

CHAPTER III

RESEARCH METHOD

This chapter provides the information of the method to collect and analyze the data. It consists of the research design, population and sample, the instruments for collecting data, data source, and data analysis.

A. Research Design

The research method used in the research is an experimental study. The purpose of an experimental study is to investigate cause and effect by giving certain treatment to the experimental class and to control class as the comparison. In experiment, the researcher's goal is to establish a cause and effect relationship between two phenomena (Nurhayati & Fitriani 2018). Since the experimental study was conducted without randomization, the experiment is not categorized as a true experiment. This research took two groups of students and they were selected by nonrandomized sampling, the study belongs to quasy-experimental study.

The researcher divided two classes of the eleventh grade students of SMK Al-Khoiriyah as two different groups of the object of the study; they are experimental class and control class. The researcher applied a Collaborative Writing strategy as teaching writing in the experimental class, and using conventional teaching in teaching writing in the control class. Both two classes were given pre-test and post-test, but only the experimental class was treated by the Collaborative Writing strategy. In general, this research is to know students' writing achievement between Collaborative

Writing strategy and Conventional Teaching with the attribute variable namely personality learner (extrovert and introvert).

Based on Ary et al., (2010:316) the research design of the study can be summarized as follows:

Group	Pre-test	Independent variable	Post-test
E	y1	x	y2
C	y1	-	y2

Where:

E : experimental group

C : control group

Y1 : represent pre test

Y2 : represent post test

The procedure of this research is illustrated in the following table:

Table 3.2 Research Procedure

Group	Pretest	Group Treatment	Posttest
1	P1	A1B1	P2
2	P1	A2B1	P2
3	P1	A1B2	P2
4	P1	A2B2	P2

Where:

A1B1= groups that given collaborative writing strategy treatment and extrovert students.

A2B1= groups that given collaborative writing strategy treatment and introvert students

A1B2= groups that given conventional teaching and extrovert students

A2B2= groups that given conventional teaching and introvert students

P1= test conducted before learning in groups of students who are extrovert and introvert were treated by collaborative writing and conventional teaching

P2= Posttest conducted after learning in groups of students who are extroverted and introverted treated by collaborative writing and conventional teaching.

B. Population, Sampling, and Sample

a. Population

As stated in Sugiyono (2010:117), the population is a generalization area consisting of objects or subjects that have certain qualities and characteristics decided by the researcher to be researched and be taken the conclusion then. The population used to conduct this research was the eleventh graders of Vocational High School Al-Khoiriyah in the academic year of 2019/2020. It is located at Wates, Sumbergempol, Tulungagung. The total population was 66 students consisting of 25 male students and 41 female students which spread in 3 classes; XI-Syaria Banking, Fashion, and Fishery.

b. Sampling

As stated in this research, the technique used in taking samples is purposive random sampling. Purposive random sampling is one of the types in non-probability sampling. According to Sudjana & Ibrahim (2007:85), purposive random sampling was the technique that was used if the researcher had certain considerations in determining the sample that is appropriate with the purpose of the research.

c. Sample

To study the population more effectively, the researcher selected the sample. Sample, according to Sugiyono (2010:118) is part of the total and the characteristics of the population which are researched. A good sample is one that representative of the population from which it was selected by purposive random sampling. As a sample, the researcher selects XI-Syaria Banking and XI-Fashion classes. Then, XI-Syaria Banking as an experimental class, and XI-Fashion as a control class. Those were as the sample of the research consist of 46 students', 24 students for experimental and also 22 students for control class that believed that this class can give sufficient information.

The steps in determining the sample are as follows:

1. The research sample was taken by purposive sampling which is a sampling technique used by researchers because of certain considerations in sampling (Sudjana & Ibrahim, 2004:85).

Samples were taken in two classes, namely classes XI-Syaria Banking and XI-Fashion. The determination of sampling in this study was based on the consideration of learning in the English lesson taught by the same teacher and the average student had almost the same learning outcomes. The first class was treated using collaborative writing and the second class was treated using conventional teaching.

2. In the second stage, each respondent class is divided into two groups: members with extrovert personality and those introverted personalities. Determination of student personality styles is done by using a questionnaire.

