

CHAPTER III

RESEARCH METHOD

This chapter presents research method including research design, subject of the study (populations and sample of the study), research variable, research instrument, data collecting method, validity and reliability testing, normality and homogeneity testing. And data analysis

A. Research Design

This research used quasi experimental as the research design. This study classified as quasi experimental research design because considering the research of the problems and the purposes of the research. Quasi-experimental design is similar to randomized experimental design in that they involve manipulation of an independent variable but differ in that subject are not randomly assigned to treatment group (Ary 2010:316). The research was conducted with two groups as experimental group and control group. Only the students in experimental group were taught by using 3H strategy during the reading process as the treatment of the study. The data were occupied from pre-test and post-test score. The design of experimental and control class follow:

Table 3.1 Quasi-Experimental Design

Group	Pre-test	Treatment	Post-test
E	Y_1	X	Y_2
C	Y_1	-	Y_2

E: experimental group

C: control group

Y₁: reading comprehension before the manipulation of treatment

X: treatment using 3H strategy

Treatment

After administering pre-test, the experimental group is given a treatment by using 3H strategy to teach reading. Meanwhile, the control group is not given treatment and taught by using lecturing strategy. The first treatment for both classes is conducted directly after finish their pre-test because in SMKN 1 Boyolangu the lesson hours for English lesson is (45M X 3 = 135 Minutes) in a day so, the researcher did pre-test for about 60 minutes and the rest of time for about 75 Minutes for treatment on their first day (experimental class on 27th February 2019 and for control class on 28th February 2019). In that date, the researcher shared the material about analytical exposition text for both classes.

The second treatment had done on 13th March 2019 for experiment class and 14th March for control class. For experiment class, the researcher as teacher introducing of using 3H (Here, Hidden, and in my Head) strategy and then the teacher did those procedure as follows: Teacher give task and ask question related to the text. Teacher demonstrates how to find the answer for 'here' question by locating relevant information on the passage. Students practice applying this step

with teacher's guidance and feedback. Teacher demonstrates how to find the answer for 'hidden' question by using the information on the passage to infer or predict the possible answer. Students practice applying the first and second step with teacher's guidance and feedback. Teacher demonstrates how to find the answer for 'in my head' question by using information which is not stated in the text or outside of the text, for instance from students' background knowledge. And for control group, teacher same gave the task but without gave the students 3H strategy to answer those tasks and only by lecturing (conventional way of teaching).

The third treatment had done on 20th March 2019 for experiment class and 21st March for control class. In experimental class the teacher reviews the strategy over the following lessons and uses it for the variety of text types. And also for control class the teacher reviews the strategy (conventional way of teaching) without used 3H strategy over the following lessons and uses it for the variety of text types.

Furthermore, the complete steps of taught with and without using 3H (Here, Hidden, and in my Head) strategy can be seen in lesson plan of research in appendix.

Y2: reading comprehension after the manipulation of treatment

In this research design, the two groups were taught by the same topic but with different strategy. The experimental group was taught by using 3H

strategy, while the control group was taught by using lecturing strategy. Both experimental and control group received pre-test to obtain the first data about students' comprehension in reading comprehension before treatment was given. And after the experimental group was given treatment, finally, both of the group were given post-test to obtain the second data about students' comprehension in reading comprehension.

B. Subjects of The Study

1. Population

A population is defined as all members off any well-defined class of people, event, or object (Ary, 2010:148). It means that population is all the subject of the research which has certain quality and characteristic. Arikunto (2013:173) states “population is the whole subject of research”.

The population of this research was the all of the second-grade students at SMKN 1 Boyolangu in academic year 2018/2019, which consist of 21 class with 742 students.

Table 3.2 Population of Research

No	Class	Gender	
		Male	Female
1	XI RPL 1	24 Students	11 Students
2	XI RPL 2	26 Students	10 Students
3	XI TKJ 1	24 Students	9 Students
4	XI TKJ 2	20 Students	16 Students
5	XI MM 1	13 Students	22 Students
6	XI MM 2	14 Students	20 Students
7	XI UPW	6 Students	30 Students
8	XI DKV	18 Students	17 Students
9	XI Animasi	22 Students	13 Students

