Learn and make a simple report text related to the topic including in other subject in IX grade by paying attention to the structure of text, and language features.	Question: Handwrite a report text related to the topic including in other subject in IX grade such as mammals, culture, planets, rocks, plants, countries of region, transportation, and so on. Question Indicator: -50 minutes for doing the task. - The writing is expected to contain a minimum of 300 words -The writing consist of the purpose of text: Presenting information about the topic including in other subject in IX grade. It shoud generally describe an entire class of things, whether natural or made: mammals, culture, planets, rocks, plants, countries of

					region, transportation, and so on. -The writing must follow generic structure of report text: general clasification, and description. -The writing must follow language features of report text: The use of general nouns, relating verb, action verb, technical terms, and simple present tense.

This score was taken after implementing teacher and peer WCF (See appendix 2). The histogram of student writing score was presented below:



The histogram above showed the maximum score was 90 while the lowest score was 50. The mean of student's writing score of the whole students was 72.86 and the standard deviation was 8.082. The participants' writing text was graded by their teacher by using grading rubric adapted from Brown (2007) see on appendix 3. This grading rubric consisted of four criteria: (1) wording and spelling; (2) grammar; (3) content; and (4) structure. These scores of student writing ability would be correlated with both student self-evaluative judgment of teacher and peer WCF. Then, the researcher compared the data between student self-evaluative judgment of teacher WCF and peer WCF that has been acquired before.

3.4 Data analysis

First, to classify the first and the second research question, the researcher calculated the description of the data such mean, standard deviation, sum and range of student self-evaluative judgments' data of teacher and peers WCF. Mean was the average value of a data group. To gain the value of mean, the researcher used a formula, as follow:

$$x = \frac{\Sigma x}{n}$$

x : mean

Σx : the total of the value

n : the number of the respondents

Then range was the gap between the highest and the lowest value in a data group. To gain the range value, the researcher used a formula, as follow:

R= H-I

R : range

H : the highest value

I : the lowest value

Next, for answering the third, fourth and fifth research problem, researcher needed to do prerequisite test. Therefore, normality test need to be used to determine whether a data set was well-modeled by a normal distribution or not. Here, the writer used *one-sample Kolmogorov-smirnov*. The steps of the method as follow:

1. Calculate the mean

$$x = \frac{\Sigma \mathbf{fx}}{\mathbf{n}}$$

x : Mean

Σfx : Total of the score

n : Total of sample

2. Calculate the Standard Deviation:

$$S\text{??} = \frac{\sqrt{\Sigma (X - x)^2}}{n}$$

SD : standard deviation

n : total of sample

x : mean

X : score

3. Calculate Z value in each item score:

$$\mathbf{Z = \frac{x - \bar{x}}{SD}}$$

4. Searching P ≤ Z in each item score using Kolmogorov table,

5. Calculate *Ktable* by certain α using table or formula below if n>30:

$$\boldsymbol{Ktable = \frac{0.886}{\sqrt{n}}}$$

6. Calculate Ko in each item score

Ko = (F/n) - (P ≤ Z)

7. Make conclusion, if Ko was lower than Ktable (Ko < Kt), so, the data has normal distribution.

Beside normality test, the researcher also used regression analysis to know if self-evaluative judgment influenced their writing ability. It used a formula, as follow:

$$y = \beta_0 + \beta_1 x + \varepsilon$$

Where:

y : dependent variable

x : independent variable

Ɛ : error/residual

ß○ : intercept

ß₁ : slope

(Cresswell, 2014)

4. Hypothesis Testing

There were three alternative hypotheses (Ha) and also three null hypotheses (Ho) in this research.

1. The first null and alternative hypothesis said:

a. Ho : μA=μB

There was no significant correlation between student self-evaluative judgment of teacher written corrective feedback and student writing ability.

b. Hi : μA≠μB

There was significant correlation between student self-evaluative judgment of teacher written corrective feedback and writing ability.