Based on the steps of the sampling technique above, it was obtained that the sample of this study was some students in class XI-Syaria Banking and XI-Fashion with a total of 46 students, with the sample composition shown in table 3.3 as follows:

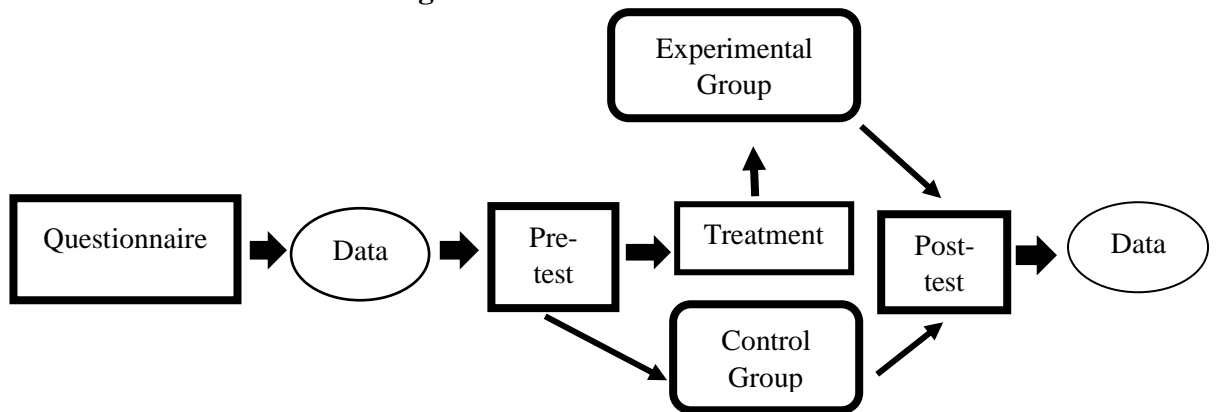
Table 3.3 The Composition of Sample Members

Learning Strategy Type of Personality	CW (XI-Syaria Banking)	CT (XI- Fashion)	Total
Extrovert	14	12	-
Introvert	12	12	-
Total	-	-	-

C. Data Collection Method

In accordance with the research design of this research, the process of data collection generally carried out in this research is categorized into three stages. Those are questionnaire, pre-test, treatment process and post-test. The researcher collecting the data through administering test to test while collecting the data personality learner through distributing questionnaire. For the clear explanation each stage will be explained in figure 3.1

Figure 3.1 Plans for Data Collection



The technique of collecting data is clarified as follows:

1. Administering a questionnaire.

The questionnaire was given before pre-test in both experimental and control group. The questionnaire is about the students' personality style. In the questionnaire, the subjects respond to the questions by writing or, more commonly, by marking an answer sheet and it can be given to a large number of people at the same time (Fraenkel, 2012). In this study, the subjects were asked to mark Yes/No question on the answer sheet based on what they feel. This questionnaire was distributed for both control and

experimental group. This goal was to know who extrovert students or introverted students that assumed has interaction with the dependent variable.

2. Pre-test

The pre-test was conducted before giving treatment, and its score was used to know the normality and homogeneity between control and experimental groups, to check that both group experiment and control have the same or equal achievement. The pre-test was conducted on the same day and date but different time or period. In the pre-test, both control and experimental group, researcher asked the students to write procedure text and the topic is “how to make fried rice” and “how to make ice lemon tea”. Then, students can choose one of the topics given and make a procedure text. The time allotment was 60 minutes. There were 24 students in the experimental group and 22 students in control group.

3. Conducting the treatment

After knowing the instruments that used in the study are valid, the researcher did the next step that is conducting the treatment in experimental group only. Creswell (2012) stated that in experimental class, the researcher physically manipulates with more condition so that the students get something different in experimental group than in control group. The treatment was the implementation of collaborative writing in teaching writing procedure text. Collaborative Writing sheet were given to all students in experimental group. Because of pandemic COVID-19 the researcher conducted online learning with the students.

The time allocation for each meeting consists of two hours instruction in which one hour instruction is forty minutes. The planning of time schedule of the research can be seen in the table below:

Table 3.4 Research Schedule

Date	Experimental Group	Control Group
July 16 th , 2020	Administering Questionnaire	Administering Questionnaire
July 18 th , 2020	Pre-test	Pre-test
July, 20 th , 2020	Treatment 1	Conventional Teaching
July, 21 th , 2020	Treatment 2	Conventional Teaching
July 22 th , 2020	Treatment 3	Conventional Teaching
July, 23 th , 2020	Treatment 4	Conventional Teaching
July, 25 th 2020	Post-Test	Post-Test

4. Post-test

Post-test is done after the students get treatments is taught by using collaborative strategy in teaching writing. The researcher gave both experimental and control group students writing achievement test to know the students' score. Creswell (2012) stated that posttest is a measure on some attribute or characteristic that is assessed for participants in an experimental after a treatment. The next step was conducting the posttest which aimed to measure the students' ability in writing skills after receiving the collaborative strategy. This posttest was given to both the control and experimental groups. This posttest aims to measure the differenced of students' scores between the control and experimental group.

