

CHAPTER III

RESEARCH METHOD

This chapter presents the research method. It focuses the method used in conducting this study which covers (a) Research Design, (b) Population and Sample, (c) Research Instrument, (d) Validity and Reliability Testing (e) Normality Testing (f) Data Collecting Method, and (g) Data Analysis.

A. Research Design

Sugiyono (2015:2) stated that research is the scientific approach to get the data which having certain functions and purposes. It can be concluded that research deals with useful information in it. In line with Arikunto (2010: 130), research is an activity to precise an object uses a methodology to get the data or important information for the researcher. To be noted, before conducting the research the first step is making the research design. Research design is a arrangement of planning or drafting before conducting a research. Therefore, before doing a research the researcher had to made several plans in order to get suitable design.

This study used an experimental design with quantitative approach. According to Ary (2002 : 22), quantitative research uses objective measurement and statistical analysis of numeric data to understand and explain phenomena. The result of this research exposed in form of numerical data that it will be interpret the phenomena. It determines the relationship between one thing (an independent variable) and another thing (dependent variable) in a population. As following the

independent variable is the variable that can affect the other variable means here is effectiveness of SSR strategy. Besides, the dependent variable is the variable that can affected by other variable, means here is improving students' reading achievement that can affected by SSR strategy.

The hypothesis of this study was as follow:

1. If the significant level is bigger than significant value, the alternative hypothesis (H_a) is accepted and null hypothesis (H_0) is rejected. It means that there is different score on the students reading achievement before and after being taught by Self-Selected Reading (SSR) strategy. The different is significant.
2. If the significant level is smaller than significant value, the null hypothesis (H_0) is accepted and the alternative hypothesis (H_a) is accepted. It means that there is not different score on the students reading achievement before and after being taught by Self-Selected Reading (SSR) strategy. The different is not significant.

This preliminary observation was held on November, 21st 2017, the researcher discussed with the vice head master of SMK NU Tulungagung about the time of research and the whole population of the students in SMK NU Tulungagung. Then the vice headmaster asked the researcher to discuss with the English teacher of SMK NU Tulungagung about the sampling. Typically, English teacher required the researcher to take samples in X-Pharmacy and X-TKJ classes which have the same average achievement in English competence. After considering the problem of the research and the purpose of the research, the researcher hasn't authority to choose the sample because the sample was chosen

by the English teacher and without randomization. So, there are two classes that will be examined by the researcher according as mentioned in advance.

Therefore, based on the description in advance, the researcher used quasi experimental research. This study is classified as quasi experimental research design with non equivalent control group design. A quasi experimental nonequivalent control group design is conducted with two-groups, pre-test and post-test design, with one as experimental group and one control group. Only the students in experimental group are taught by using SSR during the reading process as the treatment of the study. In other hand, students which as control group just given pretest and post-test without treatment

One of the most widespread experimental designs in educational research involves an experimental group and a control group. (Campbell & Stanley:1963). The data are occupied from pre-test and post-test score. The design of experimental and control class can be seen in table 3.1:

Table 3.1 Quasi-Experimental Design Nonequivalent Control Group Design

Group	Pre-test	Treatment	Post-test
Experimental (B class)	O1	X	O2
Control (D class)	O3	-	O4

O1: Students reading score of experimental class(Pharmacy class) on pre-test

O3: Students reading score of controlled class (TKJ class) on pre-test

X : using SSR treatment

- : Non using SSR or using conventional strategy

O2: Students reading score of experimental class (Pharmacy class) on posttest

O4: Students reading score of controlled class (TKJ class) on post-test

Based on the table 3.1, there are two groups. The first group is the experimental group, which received a treatment (X) while the second group is the control group, and it do not received treatment (O). Both experimental and control group received pretest to obtain the first data about students' reading comprehension score in reading the text before the treatment is given. The research started from on November, 23rd 2017 until November, 29th 2017. The procedures of experimental research can be followed:

1. Administering a pretest with a purpose measuring reading comprehension in the tenth grade in SMK NU Tulungagung
2. Applying the experimental teaching reading by using Self Selected Reading (SSR) strategy as the strategy to the subjects (the tenth grade students at SMK NU Tulungagung).
3. Administering a posttest with a purpose of measuring reading comprehension of the tenth grade students at SMK NU Tulungagung

There are some procedures of conducting the research:

