CHAPTER III

RESEARCH METHODS

This chapter describes several matters dealing with the procedures of conducting this study. It covers research design, research variable, research subject, research procedure, data collection technique and instrument, validity and reliability, data analysis procedure, and research hypothesis.

A. Research Design

The researcher wants to study the use of a program to improve the students' speaking skill. This research needs to have groups of people who receive the program.[1] It requires a pretest and posttest for a treated and comparison group. Therefore, the researcher uses quasi-experimental research design. Quasi-experimental is a design of research which needs two groups to be tested.[2] The groups that are already available at the place of the research should have almost the same ability.Thus, the researcher takes two classes which have almost the same ability and they are already available in the school.

In this research, the researcher explores how video record is used to teach the students, how video record improves students' speaking skill and whether or not the students who are taught speaking narrative text through video recordhave better speaking skill than those who are not taught speaking narrative text through video record. So, there are two classes which are taken as the sample of

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[1] William M. K. Trochim, *The Research Methods Knowledge Base*, 2nd edition (Ithaca, N.Y.: Cornell Custom Publishing, 1999), 216

[2]M. Adnan Latief, *Tanya JawabMetodePembelajaranBahasa* (Malang:UM Press, 2010) , 117-121

this study. One class is the experimental group and the other class is the control group. The experimental group gets some treatments about speaking narrative text through video record. In the contrary, the control group does not get the treatments about speaking narrative text through video record.[3] The control group is taught by conventional teaching from the teacher. The research steps in the experimental group are pre-test, treatments, post-test. The pre-test explores the students' speaking skill before they get the treatments. The post-test is given to the students after they get the treatments.

B. Research Variable

Variable of this research is what is researched by the researcher.[4] There are two variables in this research:

1. Independent variable

   This variable is the stimulus for the dependent variable[5] or what you manipulate.[6] In this research, the independent variable is the use of video record.

2. Dependent variable

   The dependent variable is what you presume to be affected by the independent variable.[7] In this research, the dependent variable is the students' speaking skill on narrative text of the eleventh graders.

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[3] William M. K. Trochim, *The Research Methods Knowledge Base*, 216
[4] Prof. DR. Sugiono, *StatistikaUntukPenelitian*(Bandung: Alfabeta, 2011), 2
[5] Sugiono, *StatistikaUntukPenelitian*, 4
[6] William M. K. Trochim, *The Research Methods Knowledge Base*, 8

C. Research Subject

This research takes place at SMAN 1 Waru. The researcher chooses eleventh grade students of SMAN 1 Waru as the population of this study. The amount of the population is 440 students. Clustering technique is used to take the sample of this study. Clustering technique is a technique to get the sample through the sameness. And the sample is taken from groups of individuals (cluster) in one place.[8] According to Donald Ary, cluster sampling is not choosing in individual, but a group of individuals who are naturally together.[9] Thus, two classes of the eleventh grader are taken as the sample of the study. They are XI A-2 (as control group) and XI A-3 (as experimental group). Total amount of the sample is 60 students, 30 students are in experimental group and 30 students are in control group.

D. Research Procedure

The research procedure is divided into five steps. There are tryout, pretest, treatments, posttest, and observation. Tryout is used to find out the reliability of the test which will be given in pretest and posttest. Then, the researcher collects the data taken from observation checklist while observes the teaching process during the treatments at the experimental group to answer the first statement of the problem. Meanwhile, to answer the second and the third statement of the

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[7]William M. K. Trochim, *The Research Methods Knowledge Base*, 8
[8] M. M. DjunaidiGhony – FauzanAlmansyur, *MetodologiPenelitianPendidikan: PendekatanKuantitatif*, (Malang: UIN Malang Press, 2009), 154
[9]Donald Ary, *Introduction to Research in Education*, (Wadsworth: USA, 2002), 168

problem, the researcher uses the data taken from the students' pretest and posttest

score. The pretest and posttest scores are collected from experimental and control

group. The research schedule can be seen on the table below:

