

CHAPTER III

RESEARCH DESIGN

This chapter presents the research methodology that is used in this research. It talks about research design, subject of the study, research variable, research instrument, validity and reliability testing, normality and homogeneity testing, data collecting method, and data analysis.

A. Research Design

Research designs are plans and the procedures for research that span the decisions from broad assumptions to detailed methods of data collection and analysis. According to Cresswell (2009:22) stated that the selection of research design is also based on the nature of the research problem or issue being addressed, the researchers' personal experiences, and the audiences for the study.

There were various research designs in a research. In this research is categorized as quantitative research. According to Gay et al (2006:9) quantitative research is the collection and analysis of numerical data in order to explain, predict and or control phenomena of interest. Quantitative research used objectives measurement to gather data that were used to answer question or test predetermined hypothesis. It means that the data are collected in numerals by using statistics as the answer to the research question. Kumar (2006:135) added that Quantitative methods involved the process of collecting, analyzing, interpreting, and writing the results of a study. Moreover, the use of quantitative data in social research has its

attractions. For one thing, it carries with it in aura of scientific respectability. Because it uses numbers can present findings in the form of graphs and table, it conveys a sense of solid, objective research.

There are four kinds of quantitative research that sited in Cresswell (2009:236), that is: pre-experimental design, quasi-experimental design, true-experimental design, and single-subject design. The research design of this study is quasi-experimental study. The quasi-experimental design of this research is to identify any causal impact between the independent variable and the dependent variable with groups that are not randomly assigned (Ary et al, 2010:22). This research design selects two groups, the experimental group A and the control group B are selected with randomly selected. This research design include a pre-test measures followed by a treatment and post-test for two groups both experimental group and control group. The first group is given treatment and the other group is not given treatment. The treatment is conducted in experimental group only, and administered the post-test to assess the differences both of the groups. The following research design of the study is used to identify the effect between independent variable and the dependent variable as follow:

Table 3.1: The Illustration of Research Design

Group	Pre-test	Treatment	Post-test
A	Y ₁	X	Y ₂
B	Y ₃	-	Y ₄

Notes:

A : Experimental group

- B : Control group
- Y_1 : Students' reading score of experimental class on pre-test
- Y_2 : Students' reading score of experimental on post-test
- Y_3 : Students' reading score of control class on pre-test
- Y_4 : Students' reading score of control class on post-test
- X : Treatment on the experimental group by using 3-2-1 Strategy
- : The group without treatment or using conventional method

Based on the table above, the researcher takes two classes, the experimental class and control class. The procedure begins with giving pre-test to both the experimental class and control class. Then the researcher gives experimental treatment to the experimental class by teaching recount text to the students by using 3-2-1 strategy, while the control class is taught only by using conventional teaching method. The researcher distributes the post-test after giving the treatment in the experimental class to both of classes to know the effectiveness of the 3-2-1 strategy to the students' reading comprehension achievement of recount text. Lastly, he effect will be seen by analyzing the result of pre-test and post-test.

B. Subjects of The Study

This sub-chapter represents population, sampling, and sample that are used by the researcher, there are:

1. Population

Population is the subjects group that the data will be collected. According to Cresswell (2012:142) population is a group of individuals who have the same characteristic. In addition, Scott and Johnston (2009:26) stated that population is the universe of people to which the study could be generalized, and a sample is the subset of people from the population who will participate in the current study. In this case, the population is the whole students of the eighth grade at MTs Darul Huda Wonodadi in period 2018/2019. The number of population is 98 students. The eighth grade of MTs Darul Huda consists of three classes: there are VIII-A class consists of 30 students, VIII-B consists of 33 students, and VIII-C consists of 35 students. It can be seen in the table 3.2 below:

Table 3.2: Population of the Research

No.	Class	Gender	
		Male	Female
1.	VIII A	21 students	12 students
2.	VIII B	20 students	10 students
3.	VIII C	16 students	19 students
Total Students		98 students	

2. Sampling

The sampling technique used is purposive sampling. This sampling is a non-probability sample that select sample based on characteristic of a population and objective of the study. As revealed

by Fraenkel et al (2012:100), purposive sampling is a sample that represented the population based on the prior knowledge or personal judgment. Cohen et al (2007:114) also give explanation that purposive sampling is the sample taken on the basis of their judgment of their typically or possession of the particular characteristics being sought. By using purposive sampling, the researcher considers the suggestions of the sample classes from the teacher who know well which classes is appropriate to be chosen by giving qualification. The recommended classes are VIII A and VIII B as the sampling of this research. Both of classes are chosen because those classes are appropriate to be subject of this research. In addition the English teacher gives another reason to take both of classes as the subject to be researched as follow:

1. Those classes are taught by recount text
2. Almost all students from each class are cooperative enough
3. The students of both classes are heterogeneous; it means they are having same high, middle and low achievement in English learning.

