CHAPTER III

RESEARCH METHODOLOGY

A. Design of Research

This research was a quasi experimental research which used non equivalent control group design. John Creswell states that quasi-experiment is an experimental situation in which the researcher assigns the participants to groups, but not randomly.[1] Furthermore, Gay and Peter Air Asian states that quasi-experimental design is used when the researcher keeps the students in existing classroom intact and the entire classrooms are assigned to treatments.[2] The design was non equivalent control groups. Non equivalent control group design includes an existing group of participants who receive a treatment and the other existing group of participants to serve as a control or comparison group.[3] It was used because of the availability of the participants of this research which is only two classes. Therefore, this research consisted of two classes; experimental and control classes.

Based on the explanation above, the researcher took two classes; one was as an experimental class taught by using Over to You strategy and another was as a control class taught without using Over to You Strategy

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[1] Jhon. W. Creswell, *Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Reseach*. (New Jersey: Pearson Education, 2008), p.313

[2] L. R. Gay and Peter Airasian, *Educational Research Competencies for Analysis and Application.Six Ed. (*New Jersey: Prentice- Hall 2000), p. 394

[3] Price & Oswald, *Research Method by Dummies*. (California: California State University, Fresno, 2006), http://psych. csufresno.edu/psy144/Content/ Design/ Nonexperimental/quasi.html, Retrieved on 26th march 2014

The researcher administered a pretest to both classes, carried out treatment for experimental class only, and a posttest for both classes to assess the difference between two classes.[4] The design of this research is illustrated as follows:[5]

Table III. 1

Research Design

Class	Pre-test	Treatment	Post-test
XI IPA 1	T_1	T	T_2
XI IPA 2	T_1	X	T_2

Where:

XI IPA 1   : Experimental class

XI IPA 2   : Control class

T1   : Pre-test for experimental and control class

T   : Receiving particular treatment

X   : Without particular treatment

T2   : Post-test for experimental and control class

B. Location and Time of Research

The research was conducted at SMAN 2 Rambah Hilir Rokan Hulu. This research was conducted from 21 April to 19 May 2014.

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[4] John W. Creswell, Op.cit. p. 313-314
[5] Ibid, p.625

C. **Subject and Object of Research**

The subject of this research was the second grade students of SMAN 2 Rambah Hilir Rokan Hulu. The object of this research was the effect of using Over to You strategy on students' comprehension in listening at SMAN 2 Rambah Hilir Rokan Hulu.

D. **Population and Sample**

Table III. 2

Population and Sample of Research of the Second Grade Students at SMAN 2 Rambah Hilir Rokan Hulu

No	Class	Population	Sample
1	XI IPA 1	31 Students	Experimental Class
2	XI IPA 2	30 Students	Control Class
4	XI IPS	30 Students	-
Total		**91**	**61**

From the table above, the population of this research was the second year students at SMAN 2 Rambah Hilir Rokan Hulu that consisted of three classes. It can be seen that the total of population of the research was 91 students. The reasearcher took two classes as sample, they were XI IPA 1 and XI IPA 2. The total sample was 61 students. According to Sugiono, the technique in taking sample used Cluster Sampling technique. The cluster sampling technique is used to take sample of object that is very wide. To decide which one the population that will be taken as sample, the

sample was taken based on the population specified[6]. The researcher took the sample of this research; class XI IPA 1 as an experimental class that consisted of 31 students and class XI IPA 2 as a control class that consisted of 30 students.

E. Technique of Collecting Data

In this research, the researcher used test as an instrument for collecting the data. The data of the researcher were collected by using two written tests, pre and post test. The scores from both pre-test and post-test of the students in the experimental class were compared. Pre-test was used to know students listening comprehension before doing the treatment to experimental and control class. After that, the researcher gave six meetings of study. Then, the result of the post-test was analyzed as the final data of this research. The researcher used written test in the form of multiple choices. The test of multiple choices is a test item in which the test taker is presented with a question along with four or five possible answers from which one must be selected.[7] According to Nation, Multiple Choice questions can focus on details and on more general aspect of the text.[8] On the other hand, Multiple Choice can be used to measure the students listening comprehension.