Table 3.1

Research Schedule

No.	Day / Date	Activity	Class / Group
1	Tuesday, July 23rd 2013 and Thursday, July 25th 2013	Try-out (to find out the reliability of the test)	XI A-1
2	Saturday, July 27th 2013	Pretest	XI A-2 (Control Group) XI A-3 (Experimental Group)
3	Wednesday, July 31st 2013	1st Treatment Explaining about narrative text and teaching the students using video record (topic: Indonesian folktales) Observe the teaching process	XI A-3 (Experimental Group)
	Thursday, August 1st 2013	1st Meeting Explaining about narrative text and teaching using conventional teaching (topic: Indonesian folktales)	XI A-2 (Control Group)

	Wednesday, August 28th 2013	2nd Treatment Teaching the students using video record and discussing the students' video record (topic: Western folktales)	XI A-3 (Experimental Group)
4	Thursday, August 29th 2013	2nd Meeting Teaching using conventional teaching (topic: Western folktales)	XI A-2 (Control Group)
5	Saturday, August 31st 2013 and Thursday, September 5th 2013	Posttest	XI A-3 (Experimental Group) XI A-2 (Control Group)

1. Experimental Group

   The students of XI A-3 are the members of experimental group. In the experimental group, the research is administered in four meetings. The meeting covers pretest, 1st treatment, 2nd treatment, and posttest. The students are taught using video record as the treatment for the experimental group.

   a. Pretest

      The pretest is held on Saturday, July 27th 2013. The aim of conducting pretest is to know the students' speaking skill before they receive the treatments. The researcher conducts pretest for 90 minutes. The students are divided into 6 groups. They are, individually, demanded to retell a story to their friends in their own groups based on the topic,

Indonesian folktales. Each of them is given 5 to 6 minutes to retell their story in turn.

b. 1st Treatment

The 1st treatment is held on Wednesday, July 31st 2013. The researcher explains concisely about narrative and give some examples to the students. After that, it is followed by the explanation about video record. The researcher shows a video record of storytelling before asks the students to create their own video record.

c. 2nd Treatment

The 2nd treatment is held on Wednesday, August 28th 2013. The researcher elicits the students about what they have learned in the previous meeting (1st treatment). The students are reminded which part of their speaking skill that should be improved from their video record. Afterward, they are asked to create a video record again to practice speaking.

d. Posttest

The posttest is administered on Saturday, August 31st 2013. The aim is to know the result of the students' speaking skill after they get the treatments by teaching them using the video record. The researcher conducts posttest for 90 minutes. The students are divided into 6 small groups. And then, each of them retells a story to their own group under

the topic of Western folktales in turn. Each of the students gets 5 to 6 minutes to retell their story in turn.

2. Control Group

The members of the control group are the students of XI A-2. There are also four meetings in control group. The four meetings include pretest, 1st meeting, 2nd meeting, and posttest. The students aren't taught using the video record but conventional teaching. The researcher uses students' textbook, workbook, or other sources to teach them.

a. Pretest

The pretest is held on Saturday, July 27th 2013. The researcher conducts pretest for 90 minutes. The students are divided into 7 small groups. Each of them is demanded to retell a story to their friends in their own group in turn. Each of the students gets 5 to 6 minutes to retell their story. The topic of the story is Western folktales. The aim of this pretest is to know the speaking skill of the students.

b. 1st Meeting

The 1st meeting is conducted on Thursday, August 1st 2013. In the first meeting, the researcher reminds the students and gives a little bit explanation about narrative. The researcher also presents the examples of narrative text. Afterward, the students are divided into some groups. Each group consists of 5 members. And then they are demanded to retell the

stories to practice speaking in their groups. The topic is about Indonesian folktales.

c. 2nd Meeting

The 2nd meeting is held on Thursday, August 29th 2013. In the second meeting, the researcher elicits the students about what they have learned in the previous meeting. Then, the students gather in their group as the previous meeting. They discuss the folktales (Western folktales) which they have got and present it in front of the class to practice speaking.

d. Posttest

The posttest is conducted on Thursday, September 5th 2013. It's aimed to get the result of the students' improvement after they are taught using the conventional teaching. The researcher conducts the posttest for 90 minutes. The students are divided into 7 small groups. Afterward, each of the students is asked to retell the story that they have chosen to their friends in their own group in turn. They are given 5 to 6 minutes to retell the story.