In this case researcher asked the students to write procedure text and the topic is “how to make fried banana” and “how to make a cup of coffee”. Then, students can choose one of the topics given and make a procedure text. The time allotment was 60 minute. The result of post-test were compared to see whether the experimental group significantly out performed the control group. The experimental group was given treatment using collaborative strategy, and the control group was taught with conventional teaching.

D. Research Instruments

According to Brown (2004:3), a test is a method to measure a person’s ability, knowledge, or performance in a given domain. The instrument used by the researcher is a test which it is given before and after taught by using collaborative writing. This research utilizes questionnaire, to classify students’ personality (extrovert or introvert). Then, the second instrument is a writing test. The writing test was utilized to both experimental and control to yield students’ writing achievement post-test score.

a. Questionnaire

Questionnaire is a written instrument consisting of questions to be answered or statements to be responded by respondents (Latief, 2016). There are twenty four items in the questionnaire that will be answered by the students. The questionnaire will give to the students, especially the *Eysenck Personality* questionnaire to know the

personality styles (extravert and introvert) of students, referring to the theory of Eysenck called *Eysenck Personality Inventory (EPI)*. The questionnaire is consist of the extraversion dimension which includes 24 questions, neuroticism also 24 questions and a lie test include 9 questions. Meanwhile, in this study just focus to know the personality students through who are extroverted and introverted. Then, there are twenty-four items of personality questionnaire that are adapted from the *Eysenck Personality Inventory (EPI)*. This instrument is used to separate between extrovert and introvert students. The following items question for each indicator:

Table 3.4 The Matrix of Personality Questionnaire

No.	Indicators	Items	Total
1.	not social / social	2, 7, 9	3
2.	quiet / agile	10, 14, 24, 19	4
3.	passive / active	8, 17	2
4.	doubtful / assertive	3, 4, 6	3
5.	a lot of thoughts / sensation seeking	16, 18, 23	3
5.	sad / carefree	1, 11, 13	3
7.	obedient / dominant	20, 22	2
8	pessimistic / excited	12, 21	2
9	cowardly / brave	5, 15	2
	Total number		24

The questionnaire was given to both control and experimental group students before conducting the test. Because *Eysenck Personality Inventory* (EPI) is one of the standard personality measurement tools, the instrument is only validated based on the consideration of the advisors. Each question is a space for answering YES or NO questions. For scoring *Eysenck Personality Inventory* (EPI) based on Eysenck (1964) as cited in Lestari (2016:281), is by giving score 1 for each question answered that appropriate with the key answer, and score 0 for each question that not appropriate with the key answer. The higher the score students' get, the more individuals tend to extravert students. In contrast, the lower score obtained the more individuals tent to introvert students. As for the determining criteria as follow;

Table 3.5 Personality Questionnaire Key Answer

Score	Personality Types
≥ 12	Extrovert
≤ 12	Introvert

b. Writing Test

Arikunto (2006:127) states that "Test is a series question, exercise or other means which are used to measure the skill, knowledge, intelligent, ability or talent done by individual or group". The data were in the form of students' achievement on writing tests. The test was used to measure students' achievement. Then, the researcher gives a writing test, especially procedure text for the students and use a scoring rubric to score the students' writing achievement. The purpose of this test is

to know how far the effect of collaborative writing strategy in the students' writing achievement. In this study, the students also are asked to write simple short paragraph of procedure text based on the provided topics and 60 minutes for time allocation

Students' writing is scored by using a scoring system proposed by Tribble (1996:130) that consisting of five components: content, organization, vocabulary, grammar, and mechanics. The test conducts 60 minutes for the writing test. The following are the criteria for scoring writing:

Table 3.6

Writing Scoring Rubric

Area	Score	Descriptor
Language	30-24	Excellent to very good:
	23-18	Good to average:
	17-10	Fair to poor:
	9-6	Very poor:
	5-0	Inadequate:
Organization	20-17	Excellent to very good:
	16-12	Good to average:
	11-8	Fair to poor:
	7-5	Very poor:
	4-0	Inadequate:
Vocabulary	20-17	Excellent to very good:
	16-12	Good to average:
	11-8	Fair to poor:

	7-5	Very poor:
	4-0	Inadequate:
Task	20-17	Excellent to very good:
Fulfillment/Content	16-12	Good to average:
	11-8	Fair to poor:
	7-5	Very poor:
	4-0	Inadequate:
Mechanics	10-8	Excellent to very good:
	7-5	Good to average:
	4-2	Fair to poor:
	1-0	Very poor:

Besides, in this research inter-rater was used to score the result of the test. The scoring has been done by the researcher herself and the English teacher in the school. The scores of two raters were summed up and then divided into two. The final score = Language + Organization + Vocabulary + Content + Mechanics.