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[6] Sugiono, *Metode Penelitian Administrasi Dilengkapi dengan Metode R&D.* (Bandung: Alfabeta, 2008), p. 121.

[7] Jack C. Richards and Richard Schmidt, *Longman Dictionary ofLanguage Teaching and Applied Linguistics*(London: Pearson Education, 2002), p. 346

[8] I. S. P. Nation, *Teaching ESL/EFLReading and Writing*(New york: Routledge, 2009), p.78

There were twenty questions for respondents. The questions were based on the indicators of listening comprehension. The indicators consisted of five indicators and each of which had four questions. It can be seen from the blue print test below:

Table III.3

Blue Print of Instrument Test

INDICATORS	QUESTION
1 The students are able to identify the topic of a short functional text heard	**1, 6, 12, 17**
2. The students are able to identify the generic structure of a short functional text heard	**3, 10, 14, 18**
3. The students are able to identify specific details containing the characters included in functional text heard accurately	**2, 7, 11, 16**
4. The students are able to identify specific information of functional text heard	**4, 8, 13, 20**
5. The students are able to identify moral values implied in the story	**5, 9, 15, 19**

Based on the table III 3, identifying the topic of the text can be found in items number 1, 6, 12, and 17. Identifying generic structure of the text can be seen in items number 3, 10, 14, and 18. Identifying specific details containing the characters in the text is in items number 2, 7, 11 and 16. Identifying specific information of the text is in items number 4, 8, 13, and 20. Identifying moral values implied in the story can be seen in items number 5, 9, 15, and 19.

F. **Procedures of the Research**

　　The research procedures are as follow:

1. **Conducting Pre-test**

　　The pre-test was carried out to know the primary knowledge of students' listening comprehension to both experimental and control class.

2. **Conducting Treatment**

　　The treatment was teaching listening by using over to you strategy based on the over to you strategy procedures. It was conducted for the experimental class only for six meetings.

3. **Conducting Post-test**

　　The researcher gave Post-test to both experimental and control class. The post-test was conducted in order to know the result of the students listening comprehension after practicing over to you strategy.

G. **The Validity and the Reliability of the Instrument**

1. **Validity**

　　Every test should be as valid as the test that constructor can make it. The test must aim at providing a true measure of the particular skill in which it is intended to measure.

　　Heaton states that the validity of a test refers to appropriateness of a given test or any of its component parts as measure of what it is purposed to measure. It means the test is valid to the extent that is

measured what it is supposed to measure. There are four kinds of validity. They are face, content, construct and empirical validity[9]. This research used content validity. Content validity refers to whether or not the content of the manifest is right to measure the latent concept that we are trying to measure.[10]

The test given to students was considered not too difficult or too easy. Item difficulty was determined as the proportion of correct responses. This is held pertinent to the index difficulty; it was generally expressed as the percentage of the students who answered the questions correctly. The formula for item difficulty is as follows: [11]

$$P = \frac{\Sigma B}{N}$$

P   : Proportion of correct answer = index difficulties

B   : The number of correct answer

N   : The number of students taking the test

The formula above was used to find out easy or difficult test items that researcher gave to the respondents. The items did not reach the standard value of difficulty were modified. the standard value of the proportion of correct can be seen in the table below:[12]

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[9]J.B Heaton. *Writing English Language Test*. (New York: Longman Group UK Limited, 1988), p. 159

[10] Daniel Muijs. *Doing Quantitative Research in Educaton.* (London: Sage Publications, 2004), p.66.

[11] Hartono. *Analisis Item Instrumen*, (Bandung: Zanafa Publishing, 2010), p.38.

[12] *Ibid.*

Table III.4
Index Difficulty Level of Instruments

Proportion correct (p)	Item category
P > 0.70	Easy
0.30 P 0.70	Average
P < 0.30	Difficult

The facility value under 0.30 is considered difficult and above 0.70 is considered easy. The items categorized in the level of easy or difficult (p < 0.30 or p > 0.70) should be modified. Therefore, the standard value of the proportion of correct is between 0.30 and 0.70.