3. Samples

Sample is the small group that is observed. Sample is the subdivision of a population. According Creswell (2012:142) stated that a sample is a subgroup of the target population that planned by the researcher to study for generalizing about the target population. Another definition from Hanlon & Larget (2011), a sample is a subset

of the individuals in a population; there is typically data available for individuals in samples. In addition, Chaudhury (2010) defines that sample is any part of the fully defined population.

In this research, the researcher takes two classes from three classes. The sample was chosen by purposive sampling. It applied in two classes that is chosen by some certain criterions which the chosen classes must be normal or in average. Based on the criterion, the samples of this research are VIII A class and VIII B class of eighth grade students in MTs Darul Huda Wonodadi. The VIII A class as the control group which consist of 33 students and the VIII B class as the experimental group which consist of 30 students. Thus, the total sample as the participants of this research is 63 students.

Table 3.3: The Sample of the Research

No.	Class	The Number of Students
1.	VIII A	33 students
2.	VIII B	30 students
Total Participants		63 students

The sample above is divided into two groups. The first group chooses VIII A class as the control group which is taught by using conventional teaching method in students' reading comprehension of recount text. The second group chooses VIII B as the experimental group which is taught by using 3-2-1 strategy in students' reading comprehension of recount text.

Table 3.4: The Distribution of the Treatment

Group	Class	Treatment	Number of students
Control Class	VIII A	Conventional	33 students
Experimental Class	VIII B	3-2-1 Strategy	30 students

C. Research Variable

Variable can be classified in several ways. According to Ary (2006:40), the most important classification is on the basis of their use within the research under consideration when they are classified as independent (X) and dependent (Y) variable. Here, the variables of this research.

1. Independent variable

Independent variable is variable that consequence of or upon antecedent variables. One variable must be treatment variable. In this research, teaching reading comprehension of recount text by using 3-2-1 Strategy is an independent variable because it affects the students' reading achievement.

2. Dependent Variable

Dependent variable is the response variable that is presumed to be influenced by the independent treatment condition and any other independent variables. In this research, students' reading achievement of recount text is dependent variable.

D. Research Instrument

Research instrument can be defined as a tool to collect data in the research. Every research must be needed an instrument for collecting the result of data. According to Cresswell (2012:151) suggested that an instrument is a tool for measuring, observing, or documenting quantitative data. He also said that the researcher uses instrument to measure achievement, assess individual ability, observe behavior, develop a psychology profile of an individual, or interview them. Thus, research instruments are the ways of collecting the data to establish the research. Without using instrument, a research will be impossible to run well.

In this study, the researcher applied a test as a research instrument to obtain the data. Test is a set of stimuli presented to an individual in order to elicit responses on the basis of which a numerical score can be assigned (Ary, 2010:210). The test is used to measure the students' reading comprehension. The reading test is held twice, in the pre-test and post-test. Both of the pre-test and post-test are have same format as the test. The test type is multiple choices test that consists of twenty items of reading test. The multiple choice test that is used is consists of recount text materials. The students are ordered to give their best answer in the test. The test is given in the beginning and the end of the treatment.

The pre-test is given the first time on March 19th and 22nd, 2019 before the researcher gives the treatment to the both of experimental and controlled students. The purpose is to measure the students' reading

comprehension achievement before they receive the treatment. After getting the result of pre-test form in experimental class and control class, the researcher gives the treatment into 3 meetings to teach reading comprehension in experimental class by using 3-2-1 strategy on material of recount text. Meanwhile, in the control class the researcher does not give the treatment like experimental class. The control class only receives conventional method to teach reading comprehension on material of recount text. Both of recount text tests are adjusted with the eighth grade level of students and the basic competence from the government. After doing the treatment, the researcher gives post-test on April 8th and 10th, 2019 to both of experimental class and control class as the final test after applying the treatment. Post-test is used to measure the students' reading comprehension achievement after teach by using 3-2-1 strategy on recount text from experimental class and from control class who does not teach by using 3-2-1 strategy on recount text. Lastly, the test is used to indicate the significant difference in the reading comprehension achievement between the eighth grade students of Junior High School who are taught by using 3-2-1 Strategy on recount text and those who are not taught by using 3-2-1 Strategy on recount text.