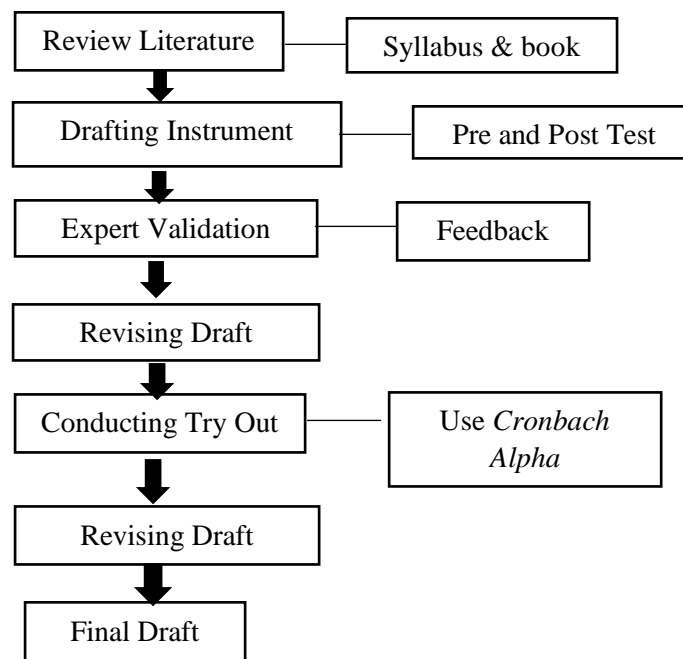
Example:

Language	: 30
Organization	: 20
Vocabulary	: 20
Content	: 20
Mechanics	: 10
Total	: 100

E. Validity and Reliability

The instrument that will be used as a test of students' writing achievement and a personality questionnaire. The material is procedure text about food/drink. Moreover, to find out the quality of the instruments used in the study, it is necessary to review the feasibility aspects, whether the questions that given meet the requirements both in terms of validity and reliability. The way to make valid and reliable instrument can be figured as the table below:

Figure 3.2 Process in making valid and reliable instrument



Based on figure 3.2, the first step to get validity and reliability of the instrument is the researcher review the book and syllabus to draft the test. After drafting the test (pre and post test), the researcher shows both of the tests to expert validator to get feedback by considering with the validation guide. Then, the researcher revises the draft of the tests agree with the

feedback given. Next, the researcher conduct the Try out to the test to students in different class as the sample to get feedback from students. The class is conducted in XI-Fishery. The result of try out which is analyzed by using Pearson Product Moment is used to revise the draft to be the valid instrument because the reliability and validity of the instrument can be objectively computed by using the formula of Cronbach Alpha. The last, the researcher revises the test again after getting input or feedback from the Try out and based on that term the researcher get final draft to test to XI-Syaria Banking and XI-Fashion as sample of population of this research.

1. Validity

Validity in general refers to the appropriateness of a given test or any of its parts as a measure of what it is purposed to measure. According to Ary et al, (2010: 225) validity is the most important consideration in developing and evaluating measuring instruments. In this research, the validity of tests was measured using logical validity and empirical validity. Logical validity is related to content validity and constructs validity that will be validated by the expert (face validity). Meanwhile, the empirical validity is done by testing (try out) the instrument. The validity of the test was analyzed using the Pearson Product Moment correlation formula by SPSS version 23.0 for the window. Meanwhile, because *Eysenck Personality Instrument* is one of the standard personality measurement tools, the instrument is only validated based on the consideration of the lecturer.

a. Face Validity

According to Ary et al, (2010:228) face validity is a term sometimes used in connection with a test's content. Face validity refers to the extent to which examiners believe the instrument is measuring what it is supposed to measure. A test which does not have face validity may not be accepted by test-takers, teacher's education authorities or employer. The researcher used face validity by consulting with advisor and English teacher of the eleventh grade at SMK Al-Khoiriyah Tulungagung.

b. Content Validity

Content validity is a kind of validity which depends on careful analysis of the language being tested and particular test. According to Ary et al, (2010:235) content validity is to have teachers or subject matter experts examine the test and judge whether it is an adequate sample of the content and objectives to be measured. The researcher adjusted the test with the learning syllabus that contains of standard competence and basic competence.