1. Introduction step of research

- a. Consultating with vice headmaster of SMK NU Tulungagung and the English teacher about time of research, sample and population as the subject of the research and discussing about the sample that being as subject of the research and the suitable question that being as instrument to measure the students' reading comprehension achievement by using SSR in narrative reading comprehension. Remaining that researcher used Quasi experimental research, it take two

homogeneous sample there are X Pharmacy and X TKJ classes based recommendation from the English teacher

b. Arranging of lesson plan (*see Appendix 1*)

c. Developing research instrument used to measure the effectiveness of SSR strategy

d. Conducting validity and reliability of test

e. Analyzing the result of test to know validity and reliability of instrument which is used as research instrument. The researcher validated her instrument through many experts in reading comprehension

2. The implementation step of research

a. Pretest

Pretest was given to the students before doing treatment. The purpose of doing pretest is to get the reading score before students being treated. Pretest in experimental and control classes was held on November, 23rd 2017.

b. Treatment

The treatment was held on three days started at November, 24th 2017. There were some step of the researcher to conducted the treatment as follow:

a. The researcher who at the same time acted as teacher allowed to the students to choose their own interesting narrative stories. The story can be obtained from the library and internet selected online reading or offline reading which depends on the students' preference

b. After the students selected their own stories, the researcher asked them to read by themselves in their sheet for 30 minutes

c. Next, the teacher asked them to organize their own inference about the story by reviewing the story in written text by using their own words.

d. Teacher asked the student to present their result in front of the class randomly and giving the students some questions to examine their comprehension of the narrative text. Include of: character, plot, setting, conflict, resolution

c. Posttest

In the posttest section, the students were evaluated individually like in the pretest. The researcher asked to the student to answer the question in the test which the form question are same in the pre-test in advance. The post test was held on November, 27th 2017

In this research, the researcher wanted to know the effectiveness of using Self-Selected Reading strategy in teaching reading by conducting the quasi experimental design. The effectiveness of the strategy was known after knowing the significant differences between the students who were taught before and after implementing Self-Selected Reading (SSR) strategy.

B. Population

In every research, population, sample and sampling include in the crucial part. Population is defined as all members of any well-defined class of people, events, or objects, Ary et. al. (2010:148). Population is the all elements that become the areas of the research. It is consist of entire set of objects, observation, or score .

So, population not only people but also many things in it. Its not only total object or subject that existed, but consist of all characteristic of that subject or

object. In this research, the students of the tenth graders at SMK NU Tulungagung were chosen by the researcher as the population. There, the whole population in the tenth grade is about 109 students. Exactly, the population were all students of the tenth grade students at SMK NU Tulungagung there were 4 classes.

C. Sample

According to Ary et. al (2010:148) sample is a portion of a population The sample should be representative of the general population.. So, the researcher had to take the smaller one. In this research, the samples were X-Pharmacy and X-TKJ classes. X Pharmacy class consisting of 24 female and 1 male students. Meanwhile, TKJ class consisting of 10 female and 9 male students.

The researcher takes those classes as her sample because it was recommendation of the English teacher; both classes have average achievement. So, those classes represents all of students of the tenth grade at SMK NU Tulungagung.

D. Sampling

Sampling is an important thing when conducting a research. According to Sugiyono (2015:118) sampling is a technique to take the sample. In this research, the researcher used purposive sampling technique. Purposive sampling technique is a type of non probability sampling where the researcher consciously selected particular elements or subjects for addition in a research so as to make sure that the elements would have certain characteristics pertinent to the research. Purposive sampling is sample which is taken because the researcher believes that

she/he could give sufficient information. The researcher uses purposive sampling, because the samples have sufficient competence on English competence based on recommendation of the English teacher of SMK NU Tulungagung.

E. Research Instrument

Instrument is a tool or device used for a particular task (Oxford: 231). Instrument is significant things in research. With instrument, researcher can get the data. According to Arikunto (2006:126), the device the researcher uses to collect the data is called instrument. Instrument has important function in this research. The researcher used the test as an instrument to collect the data.