10	XI OTKP 1	0 Students	36 Students
11	XI OTKP 2	0 Students	36 Students
12	XI OTKP 3	0 Students	36 Students
13	XI OTKP 4	0 Students	36 Students
14	XI AKL 1	0 Students	36 Students
15	XI AKL 2	2 Students	34 Students
16	XI AKL 3	2 Students	34 Students
17	XI AKL 4	0 Students	36 Students
18	XI BDP 1	2 Students	33 Students
19	XI BDP 2	1 Students	31 Students
20	XI BDP 3 (Alfamart)	1 Students	35 Students
21	XI Kimia Industri	7 Students	29 Students
Total Students		185 Male Students	557 Female Students
		742 Students	

2. Sample

Sample are as part of population. According Sudjana & Ibrahim (2007:85) sample is part of reached population that has the same characteristic with the population.

In this research, the sample of this research is students of the MM 1 class and OTKP 1 class of the second grade at SMKN 1 Boyolangu Tulungagung advised by English teacher. The researcher used purposive sampling technique for choosing the samples. And the researcher choose those class because the students of those class is include into active students and both of class have same average in English mastery not too low or too high, but in average and it will good to give treatment for them.

According In this research, the samples are two classes as experimental group and as control group. Class XI MM 1 as the control group and class OTKP 1 as the experimental group.

Table 3.3 Sample of Research

Sample	Gender		Total Participants
	Male	Female	
XI MM 1	13 Students	22 Students	35 Students
XI OTKP 1	0 Students	36 Students	36 Students

C. Research Variable

A variable is the object of the research of the problem which emphasized in research. Variable is a concept a noun that stand for variation within a class of subject, such as gender, eye color, achievement, motivation, or running speed (Wallen 1996:51).

In this study the researcher used two variables which was independent variable and dependent variable. Independent variable is a variable which influence the dependent variable. This variable is selected and manipulated by the researcher. Therefore, the independent variable in this study is 3H strategy. Meanwhile, dependent variable is a variable that is consequence of or dependent on an independent variable. This variable is observed and measured in order to know the effect of independent variable. Thus, the dependent variable in this study is the student's reading comprehension.

D. Research Instruments

An instrument is a tool for measuring, observing, or documenting quantitative data (Creswell, 2008:14). In this study, the researcher used test as instrument of collecting data. A test, in simple term, is method of measuring a

person's ability, knowledge of performance in a given domain (Brown, 2001:384). In this test, the researcher is used an objective test with four alternative answer (multiple choice test). Each question only requires one answer. The scoring system is if the student answer correctly then the value is one, but the wrong answer is given zero. The pre-test and post-test score data were used as analysis materials.

Both students in experimental and control class were given two kinds of test. The first test was pre-test which distributed in experimental class on 27th February 2019 and for control class on 28th February 2019 and for post-test which distributed in experimental class on 20th March 2019 and for control class on 21st March 2019. Both of the test was objective test with four alternative answer (multiple choice) of analytical exposition text as the level of students in their grade or level and by considering with core competence and also basic competence. The only differentiate between experimental and control class is if in experimental class, the researcher gave the treatment which is 3H strategy but the researcher did not give treatment 3H strategy in control class.

E. Data Collection Method

In this research, the researcher used a test reading as an instrument to get the data. The researcher applied pre-test that consisted of 25 items of multiple choices, and also post-test consisted of 25 items of multiple choices.

1. Pre-Test

The researcher gave the pre-test to students of experimental class and control class to measure students reading comprehension ability before treatments process. The test was given to know the basic competence for students and to know the ability in their knowledge before they get treatments. Pre-test which distributed in experimental class on 27th February 2019 and for control class on 28th February 2019. In that date, the researcher came to those classes and asked the students to answer the question test which is consist of 25 multiple choices questions of analytical exposition text. The number of students who got pre-test was completely 35 students of control group and 36 students of experiment group, after finishing the test, the researcher used scoring rubric to calculate the score of pre-tests. The aim of calculating is to know the result of pre-test before being taught by using 3H strategy for experiment group and without using 3H strategy for control group.