E. Data Collection Technique and Instrument

1. Data Collection Technique

The data collection techniques are observation and test, which includes tryout, pre-test and post-test. The researcher is helped by the teacher to observe during the process of teaching and learning at experimental group

while the researcher implements video record to teach speaking. The observation is aimed to know how the video record is used in teaching and learning English at the treatment group. Before giving pre-test and post-test, the researcher conducts tryout to know the reliability of the test which will be used in pretest and posttest. After the researcher finds the reliability of the test and checks that the test is reliable, then pre-test and post-test are given.Pretest is given for both experiment group and control group before getting treatments. The post test is given for both groups after getting the treatments. For the pre-test and post-test, the researcher divides the students into some small groups and then asks each of the students to prepare a narrative text and then retell the story to their friends in their small group in turn.

2. Instruments

   The researcher uses some instruments which help the researcher getting the empirical data and drawing the conclusion or the result of this research easily. The instruments of this research are observation checklist and test.

   a. Observation checklist

   Observation checklist is to know how the teacher uses video record to improve students' speaking skill on narrative text. It is aimed to gather information how it is actually operated. It includes a table of the

activities during the teaching and learning process using video record. (*See appendix*)

b. Test

Test is to measure the significant difference of the students' speaking skill before they get the treatments and after they get the treatments. The test is formed in pre-test and post-test. Those are addressed to both experimental and control group. These are the steps of conducting the test:

1) Try out

Try out is held before pre-test is given to both experimental and control group. The purpose of conducting try out is to find out the reliability of the test which will be given to both groups. The participants of the try out are the students of XI A-1. The amountsof the students who participate in this try out are 37 students.

2) Pre-test

Pre-test is to measure participants' attributes or characteristics before they get the treatment. The researcher administers pre-test to find out both groups' speaking skill before they get different treatments.

3) Post-test

Post-test is to measure the participants' attributes or characteristics after they get the treatments. The post-test is held after the researcher uses video record as the treatment to the experimental group and conventional teaching to the control group.

Then the researcher uses rubric analytical scoring adapted from H. Douglas Brown to give score to the students. The criteria of speaking score include some components such as grammar, vocabulary, comprehension, fluency, and pronunciation. The students' scores are given in the form of number to enable the researcher calculates and finds the result from the test.

F. Validity and Reliability

A good instrument should be valid and reliable.[10]The researcher needs to analyze the validity and the reliability of the instruments which are used in this study. The concept of validity and reliability are discussed below:

1. The validity of the test

Validity means the extent to which an instrument measures what should be measured.[11]The instrument is valid means the instrument which is used in the research can be used to measure what the researcher wants to

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[10]Arikunto Suharsimi, *Prosedur Penelitian*(Jakarta: Rineka Cipta, 1975), 143

[11] Donald Ary, et. al, *Introduction to Research in Education*(Wadsworth: Cengage Learning, 2010), 316

measure.[12] So, the validity and the instrument of the research is interrelated. In this research, the researcher uses content validity. The standard of content validity is the degree to which the sample of items, tasks, or questions on a test are representative of some defined universe or domain of content.[13]It means that content validity is related to the content of items in the test that is available in the curriculum. To strengthen the validity of the instrument, the validity also took from the English teacher at SMAN 1 Waru.