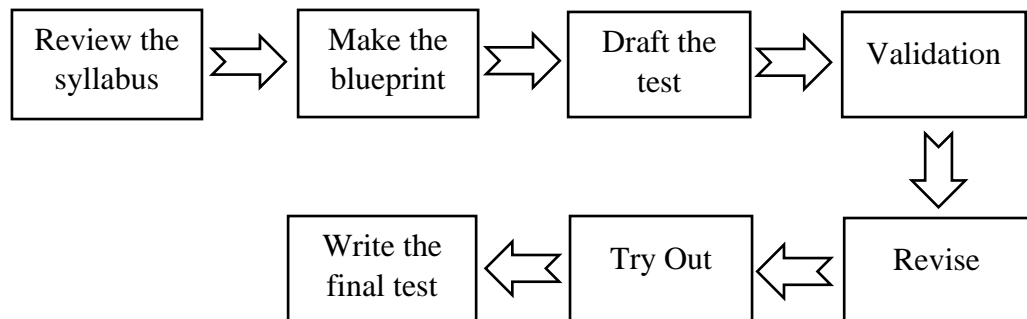
In addition, the researcher conducts a try out before the instrument is used to collect the data from experimental class and control class. It is used to find out the validity and reliability of the instrument. Try out is administered in another class which is not involved during the research

process. It will be implemented to 30 students of VIII C at MTs Darul Huda Wonodadi. The researcher choose this subject based on characteristic of students' ability that near same with the sample.

E. Validity and Reliability Testing

Validity and reliability of instrument are integral parts in conducting a research since the instrument which will be used it must be valid and reliable before using it to collect the data. The researcher ensured in this research that the test is valid and reliable by doing validity and reliability testing. To make the test valid and reliable, it can be figured as the table 3.5 below:

Table 3.5: Process in Making Valid and Reliable Instrument



Based on the table above, the first step which researcher does to get the validity and reliability of the instrument (test) is to review the syllabus. Next, making a blueprint to draft the test. After drafting the instrument (pre-test and post-test), the researcher showed both of the tests to the expert validator to get feedback by considering with the validation guide. After getting revision from the expert, the researcher revised the draft.

Then, the researcher conducted the try out to test the students in different class which is not chosen as the sample. The class is conducted in VIII C. At last, the researcher analyzed the result of try out test to get the feedback. Thus, the researcher can obtain final draft to test as sample of population of this research.

1. Validity

Validity is conducted in order to know the validity of the instrument which is applied. Validity is defined as the extent to which a concept is accurately measured in a quantitative study (Heale & Twycross: 2015). While, Gary (2005:13) validity is the complement to reliability and refers to extent to which what we measure reflects what we expected to measure. In Addition, Ary et al (2010:225) defines validity as the extent to which as instrument measured what it claimed to measure. He also stated that the process of gathering evidence to support (or fail support) a particular interpretation of test scores is referred to as validation. There are four types of validity consist of content validity, criterion-related validity, construct validity and face validity. In this study, the researcher use content validity, construct validity and face validity to analyze the test. The purpose is to measure whether the test has a good validity.

a. Content Validity

Content validity is focus on whether the instrument covers all the variable contents. In other word, content validity is focused

on what the students learn in the classroom. According to Ary et al (2010:225) states that validity is to have teachers examine the test and judge whether the test is adequate sample of the content and objective to be measure. The question on a test is representative of some defined universe or domain of content. Content validity is a kind of validity that depends on careful analysis of the language being tested and the particular test subject. It means that the test is said have content validity if its contents represent a balanced and adequate sampling of all the relevant knowledge, skills, and dimensions making up the content domain. The materials that students have learned will be given to a test then. A test is said to have content validity if its content correspondence with the curriculum objective and objectives is being assessed. Thus, the researcher will conduct the instrument of this research achieved the content validity designed based on the core and basic competence that settled in the curriculum 2013. The content validity can be seen on the table 3.6, as follow:

Table 3.6: The Content Validity

Core Competence	3. Memahami dan menerapkan pengetahuan (factual, konseptual, dan procedural) berdasarkan rasa ingin tahunya tentang ilmu pengetahuan, teknologi, seni, budaya terkait fenomena dan kejadian tampak mata
Basic Competence	3.11 Membandingkan fungsi sosial, struktur teks, dan unsur kebahasaan beberapa teks <i>personal recount</i> lisan

	dan tulis dengan memberi dan meminta informasi terkait pengalaman pribadi diwaktu lampau, pendek dan sederhana, sesuai dengan konteks penggunaanya.
Indicator	<ul style="list-style-type: none"> - siswa mampu mengidentifikasi ide utama atau kesimpulan dari sebuah teks atau paragraph secara tersirat maupun tertulis. - siswa mampu mengidentifikasi jenis teks, tujuan dan struktur dari recount text (<i>generic structure of the text</i>) - siswa mampu menentukan ide pendukung dan rincian informasi secara tersirat maupun tertulis - siswa mampu menentukan referensi kata yang terdapat dalam teks.
Testing Objective	Untuk mengukur prestasi dalam membaca siswa dalam recount text
Test Item	Multiple Choice
Material	Recount Text

Based on the table above, the instrument of the test should have a content validity because there is appropriateness between the test and the indicator with the core competence and basic competence in syllabus of Curriculum of 2013. It is appropriate with correct structures which it tests the students' reading comprehension in reading text.

b. Construct Validity

Construct validity is a test shows how far its validity are capable to measure the specific characteristics in accordance with the theory of language behavior and learning to compose the test. Related with Heale and Twycross (2015) stated construct validity

refers to whether a researcher can draw the conclusion about test score related to the concept being studied. The instrument is composed concerning aspect that will be measured. It is constructed concerning to the aspects that will be measured according to the certain theory. To measure the construct validity, the researcher makes a blueprint. Then, consult the instrument with the expert to make sure it can be valid.

In this research, the instruments that have been constructed based on the reading theory. Testing the construct validity must be needed the expert opinion. Finish an instrument was constructed about the aspect that measured based on the appropriate theory, the instrument will be consulted with the expert. The expert will give their opinion and correction about the instrument that researcher constructed. After the instrument get the correction from the expert, it can be tried out to the VIII C students' of MTs Darul Huda Wonodadi that consist of 30 students to find out the validity of the test.

c. Face Validity

Face validity is where a test is visible measure what is supposed to be measured. According to Ary et al (2010:225), states that face validity refers to the extent which examines believe the instrument is measuring what is supposed to measure. It can be grasped that materials which is used to the instruments are

appropriate to students' level. It means the test instructions must be clear and understandable to the students. The researcher analyzed the students' level by consulting to the expert. The experts here are the advisor, the English teacher, and the material books of eighth grade level. Then, the items which are prepared are matched to Junior High School level especially eighth grade level students.

2. Reliability

Reliability is the results of the assessment in producing the score on different testing are consistent or not. Reliability means that score from an instrument are stable and consistent (Creswell, 2012:159). While, Ary (2010:237), reliability is concerned with the effect of errors of measurement on the consistency of scores. A test is said reliable if the test is consistent and dependable. Besides, having high validity, a good test should have high reliability too. It is a necessary characteristic of any good test; for it to be valid at all, a test must first be reliable as a measuring instrument.

The reliability is shown from the result of conducting try out test in the different class that do not use to research. To know the reliability of the test, the researcher conducted a try out to the students in other in the same grade of the sample as the qualification. The researcher will calculate the students score from try out to get the reliable test. In this study, the researcher use IBM SPSS 24.0 for windows to compute the reliability of test or instruments.

The criteria of reliability instrument can be divided into 5 classes, those are Very reliable, reliable, enough reliable, rather reliable, and less reliable (Ridwan, 2004:136). The Criteria of reliability can be showed as bellow:

- a. If the *alpha cronbach* score 0.00 – 0.20: less reliable.
- b. If the *alpha cronbach* score 0.21 – 0.40: rather reliable.
- c. If the *alpha cronbach* score 0.41 – 0.60: enough reliable.
- d. If the *alpha cronbach* score 0.61 – 0.80: reliable
- e. If the *alpha cronbach* score 0.81 – 1.00: very reliable

The result of reliability testing by using SPSS 24.0 can be seen from the table 3.7, as bellow:

Table 3.7: The Result of Reliability

Case Processing Summary

		N	%
Cases	Valid	30	100.0
	Excluded ^a	0	.0
	Total	30	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.849	20

Based on the output of Reliability Statistics from *Cronbach's Alpha* value is $0.849 > 0.81$, it can be concluded that the instrument is reliable, where as a very reliable level of the criteria of reliability.