The researcher made this test based on the course objective in the English syllabus of SMK Al-Khoiriyah Tulungagung. The content validity of the test will be designed based on main competence and basic competence in syllabus that implemented in this school. Therefore, this is valid in term of content validity.

Table 3.6 Content Validity of Procedure Text

Main Competence	1.4 Cultivating, reasoning, and serving in the realm of concrete and abstract realms related to the development of the self-study in the school independently and able to use methods according to scientific rules
Basic Competence	4.10 Compose procedure text in the form of manuals and tips, by paying attention to social functions, text structure, and linguistic elements correctly and contextually
Indicators	<ul style="list-style-type: none"> - Students are able to identify the communicative purpose, the structure of the text of the social function procedure - Students are able to describe the contents of the procedure text - Students are able to make the procedure text according to the instructions
Technique	Written Test
Instriment of Test	Pretest Posttest

c. Construct Validity

Construct validity is one kind of validity that is measure the ability which is supposed to measure. According to Ary et al, (2010 : 231) construct-related evidence of validity focuses on test scores as a measure of a psychological construct. In this research, to provide construct validity evidence the researcher was conducted a writing test. This test was composed to measure the students' procedure text writing achievement based on some criteria of procedure text writing's scoring rubrics. They consist of content,

organization, vocabulary, language and mechanics. The instrument was consulted to the English teacher of SMK Al-Khoiriyah Tulungagung to make sure whether the instrument has been valid or not. As a result, this study supported with strong construct validity evidence.

Furthermore, the researcher will use analytic scale which categorized by some categories and the researcher follows these scoring criteria for each category. This analytic score has five items and the final maximum score will be 100.

Table 3.7 Scoring Rubric of Writing

a. Language

30-24	Excellent to very good : confident handling of appropriate structures, hardly any errors of agreement, tense, number, word ,order, articles, pronouns, prepositions; meaning never obscured.
23-18	Good to average : acceptable grammar but problem with more complex structures; mostly appropriate structures; some errors of agreement, tense, number, word order, articles, pronouns, prepositions; meaning sometimes obscured.
17-10	Fair to poor : insufficient range of structures with control only shown in simple construction; frequent errors of agreement, tense, number, word order, articles, pronouns, prepositions; meaning sometimes obscured.
9-6	Very poor : major problems with structures-even simple ones; frequent errors of negotion, agreement, tense, number, word order, articles, pronouns, prepositions; meaning sometimes obscured
5-0	Inadequate : Fails to address this aspect of the task with any Effectiveness.

b. Organization

20-17	Excellent to very good :Fluent expression, ideas clearly stated and supported; appropriately organized paragraphs or sections; logically sequenced (coherence); connectives appropriately used (cohesion).
16-12	Good to average : Uneven expression, but main ideas stand out; paragraphing or section organization evident; logically sequenced (coherence) ; some connectives used (cohesion)

11-8	Fair to poor : Very uneven expression, ideas difficult to follow; paragraphing/organization does not help the reader; logical sequence difficult to follow (coherence); connective largely absent (cohesion)
7-5	Very poor : Lacks fluent expression, ideas very difficult to follow, little sense of paragraphing/organization; no sense of logical sequence (coherence); connectives not used (cohesion)
4-0	Inadequate : Fails to address this of aspect of the task with any Effectiveness

c. Vocabulary

20-17	Excellent to very good : Wide range of vocabulary; accurate word/idiom choice and usage; appropriate selection to match register
16-12	Good to average : adequate range of vocabulary; occasional mistakes in word/idiom choice and usage; register not always appropriate.
11-8	Fair to poor : limited range of vocabulary; a noticeable number of mistakes in word/idiom choice and usage; register not always appropriate
7-5	Very poor : No range of vocabulary; uncomfortably frequent mistakes in word/idiom choice and usage; no apparent sense of register
4-0	Inadequate : Fails to address this aspect of the task with any Effectiveness

d. Task Fulfillment/Content

20-17	Excellent to very good: Excellent to very good treatment of the subject, considerable variety of ideas or argument; independent and through interpretation of the topic; content relevant to the topic; accurate detail.
16-12	Good to average: Adequate treatment of topic; some variety of ideas or argument; some independent of interpretation of the topic; most content relevant to the topic; reasonably accurate detail.
11-8	Fair to poor: Treatment of the topic is hardly adequate; little variety of ideas or argument; some irrelevant content; lacking detail.
7-5	Very poor : Inadequate treatment of the topic; no variety of ideas or argument; content irrelevant; or very reacted; almost no useful detail
4-0	Inadequate : Fails to address the task with any effectiveness

e. Mechanics

10-8	Excellent to very good: demonstrates full command of spelling, punctuation, capitalization, layout.
7-5	Good to average: occasional errors in spelling, punctuation, capitalization, layout.