2. The reliability of the test

According to William M. K. Trochim, *"In research, the term reliability means repeatability or consistency. A measure is considered reliable if it would give you the same result over and over again".[14]*The test of reliability of the instruments can be done externally or internally. The external test can be done using test-retest (stability).[15] The researcher uses correlation product moment technique to find $r_i$to measure the reliability of the instrument.

$$r_i = \frac{n \sum X_i Y_i - (\sum X_i)(\sum Y_i)}{\sqrt{[n \sum X_i{}^2 - (\sum X_i)^2][n \sum Y_i{}^2 - (\sum Y_i)^2]}}$$

n = The number of the students

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[12]Sugiono, *StatistikaUntukPenelitian,* p. 348

[13]Ary, et. al, *Introduction to Research in Education,* p. 225

[14]Trochim, *The Research Methods Knowledge Base*, p. 92

[15]Sugiono, *StatistikaUntukPenelitian*, p. 354

X_i = Pretest score of try-out

Y_i = Posttest score of try-out

The scale to measure the reliability of the test according to Brown:[16]

Table3.2

Reliability of the Test

SCALE	LEVEL OF RELIABILITY
0.00 – 0.20	Not reliable
0.20 – 0.40	Less reliable
0.40 – 0.60	Reliable enough
0.60 – 0.80	Reliable
0.80 – 1.00	Very Reliable

Below is the result of the try-out:

Table 3.3

Try-out scores

Students	X_i	Y_i	X_i^2	Y_i^2	$X_i.Y_i$
1	56	60	3136	3600	3360
2	60	62	3600	3844	3720
3	62	60	3844	3600	3720
4	52	58	2704	3364	3016
5	56	58	3136	3364	3248
6	66	68	4356	4624	4488
7	60	64	3600	4096	3840
8	73	75	5329	5625	5475
9	56	60	3136	3600	3360
10	58	60	3364	3600	3480
11	72	74	5184	5476	5328

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[16]Dwi Wahyu Sugiarti, *The Effectiveness of Clustering Technique in Teaching Writing atThe Eighth Grade ofMTs Raudlatul Ulum,* (Surabaya: IAIN, 2010), 26

12	66	68	4356	4624	4488
13	68	70	4624	4900	4760
14	60	64	3600	4096	3840
15	68	72	4624	5184	4896
16	60	62	3600	3844	3720
17	68	71	4624	5041	4828
18	50	58	2500	3364	2900
19	54	62	2916	3844	3348
20	48	58	2304	3364	2784
21	60	63	3600	3969	3780
22	66	69	4356	4761	4554
23	62	66	3844	4356	4092
24	50	54	2500	2916	2700
25	54	61	2916	3721	3294
26	66	72	4356	5184	4752
27	52	60	2704	3600	3120
28	78	81	6084	6561	6318
29	60	68	3600	4624	4080
30	58	62	3364	3844	3596
31	69	74	4761	5476	5106
32	58	64	3364	4096	3712
33	58	65	3364	4225	3770
34	52	59	2704	3481	3068
35	81	83	6561	6889	6723
36	64	69	4096	4761	4416
37	64	70	4096	4900	4480
	2265	**2424**	**140807**	**160418**	**150160**

$$r_i = \frac{n\Sigma X_i Y_i - (\Sigma X_i)(\Sigma Y_i)}{\sqrt{\left[n\Sigma X_i{}^2 - (\Sigma X_i)^2\right]\left[n\Sigma Y_i{}^2 - (\Sigma Y_i)^2\right]}}$$

$$r_i = \frac{37 \cdot 150160 - (2265)(2424)}{\sqrt{[37 \cdot 140807 - (2265)^2][37 \cdot 160418 - (2424)^2]}}$$

$$r_i = 0.95$$

The result of the try-out shows that the value of the reliability of the test is 0.95. Based on the table of criteria of the reliability of the test, 0.95 is very reliable. Thus, the test can be used as the instrument of this research.

G. Data Analysis Procedures

In this research, the researcher collects the data from observation and test. The observation is used to find out the result of the first statement of the problem. The researcher uses observation checklist, helped by the teacher, to observe how the teacher uses video record in the classroom. The observation is conducted in every meeting of the treatment at experimental group. The answers are got by giving thick on yes or no column on the table of observation checklist. And for more detail description, it's noted and explained on the note column. It shows how each component is implemented. It is supported by the observation checklist and documentation. (*See appendix 1 and 3*)

Meanwhile, the tests are used to find out how video record improves students' speaking skill and whether students who are taught through video record have better speaking skill than those who aren't taught through video record. The researcher uses rubric speaking skill adapted from H. Douglas Brown to score the students' speaking skill. The tests consist of pretest and posttest. The students' posttest score from both experimental and control group is analyzed through T-test. T-test is used to test the comparative hypothesis of two

samples if the data is in interval or ratio.[17] Afterward, the result of the T-test, t-value, is compared with t-table to find out which hypothesis is accepted or rejected.