2. Post-Test

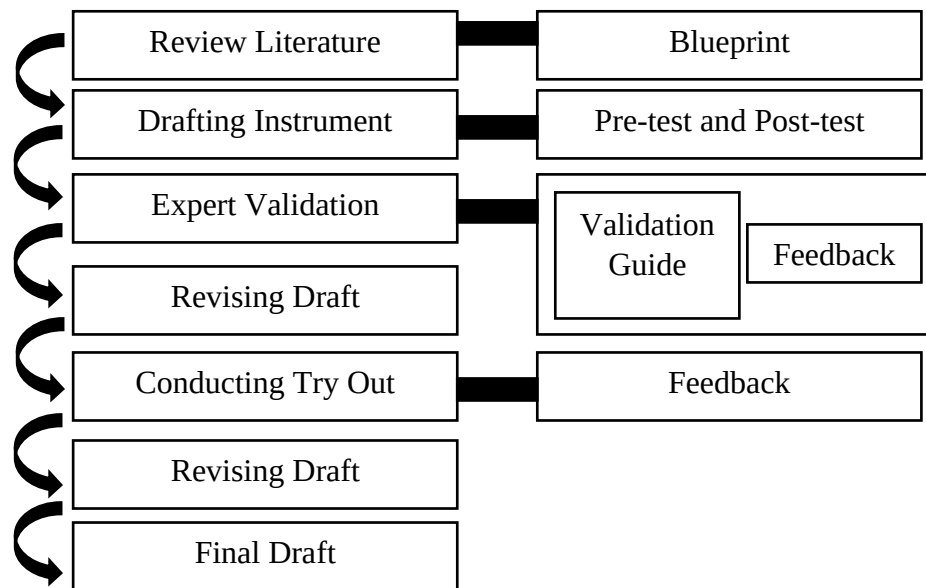
The test was done to know the final score and to know the students difference ability before and after they get treatments. Post-test was conducted after the treatments process. Post-test was conducted directly after their give the third treatment on 20th March 2019 for experiment class and 21st March for control class, as the researcher explained the lesson hours for English lesson is $(45M \times 3 = 135$

Minutes) in a day so, the researcher did the last treatment for about 75 minutes and the rest of time for about 75 Minutes for post-test. In that date, the researcher came to those classes and asked the students to answer the question test which is consist of 25 multiple choices questions of analytical exposition text. The number of students who got post-test was completely 35 students of control group and 36 students of experimental group, after finishing the test, the researcher used scoring rubric to calculate the score of post-tests. The aim of calculating is to know the result of post-test with and without taught by using 3H (Here, Hidden, and in my head) strategy.

F. Validity and Reliability

Validity and reliability of instrument are integral parts in conducting a study since the instrument which will be used must be valid and reliable before using it to collect the data. In this research, the researcher ensured that the instrument (test) was valid and reliable by doing validity and reliability testing. The way to make valid and reliable instrument can be figured as the table below:

Figure 3.1 process in making valid and reliable instrument



Based on the figure 3.1, the first step to get validity and reliability of the instrument is the research review the book and syllabus to draft the test. After drafting the test (Pre-test and Post-test), the researcher shows both of the test to expert validator to get feedback by considering with the validation guide. Then, the researcher revises the draft of the test agree with the feedback given. Next, the researcher conducts the try out to the test to students in different class as the sample to get feedback from the students. The class is conducted in XI TKJ 1. 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 MM 1 and XI OTKP 1 as sample of population of this research.

1. Validity

Validity is an important key to effective research. Validity of a test refers to appropriateness of given test or any of its component parts as the

measure of what it is purposed to measure (Heaton, 1988:159). It means the test will be valid to the extent that it is supposed to measure. Brown (2004:22) states that validity is the test refers to the extent to which inferences made from assessment result are appropriate, meaningful, and useful in terms of the purpose of the assessment. It means that question of a research instruments validity is always specific to the particular situation and particular purpose for which it is being used.

In this research, the researcher used content validity and face validity

a. Content Validity

Content validity refers to whether or not the content of manifest variables (e.g. items of a test or question of questionnaire) is right to measure the latent concept (self-esteem, achievement, attitudes...) that we are trying to measure (Muijs, 2004:66). It means that the reading test should right to measure the students' reading comprehension achievement, in this research, pre-test and post-test were in the form of multiple choices, and the students must answer the test. In this research, the instrument achieved content validity if the test is designed based on core competence and basic competence. The researcher will conduct consultation with the experts as the way to validate the test that has been set up. The expert is the English

teacher of the second grade of SMKN 1 Boyolangu that teach in my research class.