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 material of the test is taken from English book of Senior High School’s students and syllabus with the subject of narrative text. Those items were developed to measure the students reading achievement in narrative text. As according to Arikunto (2002:145) “A instrument is called valid when the instrument be able to measure what is to be measured”. In this research, the test consists of explicit questions and implicit questions because the subjects of this research are those staying at intermediate level. From those syllabus, researcher developed the test that consists of two kind of test; pretest and posttest. Pre test is used to measure ability before the treatment process. Post test is used to measure the ability after the treatment. Meanwhile, the researcher also conducted pre test and post test in experimental group even control group. The difference in the experimental group and control group are in the treatment, in experimental

group, the researcher taught by using SSR while in control group using conventional method without treatment. Those test about answer the question which consist of 25 multiple choice and 5 True-False form. For the multiple choice passage, there were several text such as: *The Legend of Lau Kawar, The Legend of Crying Stone, Sangkuriang, A Wotman and A Wolves, The Legend of Warna Lake, and a Story From Farm* . Those taken from the internet rather than taken from the students textbook. The researcher chose 25 number of multiple choice and the choice of the answer that are: a,b,c,d,e because it can be matched with question form in their textbook even in form of True-False Statement that has two choice answer :T for true statement and F for false statement. The researcher also chose 25 question with 5 True-False statement, it guided by the English teacher at SMK NU Tulungagung. The form of post-test is same as the pre- test in advance. Here, the English teacher of SMK NU Tulungagung usually gives the student form of question which declared in previous statement to be applied on mid-term test or examination, it can be assumed that students would not be strange about the form of question.

The procedure to made an instrument as follow:

1. Arranging a blue print that interrelated to the syllabus (*Appendix 2*)
2. Arranging specification of test can be seen in (*Appendix 3*). After arranged both then make draft of instrument (*Appendix 4*).
3. Consulting with the expert about the draft (*Appendix 5*). Based on the first draft the researcher got some suggestion from expert and the teacher about the instruction which it didn't clear yet and there is no sources on the

reading text. After revise some item, The final draft can be seen in (Appendix 6).

4. Conducting try out to the students
5. Determining the validity (Appendix 7) and reability of test (Appendix 8)

The draft of the instrument was tried out in 17 students at X Pharmacy of SMK NU Tulungagung. But, they were not the real subject of this research.

F. Validity and Reliability Testing

Research is always dependent upon measurement. To measure the instrument should go through a process of validity and reliability check. The instrument was conducted on November, 21th 2017. The result of try out is useful to measure whether its valid or not. After the researcher tried out the test, it can be concluded that there were 5 items were not valid especially 2,8,12,16,21. Therefore, the researcher revised them by deleted them and took the valid one. After revising the test items, the number of question were 20 multiple choice and 5 T//F statement (see Apendix 9)

1. Validity

The result of research called valid if there is the similarity between the gotten data and actually happened to research object. The valid instrument should belong to standardized test by conducting the try out previously in order to get the standart one .Validity is refer to the extent to which a mesure actually measures what it is supposed to measure (Dane, 2011:141). There are four types of validity;

- 1) Content validity
- 2). Construct validity

3). Face validity.

In this study, the researcher analyzed the test from content validity and face validity and construct validity

A.Content Validity

Content validity is instrument organized as test, validity testing can be done with compare the instrument and teaching materials (Sugiyono, 2014: 129). A test is said to have content validity if it consists sample of language skills and structures being tested. So, content validity is the agreement between curriculum objectives and objectives being assessed. When face validity involves assessing whether a measure deals with representative sample of the various aspects of the concept, it is also content validity (Dane,2011:141). The instrument of this research had a content validity that the test was designed based on the KI-KD in curriculum K 13.

Table 3.2 Content Validity

Learning objectives	Type of test	Test item	Pre test	Post test
Menjelaskan tujuan komunikasi, struktur teks, dan unsur kebahasaan dari teks narrative lisan dan tulis sederhana tentang legenda rakyat sesuai konteks penggunaannya	Multiple choice and true/ false statement	Objective test	1,2,4,8,13,20,25	1,2,4,5,6,8,24
Menjelaskan isi cerita legenda rakyat lisan dan tulis dengan memperhatikan	Multiple choice and true/false statement	Objective test	6,7,8,9,10,11,12,14,15,16,17,18,19,21,22,	3,7,9,10,11,12,13,14,15,16,17,18,19,20,21,22,2

tujuan komunikasi, struktur teks, dan unsur kebahasaan teks naratif sesuai konteks penggunaanya			23,24	3,25
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B. Construct Validity

The construct validity of test when the test is capable of measuring certain specific characteristics in accordance with a theory of language behavior and learning. Brown (2004:25) mentioned that a construct is any theory, hypothesis, or model that attempts to explain observed phenomena in our universe of perception. Construct validity involves determining the extent to which a measure represents concept it should represent and does not represent concept it should not represent (Dane,2011: 140). The construct validity can be concluded as build the instrument based on the theories of language that appropriate with the purpose of the studies. The word construct refers to any underlying ability which is hypothesized in a theory of language ability. So, this construct validity refers to the theory of language learning. Here, the researcher used construct validity in administering reading test based on the form of multiple choice tests by purpose to measure the students' reading comprehension in narrative text.