F. Normality and Homogeneity Testing

Before analyzing the significant difference on students' reading comprehension achievement are taught by using 3-2-1 Strategy and those taught by using conventional method, the data should be normal distribution and homogenous. To measure the data computation are normal distribution and homogenous, the researcher conducted normality testing and homogeneity testing. The result as follows:

1. Normality Testing

Normality testing is a test to measure whether the data has a normal distribution or not, or to compute how likely an underlying random variable is to be normally distributed. Normality testing in this research is done to post-test score in both experimental and control group. The researcher used Kolmogorov-Smirnov test by using SPSS 24 version to know the normality. The determination of testing is if the normality or Asymp. Sig. (2-tailed) higher than level of significant or α (0.05), it means that the distribution is normal. The result can be seen in the table 3.8 below:

Table 3.8: Normality Testing

		Tests of Normality					
		Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	kelas	Statistic	df	Sig.	Statistic	df	Sig.
students score	post test control class	.120	33	.200*	.970	33	.485
	post test experimental class	.183	30	.012	.939	30	.083

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Based on the table 3.8 above, it showed that the test given to experimental class which consist of 30 students. It also showed the value of Asymp.Sig (2-tailed) was 0.083. While the significant value in control class that consist of 33 students, it was 0.485. It means that the score of significant value more than of significant level α (0.05). Thus, based on the data above, it can be concluded that the result of normality testing has normal distribution.

2. Homogeneity Testing

Homogeneity testing is used to know whether the disparity of data is homogenous or not. It is intended to make sure which the collected manipulation data in analysis truly taken from population which is also different each other. The computation of homogeneity testing uses One Way Anova in SPSS 24.0 for windows. The homogeneity of data can be decided based on the hypothesis of homogeneity as follow:

- a. If the significance value > 0.05 , then the data is homogenous.
- b. If the significance value < 0.05 , then the data distribution is not homogeneous

Here, the researcher conducted homogeneity testing. The result can be seen in the table 3.9 below:

Table 3.9: Homogeneity Testing**Test of Homogeneity of Variances**

pretest

Levene Statistic	df1	df2	Sig.
.649	6	21	.691

ANOVA

pretest

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1855.298	8	231.912	5.876	.001
Within Groups	828.869	21	39.470		
Total	2684.167	29			

The standard significant of education is 0.05 ($\alpha = 5\%$). Based on the output from the SPSS above is known that the test called homogeneity if the significant score more than 0.05. According to the table above, the test is homogeneity because $0.691 > 0.05$ and it means that H_0 is accepted and H_1 is rejected. Thus, it can be interpreted that the data distribution is homogeneous.

G. Data Collecting Method

The data collecting method is needed to obtain the research data. The method of collecting data used in this research is administering the test. According to Ary et al (2010:201) the tests are valuable measuring instruments for educational research. He also defined test as a set of

stimuli presented to individual in order to elicit responses on the basis of which a numerical score can be assigned. It means that by conducting the test, the researcher will get numerical score to collect the data.

Here, the test used consists of pre-test and post-test. The function of pre-test is to know students' reading comprehension achievement before getting the different treatment. While, the function of post-test is to know the result of the experiment after the treatment had been given. The researcher conducted pre-test and post-test in collecting of collecting data is presented as:

1. Pre-test

The data is collected through pre-test in the first meeting. Pre-test refers to a measure or test given to the subject prior to the experimental treatment. This purpose is to know the basic competence and their earlier knowledge before they get the treatment in reading comprehension. At the first meeting the researcher gave pre-test to the students. The pre-test has done on March 19th, 2019 at VIII A as control class and it has done on March 22nd, 2019 at VIII B as experimental class. In those days, the researcher asked the students to do the test before treatment process. It was given to experimental class and control class as well to know students' achievement. The form of pretest is multiple choices which consist of 20 items and the material about recount text from syllabus. The students answered the questions of pretest is about 40 minutes. After finishing the test, the researcher

calculated the score of pre-test. It aims to know the students ability before doing the treatment. And it is also to know the basic competence and their earlier knowledge.