4-2	Fair to poor: frequent errors in spelling, punctuation, capitalization, layout.
1-0	Very poor : Fails to address this aspect of the task with any Effectiveness

(Adapted from Tribble, 1996:130)

From the table above, the researcher make a rating scale to classify the result of score that each students got. The rating scale was consisted of score, grade, and criteria. It can be seen below:

Table 3.8 Rating Scale

No.	Range of Score	Grade	Criteria
1.	81-100	A	Excellent
2.	61-80	B	Good
3.	41-60	C	Enough/Fair
4.	0-40	D	Poor

2. Reliability

According to Ary et al, (2010: 236) reliability of a measuring instrument is the degree of consistency with which it measures whatever it is measuring. Reliability is used to know whether the test is consistent and reliable. The reliability measurement of both the test instrument is done only at one time (one shoot), the instrument is said to be reliable if the value is greater than 0.60. The researcher *Cronbach's Alpha* with SPSS 23.0.

In this research, the reliability of instrument of writing test was done by inter-rater reliability. To obtain inter-rater reliability, researcher used reliability coefficient among two raters. Inter-rater reliability is the degree of agreement between two or more raters

or scorers (Creswell, 2012). To get the result of inter-rater reliability of the writing test, the researcher used SPSS 23.00 for Windows by using the Cronbach's Alpha formula. The result of reliability testing can be seen in the table below:

Cronbach's Alpha	N of Items
.814	2

The results of calculations using SPSS 23.00 on the reliability test was 0.814. According to Riduwan, (2004:136) the value of cronbach's alpha can be interpreted as follow:

Table 3.2 Criteria of Reliability

Interval Coefficient	Correlation
0.80 - 1.00	Very reliable
0.60 - 0.79	Reliable
0.40 - 0.59	Enough reliable
0.20 - 0.39	Rather reliable
0.00 - 0.19	Less reliable

When the reliability score compared with the category of value, reliability calculation result is in the range of values from 0.60 to 0.79 in accordance with the categories of reliability of the results of those values are reliable.

F. Data Analysis

The data result is to determine whether there is a difference between the results of the posttest-pretest (gain score) in each group is analyzed through three stages namely, the prerequisite test stage of analysis, the stage

of data description and the stage of hypothesis testing (Ananda & Fadhil, 2018).

1. The Prerequisite Test Stage

In short, to conduct a hypothesis in this research are needed certain prerequisite test stage that must be fulfilled, there are normality test and homogeneity test.

a. Normality Test

In this research, the normality test is the Kolmogorov Smirnov (K-S) test. This test is used to determine whether the sample used for this research from populations that were normally distributed or not.

b. Homogeneity Test

In this research, the variance homogeneity test was performed using the Levene Test. The homogeneity test used aims to determine the homogeneity of variance for each class that is compared both in the collaborative experimental class and in the individual learning class.

2. Data Description Phase

The steps taken at the data description stage are making expert validation tabulation, tabulating data for each variable, sorting data intervals, and arranging it in the form of frequency distribution tables, searching for mode, median, mean (mean), and standard deviation. This data description uses the SPSS Version 23.0 for Windows computer program.

3. Hypothesis Testing

To test the hypotheses is using Two Way Anova. Two Way ANOVA is used to determine the effect of a variable (the independent variable) on another variable (the dependent variable) and these variables are measured at the appropriate level. Two Way Anova is to analyze the effect between two independent variables, there are; collaborative writing strategy and individual learning with personality as attributes variable who have two categories, namely extrovert and introvert. Through Two-Way Anova is expected to find the differences in the results of students' writing by using collaborative writing strategies and individual learning. The conclusion of whether H_0 is accepted or rejected is obtained by the interpretation of significant values in the test table between-subject effects from the analysis of variance through SPSS 23.0. The criteria used in concluding are if the probability of error $\rho < 0.05$ then H_0 is rejected and H_a is accepted.