C.Face validity

Face validity is consensus that a measure represents a particular concept. It is sometimes called expert validity or validation by consensus (Dane, 2011:140). Therefore, in this research studied about the basic competence of the test whether it is appropriate or not with the subject of the reseach. In the other hand, this

research examined about students' reading achievement in narrative text which is the materials also existed on the syllabus of students in intermediate level even in SMK NU Tulungagung

2. Reliability

Reliability is necessary condition for quality measurement, but if it done solely, it will not get the sufficient data. So, the reliability test is to consider the quality of the test that it will be suitable for. Reliability is only the extent to which the measure is consistent (Dane, 2011:140). Reliability is the characteristic of very good test for it to be valid. A test must be reliable as a measuring the instrument. In this test, the researcher tried out the instrument to different samples in MM class which consist of 17 students. The research used Kuder Richardson formula (KR-21) to measure the reliability of the test because the administration only once and the scoring of correct answer is 1 and the false one is 0. Thus this formula is appropriate for calculating the reliability of multiple choices and matching test form.

KR-21 Formula

$$r_i = \frac{K}{(k-1)} \left(1 - \frac{M(k-M)}{k \cdot st^2} \right)$$

Keterangan :

r_i :reabilitas instrument

k :jumlah item dalam instrument

M :mean skor total

st^2 : varians total

Reliability of Pre Test

$$r_i = \frac{K}{(k-1)} \left(1 - \frac{M(k-M)}{k \cdot st^2} \right)$$

$$= \frac{25}{24} \left(1 - \frac{22,9 \times 6}{949,6324} \right)$$

$$= 1.041 \times 137,2941 = \mathbf{0,8167}$$

Reability of Post Test

$$r_i = \frac{K}{(k - 1)} \left(1 - \frac{M(k-M)}{k.st^2} \right)$$

$$= \frac{25}{24} \left(1 - \frac{18,8 \times 6,3}{848,53} \right)$$

$$= 1.041 \times 0,8632 = \mathbf{0,8745}$$

According to Triton in Sujianto (2009:97) the value the Cornbrash"s Alpha can be interpreted as table 3.3 follow:

Table 3.3 Cronbachs Alpha

Cronbach`s Alpha	Interpretation
0,00 0,20	Less Reliable
0,21 0,40	Rather Reliable
0,41 0,60	Quite Reliable
0,61 0,80	Reliable
0,81 1,00	Very Reliable

As following the table of value of the Cornbrachs Alpha (see table 3.3), the instrument is categorized reliable if the score more is than 0,06. Based on the table 3.3, it can be categorized that the instrument of this research was reliable accorded to the score pre test was 0,8167 and the post tets score was 0,8745 The result of reability can be seen in (*Appendix 8*)

G . Normality and Homogeneity Testing

A. Normality

Normality testing is used to know whether the data is normal distribution or not. When viewing a normal probability plot, it is often difficult to judge whether any deviation from linearity is systematic or merely due to sampling variation, so a test of normality is useful.(Ruppert, 2004: 66).Normality tests are used to determine whether a data set is well modeled by a normal distribution or not, or to compute how normality testing is used to know whether the instrument has normality or not. Normality testing intended to show that the sample data come from a normally distributed population. To find the normality of the instrument, the researcher used one sample Kolmogrov Smirnov with SPSS.16 because the sample less than 50.