2. Treatments

After administering the pre-test, the researcher gave treatment to the students. The treatment was conducted after the administration of the pre-test. The treatment is done in 3 meetings. The treatment in experimental class (VIII B) was taught by using 3-2-1 Strategy while the treatment was taught by using conventional method.

At the first meeting that has done on March 22nd, 2019, the researcher introduced the material of recount text and 3-2-1 Strategy. It was because the students had not received yet the material before. The researcher introduces about the details of the 3-2-1 strategy chart and the recount text first, afterward explained how students' do with it to guide their reading activity. Then, the researcher gave the students 3-2-1 chart. To make students understand easily, the researcher guided them by demonstrated the strategy together with students as the example before the students turn. For the first way, the researcher tried to find 3 things as the points of topic in first paragraph, and then students turn to continue to find 3 things as the points of topic in each the paragraph that they have learned from the recount text while it still guided from researcher. They would identify the key fact then pour their understanding onto written form and explain their written with

their own word. The researcher guided the students to highlighting, underlining, or any other way to help them find the important things of the text easily. Then, continue with 2 of interesting items that they have identified. Here, students will choose the most interesting things in each paragraph they found from the text. The researcher encouraged students to look for what they mostly interested them in the recount text they read. Last, the researcher gave 1 question about the text and asked the students to give their question about the text. The question would help students when they found misunderstood about sequence of event or unclear explanation from the text or further clarification about the topic.

In the second and third meeting that has done, the researcher conducted the treatment which was the same as before but in different rule and topic of recount text. Before teaching reading by using 3-2-1 strategy, the researcher reviewed the material has been studied by students yesterday about definition of recount text, social function, generic structure, and language features like how using simple past tense to know students' prior knowledge. Then, the teacher gave 3-2-1 chart and a recount passage to the students. The researcher asked the students to do the assignment confidently with their own. However, the researcher still guided the students to identify the text. Later, the students would continue by themselves.

3. Post-test

After the treatment is conducted, the students will be given a post-test. Post-test is used to measure and investigate the result of students' reading comprehension after get the treatment and the effectiveness of using 3-2-1 strategy on students' reading comprehension achievement of recount text. Post-test has done on April 8th, 2019 at VIII A as control class and it has done on April 10th, 2019 at VIII B as experimental class. The test items of post-test were different with the pre-test, but both of them had same indicators and the test was almost same in difficulties level. The test which consist of 20 number item of multiple choices and material about recount text. The students answered the questions of pretest is about 40 minutes. After the researcher knew about the score of the test, the post-test score will be compared with the score of pre-test.

Table 3.10: The Schedule of the Research

No.	Group	Date	Activity
1.	Try Out Class (VIII C)	Thursday, March 14 th 2019	Try Out the test
2.	Control Class (VIII A)	Tuesday, March 19 th 2019	Pre-test
3.	Experimental Class (VIII B)	Friday, March 22 nd 2019	Pre-test and treatment 1
4.	Experimental Class (VIII B)	Wednesday, March 27 th 2019	Treatment 2

5.	Experimental Class (VIII B)	Friday, March 29 th 2019	Treatment 3
6.	Control Class (VIII A)	Monday, April 8 th 2019	Post-test
7.	Experimental Class (VIII B)	Wednesday, April 10 th 2019	Post-test

H. Data Analysis

Data analysis is the process of identifying data that related to the research. This data analysis process of this research uses statistical computation because the data are in the form of numeric data. In collecting the data on the instrument the researcher needs some system to scoring the data. Related with Cresswell (2012:175) suggested that scoring data means that a researcher assigns a numeric score to response category for each question on the instruments that used to collect the data. The data is collected from the students score in pre-test and post-test. This is used to see the comparing of the students' pre-test score and the post-test score and to see whether there is significant different after given the treatment.

In this study, the research used quantitative data analysis. The collected data were analyzed to know the effectiveness of using 3-2-1 strategy on students reading achievement. The data were obtained from post-test from both of experimental class and control class would be analyzed statistically using *Independent-Sample T-test* through SPSS 24.0

for windows. The researcher used *t-test* to know the significant value was higher or lower than 0.05.