Table 3.4 Standard of Assessment

Core Competence	3). Memahami, menerapkan, menganalisis pengetahuan faktual, konseptual, procedural dan metakognitif berdasarkan rasa ingin tahunya tentang ilmu pengetahuan, teknologi, seni, budaya, dan humaniora dengan wawasan kemanusiaan , kebangsaan, kenegaraan, dan peradaban terkait penyebab fenomena dan kejadian, serta menerapkan pengetahuan procedural pada bidang kajian yang spesifik sesuai dengan bakat dan minatnya untuk memecahkan masalah.
Basic Competence	3.22). menganalisa fungsi sosial, struktur teks, dan unsur kebahasaan beberapa teks eksposisi analitis lisan dan tulis dengan memberi dan meminta informasi terkait isu actual, sesuai dengan konteks penggunaannya.
Indicator	3.22.1). Siswa mampu menganalisis fungsi sosial, struktur teks, dan unsur kebahasaan dalam teks eksposisi analitis dengan baik dan benar sesuai dengan konteksnya.
Testing Objective	Untuk mengukur kemampuan siswa dalam menganalisis, memahami, mengidentifikasi, membandingkan fungsi sosial, struktur teks, dan unsur kebahasaan dalam teks eksposisi analitis dengan baik dan benar sesuai dengan konteksnya.
Test Item	Multiple choice
Material	Analytical Exposition Text
Test Score	100

b. Face Validity

A test having face validity is a test look like, such as the look which can be seen and measured by senses (Brown, 2004:26). According to Isnawati (2012:29) the type of validity called scientific process is face validity. By those theories, it can be concluded that the instrument in case was test should

appropriate to student's level. In this study, the researcher ensured it by consulting to experts. The experts were the English teacher of SMKN 1 Boyolangu and the researcher's advisor on conducting thesis. In this test, there are some aspects to be considered from this test to make good test based on validity.

- 1) The instruction must be clear for students
- 2) In this test, the students have to answer 25 questions of pre-test and 25 questions of post-test to get good score
- 3) Time allocation must be adequate. The teacher gives about 60 minutes to answer 25 questions of analytical exposition text.

2. Reliability

Reliability is the degree to which a test consistently measures whatever it is measuring (Gay and Peter, 2000:169). Reliability show whether an instrument is reliable and can be used as a device to collect the data with the stability of test scores. A good test must be valid and reliable. The criteria of reliability's degree can be seen on table below on as follows:

Table 3.5 Instrument Reliability.

Credibility index	Explanation
0.90 -1.00	Very reliable
0.70 – 0.90	Reliable
0.40 – 0.70	quite reliable
0.20 – 0.40	rather reliable
0.00 – 0.20	Less reliable

In this research, the researcher tried to check the reliability by using Cronbach's Alpha in SPSS 21.0 for windows. Testing is done before treatment and post-test. Test is done outside the sample, but still in one population.

The result of reliability testing by using spss 21.0 can be seen from the table:

Table 3.6 Result of Reliability

Reliability statistic

Reliability Statistics	
Cronbach's Alpha	N of Items
.870	50

From the table 3.3 above, the value of Cronbach alpha is 0.870. It means that the test is reliable.

G. Normality and Homogeneity

1. Normality Test

The purpose of normality test is to know the data distributed normally. Some of statistic technique especially parametric statistic requires that the data has to follow normal distribution form (sugiyono, 2007:95).

Normality test can be done by three types that are use parametric statistic test (frequency test) non-parametric statistic test (Kolmogorov-Smirnov test) and use graph. The normality test which is used by the

researcher is based on the kind of experiment which is done. If the research test was determining the specific qualification about the population parameter which be a sample, the analysis that has to be used is parametric statistical analysis method. Whereas, if the research without determine the specific qualification about the population parameter which be a sample, so the analysis use non parametric statistical analysis method.

Normality test are usually used to determine to know whether a data set is well-modeled by normal distribution or not, or to calculate how likely an underlying random variable is to be normally distributed. P-value that would be provided by SPSS which is the principal goodness of fit test for normal and uniform data sets will be computed to test the normality.

Testing normality has purpose to know whether regression model of residue variable has normal distribution or not. In calculating the normality, researcher used spss 21. The technique that is used was I sample k-s technique. In this case, researcher will used statistic non parametric. The hypothesis of normality testing is:

- a. H_0 : data is in normal distribution
- b. H_1 : data is not normal distribution

The hypothesis above explain that the data is in normal if H_0 is accepted and the data is not normal distribution if H_1 is accepted.