The instrument can be called to have normality if Asymp sig 0.05, so that Ho (null hypothesis) is accepted and Ha (alternative hypothesis) is rejected. It was also can be concluded as follow:

- a. Ho : The data is in normal distribution
- b. Ha : The data is not in normal distribution

The result of normality computed by SPSS 16,0 can be seen in the table 3.4 below:

Table 3.4 Table Normality Using One Sample Kolmogrov Smirnov**Tests of Normality**

Factor	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	df	Sig.
reading experiment	.147	25	.171	.962	25	.456
achievement control	.173	19	.137	.936	19	.225

a. Lilliefors Significance Correction

Based on table 3.4, it shows that the test given to experiment class that consist of 25 student in Pharmacy clas, it is also shows that the value of Asymp. Sig (2-tailed) was 0.456. Furthermore the significant value in control class is in 0,225. It is also the score is bigger than 0,05 (sig. Level). So that it can be concluded that Ho (null hypothesis) is accepted and Ha (alternative hypothesis) is rejected and also it can interprete tha the data has normal distribution.

B. Homogeneity

Homogeneity testing is intended to make sure that the collected manipulation data in analysis is truly taken from a population which is too different each other. Especially in a correlative study which is predictive, the model which is used must be appropriate with the composition and its distribution

Based on the table 3.5, *output independent sample test* shows the result of compare analysis with using T-test. The researcher uses Independent sample test Before doing the t-test analysis, it is important to do to examine homogeneity test analysis with F test (Levenes test), it means if the variances are same, so t-test use

Equal variances assumed (assumed that variances are same). And if the variances are different use *equal variances not assumed* (assumed variances are different).

Hypothesis can following are:

Ho : both variances are same (variances between experiment group and control group are same)

Ha : both variances are different (variances between experiment group and control group are different)

According to the statement above , Ho is accepted if p value $> 0,05$, Ha is rejected if p value $< 0,05$. Here the score of p value is $0,000 < 0,05$ it means that Ho is rejected. So, score of probability sig. with *Equal variances not assumed* (variances between experiment group and control group are different). After determine the score of F test, the next step is determine the hypothesis in independent sample t-test. The statement of the hypothesis can be seen below:

1. If the significant level is bigger than significant value, the alternative hypothesis (Ha) is accepted and null hypothesis (H0) is rejected. It means that there is different score between experiment class and control class . The different is significant.

2. If the significant level is smaller than significant value, the null hypothesis (H0) is accepted and the alternative hypothesis (Ha) is accepted. It means that there is not different score between experiment class and control class. The different is not significant

To know the homogeneity, the researcher used one way anova with SPSS 16.0. The result can be seen in table 4.2 below:

Table 3.5 Homogeneity Independent Sample Test

Independent Samples Test									
	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2)	MD	SED	95% Confidence Interval of the Difference	
								L	U
SEVA	31.499	.000	6.909	42	.000	18.798	2.721	13.307	24.289
EVNA			6.151	20.616	.000	18.798	3.056	12.436	25.160

H. Data Collecting Method

The data of this research were collected by administering reading test to measure the reading achievement of the students. According to Arikunto (2010:193) test is a sequence of questions or practice which used to measure skill, intelligence knowledge, ability or potency of someone or a group. The test here which consists of pre-test and post-test. The function of pre-test is to know students reading ability before getting the different treatment. Whereas the function of post-test is to know the result of the experiment and usually on the instrument, after the treatment has been given (Muijs, 2004:18). The data proved that learning process when the technique is applied. It is very important in this case, not only to know the students own feelings but also to know how they think about their English (Arikunto, 2006:229).

The procedures in collecting the data are:

a. Pretest

The pretest was conducted in the first meeting. The test was in the form of written form. The number of pretest was 25 number consist of 20 multiple choice form and 5 true and false statement.

b. Post test

Post-test is one kind of test which given after treatment of the students. Posttest is given in the last meeting of teaching learning process. The form of test as same as the test in pre test. After the researcher had known about score of the test, then the researcher had compared both of the score.

I. Data analysis

The purpose of the data analysis is to know the effect and the significant different between before the students taught by using self selected reading strategy and after the students taught by using Self -Selected Reading strategy. To calculate the test the researcher uses Independent Sample T test at SPSS 16.0 for windows. Indeed, the method of the data is as follow:

1. If the significant level is bigger than significant value, the alternative hypothesis (H_a) is accepted and null hypothesis (H_0) is rejected. It means that there is different score on the students' reading achievement before and after being taught by Self Selected Reading strategy. The different is significant.
2. If the significant level is smaller than significant value, the null hypothesis (H_0) is accepted and the alternative hypothesis (H_a) is accepted. It means that there is not different score on the students' reading achievement before and after being taught by Self Selected Reading strategy. The different is not significant.