The analysis procedures are as follows:

1. Observation

    The data of the observation is collected from the observation checklist. The observation is done during teaching and learning process (treatments) at the experimental group. The teacher helps the researcher to observe the students by filling the observation checklist while the researcher teaches the students using video record. The result of the observation is checked to the lesson plan. It's aimed to know how video record is used and whether there are some changes from the lesson plan compared with the real situation that has been observed and written on the observation checklist. The result of the observation checklist is analyzed descriptively. The researcher describes the result of the observation checklist in words rather in numerical.

2. Scoring of the test

    The researcher uses speaking rubric which is adapted from H. Douglas Brown to score the students' speaking skill for the test. The speaking rubric includes 5 categories of scoring the students' speaking skill. The categories are grammar, vocabulary, comprehension, fluency, and pronunciation. The

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[17]Sugiono, *StatistikaUntukPenelitian*, p. 121

range of the level is start from I, which means poor to very poor, to V, which means excellent.

The first category is grammar. Level I is scored 1 – 4 which criterion is poor to very poor. In this level, the students' errors are frequently spoken but it's still understandable. Level II is scored 5 – 8 which criterion is average to poor. Students can handle elementary construction quite accurately, but they can't control the grammar in this level. Level III is scored 9 – 12 which criterion is good to average. Students' control of the grammar is good and they are able to speak the language with sufficient structural accuracy. Level IV is scored 13 – 16 which criterion is very good to good. Students are able to use the language accurately and their errors in grammar are quite rare. Level V is scored 17 – 20 which criterion is excellent. In this level, students use the language accurately and have no error.

The second category is vocabulary. Level I is scored 1 – 4 which criterion is poor to very poor. It means the students have inadequate speaking vocabulary to express anything. Level II is scored 5 – 8 which criterion is average to poor. In this level, students have sufficient speaking vocabulary to express things simply with some circumlocutions. Level III is scored 9 – 12 which criterion is good to average. It means students' vocabulary is broad enough and they rarely have to grope for a word. Level IV is scored 13 – 16 which means very good to good. Students have high degree of precision of

vocabulary. Level V is scored 17 – 20 which criterion is excellent. In this level, students' speech on all level is fully accepted in its entire feature including breadth of vocabulary and idioms, colloquialisms, and cultural references.

The third category is comprehension. Level I is scored 1 – 4 which criterion is poor to very poor. It means the students can understand simple question and statement if it delivers with slow speech, repetition, or paraphrase. Level II is scored 5 – 8 which criterion is average to poor. Students can understand the gist of most conversation of easy topics (topics that require no specialized knowledge). Level III is scored 9 – 12 which criterion is good to average. Students' comprehension is quite complete at a normal rate of speech. Level IV is scored 13 – 16 which criterion is very good to good. Students can understand any conversation within the range of their experience. Level V is scored 17 – 20 which criterion is excellent. It means that students are equivalent to that of an educated native speaker.

The fourth category is fluency. Level I is scored 1 – 4 which criterion is poor to very poor. In this level, students' speech is halting, very slow, and fragmentary. Level II is scored 5 – 8 which criterion is average to poor. Students' speech is frequently hesitant and jerky, and some sentences are left uncompleted. Level III is scored 9 – 12 which criterion is good to average. Students' speech is occasionally hesitant and they rarely have to grope for

words. Level IV is scored 13 – 16 which criterion is very good to good. It means that students' speech is smooth and effortless, but perceptively non-native in speed and evenness. Level V is scored 17 – 20 which means excellent. In this level, students' speech is as smooth and effortless as native speakers.