In the consideration of testing normality are:

1. The data has normal distribution, if the significance > 0.05
2. The data does not have normal distribution. If significance < 0.05

The result of normality testing by using spss 21 can be seen from the table:

Table 3.7 Result of Normality Test (pretest)

One-Sample Kolmogorov-Smirnov Test			
		eks	control
N		36	35
Normal Parameters ^{a,b}	Mean	69.11	76.80
	Std. Deviation	11.656	13.679
	Absolute	.177	.147
Most Extreme Differences	Positive	.177	.147
	Negative	-.106	-.110
Kolmogorov-Smirnov Z		1.061	.872
Asymp. Sig. (2-tailed)		.210	.432

a. Test distribution is Normal.

Based on the table 3.4 above, output One Sample Kolmogorov-Smirnov Test shows that sample of every class are 36 students in experiment class and 35 students in control class. The Asymp. Sig (2-tailed) in Experiment class was 0.210 and Control class was 0.432. If the probability > 0.05 , it means that the distribution of data in both classes was normal because the significance of both classes is higher than 0.05

Table 3.8 Result of Normality Test (post-test)

One-Sample Kolmogorov-Smirnov Test		eks	control
N		36	35
Normal Parameters ^{a,b}	Mean	84.67	73.71
	Std. Deviation	6.306	6.948
	Absolute	.215	.172
Most Extreme Differences	Positive	.215	.148
	Negative	-.128	-.172
Kolmogorov-Smirnov Z		1.289	1.016
Asymp. Sig. (2-tailed)		.072	.253

a. Test distribution is Normal.

The data normality post-test in the table 3.5 above in the experimental class was 0.072 and in control class was 0.253, the data of both classes have significance > 0.05 , it means the research data in the post-test of both classes has normal distributed

2. Homogeneity Test

Arikunto (2010:98) states that “homogeneity is measurement which can be used to determine data variation. It means that homogeneity testing is conducted to know whether they gotten data has homogeneous variance or not. There are so many ways which can be used to measure the homogeneity of sample, such as by using explore analysis test and analysis test one way ANOVA and Levene. The data analyzed by using SPSS 21 program to know whether the data homogeny or not. Before doing

homogeneity testing. The researcher decides hypothesis in this homogeneity as follow:

- a. H_0 : Variance of every group was homogeny
- b. H_1 : Variance of every group was not homogeny

The interpretation of the result to find out whether the data ware homogeny or not were based on the level significant 0.05, if the result is higher than significant level 0.05, then H_0 is not rejected. Meanwhile, if the result is lower than 0.05, then H_0 is rejected on the other word that the data are not homogeny, then H_1 is accepted. The result can be seen in the table below:

Table 3.9 Result of Homogeneity of Pre-test Variances

Test of Homogeneity of Variances			
pretest result			
Levene Statistic	df1	df2	Sig.
3.076	1	69	.084

Based on the result testing of homogeneity above, the significant was 0.084 on pre-test. It means that the significant of group higher than significant level 0.05. So, it can be conclude that H_0 was not rejected. It means the variance of data is homogeneous.

Table 3.10 Result of Homogeneity of Post-test Variances

Test of Homogeneity of Variances

posttest result

Levene Statistic	df1	df2	Sig.
.203	1	69	.653

Based on table 3.7 above, it showed that the significant was 0.653 on post-test result, it means that the significant of group more than 0.05. So, it can be conclude that H_0 was not rejected. It means that the variance of data is homogeneous.

H. Data Analysis

Data analysis is a review of series of activities, grouping, systematization, interpretation and verification of data so that a phenomenon has social value, academic, and scientific (Tanzeh, 2009:69). Ary et al. (2010:95) explains that data analysis indicate how the researcher will analyze the data to the test the hypothesis and/or answer the research question. While khotari (2004:18) explains after the data have been collected, the researcher turns to the task of analyzing the data.

The data obtained from research result of students test that were analyzed quantitatively. In this research, the researcher used independent sample t-test at IBM SPSS Statistic 20 for windows to know the significant difference of achievement of students' reading comprehension between they were taught by using 3H (Here, Hidden and in my Head) strategy and those are taught without using 3H (Here, Hidden and in my Head) strategy. The

data collected was processed by comparing the score between control group and treatment or experimental group.