To test the first hypothesis, the researcher used simple correlation technique using the Product Moment Formula. The formula of simple correlation was as follow:

$$r_{xy} = \frac{n\sum XY - (\sum X)(\sum Y)}{\sqrt{\{n\sum X^2 - (\sum X)^2\}\{n\sum Y^2 - (\sum Y)^2\}}}$$

In which:

rxy : correlation coefficient between X and Y

ΣXY : the result of multiplying scores between X and Y for each respondent

ΣX2 : the score of squared in X (X is the score for each test item)

ΣY2 : the score of squared in Y (Y is the total correct answer score)

n : the number of student taking the test

After finding out the correlation, the researcher wanted to know the significance correlation by using the formula, as follow:

$$t = \frac{r\sqrt{n-2}}{\sqrt{1-r^2}}$$

Whereby:

Tobtain : the coefficient of significant

r : the coefficient of correlation

n : the number of sample

From the analysis above, if the correlation coefficient or p value of the first null hypothesis was higher than 0.05, it meant that the first null hypothesis (Ho) couldn't be rejected. It also could be said that there was enough evidence to conclude that there was no significantly correlation between student self- evaluative judgments of teacher written corrective feedback and students writing ability.

As the opposite, if the correlation coefficient or p value of the first alternative hypothesis was lower than 0.05, it meant that the first alternative hypothesis (Hi) couldn't be rejected. It also could be said that there was enough evidence to conclude that there was no significantly correlation between student self-evaluative judgments of teacher written corrective feedback and students writing ability.

2. The second null and alternative hypothesis said:

   a. Ho : $\mu A=\mu B$

   There was no significant correlation between student self-evaluative judgment of peer written corrective feedback and student writing ability.

   b. Hi : $\mu A\neq\mu B$

   There was significant correlation between student self-evaluative judgment of peer written corrective feedback and writing ability.

To test the first hypothesis, the researcher used simple correlation technique using the Product Moment Formula. The formula of simple correlation was as follow:

$$r_{xy} = \frac{n\sum XY - (\sum X)(\sum Y)}{\sqrt{\{n\sum X^2 - (\sum X)^2\}\{n\sum Y^2 - (\sum Y)^2\}}}$$

In which:

rxy : correlation coefficient between X and Y

ΣXY : the result of multiplying scores between X and Y for each respondent

ΣX2 : the score of squared in X (X is the score for each test item)

ΣY2 : the score of squared in Y (Y is the total correct answer score)

n : the number of student taking the test

After finding out the correlation, the researcher wanted to know the significance correlation by using the formula, as follow:

$$t = \frac{r\sqrt{n-2}}{\sqrt{1-r^2}}$$

Whereby:

Tobtain : the coefficient of significant

r : the coefficient of correlation

n : the number of sample

From the analysis above, if the correlation coefficient or p value of the second null hypothesis was higher than 0.05, it meant that the second null hypothesis (Ho) couldn't be rejected. It also could be said that there was enough evidence to conclude that there was no significantly correlation between student self-evaluative judgments of peer written corrective feedback and students writing ability.

As the opposite, if the correlation coefficient or p value of the second alternative hypothesis was lower than 0.05, it meant that the second alternative hypothesis (Hi) couldn't be rejected. It also could be said that there was enough evidence to conclude that there was significantly correlation between student self-

evaluative judgments of peer written corrective feedback and students writing ability.

c. The third null and alternative hypothesis said:

   a. Ho : μA=μB

      There was no significant difference between student self-evaluative judgment of teacher written corrective feedback and student self-evaluative judgment of peer written corrective feedback.

   b. Hi : μA≠μB

      There was significant difference between student self-evaluative judgment of teacher written corrective feedback and student self-evaluative judgment of peer written corrective feedback.

   c. Hi : μA ≥ μb

      The mean of student self-evaluative judgment of teacher written corrective feedback was greater than the mean of student self-evaluative judgment of peer written corrective feedback.

To test the third hypothesis, the researcher used Wilcoxon t-test formula, as follow:

$$Z = \frac{T - [\frac{1}{4N(N+1)}]}{\sqrt{\frac{1}{24N(N+1)(2N+1)}}}$$

Whereby:

N ; Number of pair that has different score

T : The smaller number of positive or negative ranking.

From the analyzing using formula above, if group significance score of third alternative hypothesis was lower than 0.05 (p-value < 0.05), it meant that the

third alternative hypothesis (Hi) couldn't be rejected. It also could be said that there was enough evidence to conclude that there was different mean of teacher WCF and peer WCF, then the mean of student self-evaluative judgments of teacher written corrective feedback was significantly greater than the mean of student self-evaluative judgments of peer written corrective feedback.