The last category is pronunciation. Level I is scored 1 – 4 which criterion is poor to very poor. In this level, the students' error in pronunciation is frequent. Level II is scored 5 – 8 which criterion is average to poor. The accent of students is intelligible though often quite faulty. Level III is scored 9 – 12 which criterion is good to average. Students' accent may be obviously foreign and the errors often appear. Level IV is scored 13 – 16 which criterion is very good to good. It means students' errors in pronunciation are quite rare. Level V is scored 17 – 20 which criterion is excellent. It means that students' pronunciation is native like, with no trace of foreign accent.

3. T-test

T-test is used for comparative hypothesis of two samples if the data is in interval or ratio.[18] It is aimed to compare if the students' score of the test from both experimental and control group are significantly different. By using t-test formula, the researcher calculates the students' posttest score

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[18]Sugiono, *StatistikaUntukPenelitian*, p. 121

from experimental and control group.[19] The terms in using t-test should be in normal distribution and homogenous variants. Thus, the researcher needs to check whether or not the data distribution is normal and homogenous variants. To check the normal distribution is through normality test. Meanwhile, the homogeneity test is also needed to be calculated to find the homogenous variants. The normality test and homogeneity test are calculated as follows:

a. Normality test

The researcher uses normality test to check whether the posttest score of experimental group and control group are normally distributed or not. There are some steps to calculate the normality test. The steps are:[20]

1) Determine the number of intervals class. For normality using Chi Square test, the number of interval is 6. This appropriate with 6 fields in Real Normal Curve.

2) Determine the length of interval class, the formula is:

$$The\ length\ of\ interval\ class = \frac{biggest\ data - smallest\ data}{6\ (the\ number\ of\ interval)}$$

3) Arrange the data into a frequency distribution table

$f_0=$ Frequency / the number of data from the result of post-test

[19]AnasSudjiono, *PengantarStatistikPendidikan* , (Jakarta: PT. Raja GrafindoPersada, 2006), 314
[20]Sugiyono.*StatistikaUntuk*Penelitian, p. 80

f_h =   The number / frequency of the expected (percentage area

of each field multiplied by n)

$f_0 - f_h$= The differences between$f_0$danf_h

a) Calculate f_h (the frequency of the expected)

b) Calculate f_h, based on the percentage area of each field in normal curve, and then multiplied by the number of data from the result of posttest (the number of individuals in the sample).

    Number of individuals in the sample = 60.

    - The first line: 2.7 % x 60 = 1.62 become 2

    - The second line: 13.53 % x 60 = 8.118 become 8

    - The third line: 34.13 % x 60 = 20.478become 20

    - The fourth line: 34.13 % x 60 = 20.478 become 20

    - The fifth line: 13.53 % x 60 = 8.118become 8

    - The sixth line: 2.7 % x 60   = 1.62 become 2

c) Insert the value of $f_h$to the $f_h$column table, and then calculate the value of $(f_0 - f_h)^2$and$\frac{(f_0 - f_h)^2}{f_h}$. The value of $\frac{(f_0 - f_h)^2}{f_h}$is the calculated value of Chi square(x^2).

d) Compare the calculated Chi square value to the Chi square table. $X^2_{table}$is 11.070.

b. Homogeneity test

Homogeneity test is used to check whether or not the posttest score of experimental and control group have similar variance. The followings are steps of homogeneity test, there are:

1) Find the biggest variant score and the smallest variant score, the formula is:

$$F_{score} = \frac{S_1{}^2}{S_2{}^2}$$

Explanation:

$S_1{}^2$ = the larger variance

$S_2{}^2$ = the smaller variance

2) Find the F table

dk numerator   :30-1 = 29

dk denominator   : 30-1= 29

F = (0.05 ; 29.29) = 1.99

H. Research Hypothesis

The researcher needs to check and compare the result of t-test (t-value) to the t-table.

1. If the t-value is more than the value in the t-table ($t_{value} > t_{table}$),it means that H_a is accepted and H_0 is rejected. So, students who are taught through video

record have better speaking skill than those who are not taught through video record.

2. In the other hand,if the t-value is less than the value in the t-table ($t_{value} < t_{table}$), it means that H_0 is accepted and H_a is rejected. Thus, students who are not taught through video record have better speaking skill than those who are taught through video record.