The try out was conducted in order to know the validity of instrument. Instrument for this research was test. The test items of try out consisted of 20 items. There were four questions for each indicator. The result of validity shows that there were 20 items accepted. It can be seen in appendix. Therefore, there were 20 items for Pre and Post-tests.

The calculation of item difficulty can be seen from the following table:

Table III.5
Indicator 1:
The Students are Able to Identify the Topic of a Short Functional
Text Heard

Indicator	The Students are Able to Identify the Topic of a Short Functional Text Heard				N
Item no.	1	6	12	17	
Correct	13	10	12	12	20
P	0.65	0.50	0.60	0.60	
Q	0.35	0.50	0.40	0.40	

Based on the table above, the proportion of the correct answer for listening comprehension test shows that, item number 1 obtained the proportion correct 0.65, item number 6 obtained the proportion correct 0.50, item number 12 obtained the proportion correct 0.60, and item number 17 obtained the proportion correct 0.60. Based on the standard level of difficulty "p", $0.30 < p < 0.70$, it indicates that every item is in average, so the items for identifying and responding utterance of Complimenting are accepted.

Table III.6
Indicator 2:
The Students are Able to Identify the Generic Structure of a Short
Functional Text Heard

Indicator	The Students are Able to Identify the Generic Structure of a Short Functional Text Heard				N
Item no.	3	10	14	18	
Correct	13	10	9	11	20
P	0.65	0.50	0.45	0.55	
Q	0.35	0.50	0.55	0.45	

In identifying the words that had been heard in the conversation, the question number 3 obtained the proportion correct 0.65, the question number 10 obtained the proportion correct 0.50, the question number 14 obtained the proportion correct 0.45, and the last

is the question number 18 obtained the proportion correct 0.55. The

interpretation of standard difficulty must be in the middle of 0.30 to

0.70. Every item is in average, so the items of the test are accepted.

Table I11.7
Indicator 3:
The Students are Able to Identify Specific Details Containing the Characters Included in Functional Text Heard Accurately

Indicator	The Students are Able to Identify Specific Details Containing the Characters Included in Functional Text Heard Accurately				N
Item no.	2	7	11	16	
Correct	13	12	13	13	20
P	0.65	0.60	0.65	0.65	
Q	0.35	0.40	0.35	0.35	

Based on the interpretation of the indicator 3 above, every

score in the middle of 0.30 to 0.70. For the question 2, the proportion

correct got 0.65. The proportion correct of question number 7 got

0.60. The question number 11 got the proportion correct that is 0.65.

The last is question number 16 got 0.65. Every item is in average, so

the items for indicator 3 are accepted.

Table III.8
Indicator 4:
The Students are Able to Identify Specific Information of Functional Text Heard

Indicator	The Students are Able to Identify Specific Information of Functional Text Heard				N
Item no.	4	8	13	20	
Correct	13	9	12	10	20
P	0.65	0.45	0.60	0.50	
Q	0.35	0.55	0.40	0.50	

The description of the table above is that indicators consist of

four items. Item number 4 got the proportion correct 0.65, item

number 8 got proportion correct 0.45, item number 13 got proportion correct 0.60 and the item number 20 got proportion correct 0.50. Every item is in average, so the items of indicator 4 are accepted.

Table III.9
Indicator 5:
The Students are Able to Identify Moral Values Implied in the Story

Indicator	The Students are Able to Identify Moral Values Implied in the Story				N
Item no.	5	9	15	19	
Correct	10	8	12	11	20
P	0.50	0.40	0.60	0.55	
Q	0.50	0.60	0.40	0.45	

Based on the table above, item number 5 got the proportion correct 0.50, item number 9 got the proportion correct 0.40, item number 15 got the proportion correct 0.60 and item number 19 got the proportion correct 0.55. The interpretation of standard difficulty must be in the middle of 0.30 to 0.70. Every item is in average, so the items are accepted.

2. Reliability

A test must be reliable as measuring instrument. Reliability is a necessary characteristic of any good test. Heaton explains that reliability is of primary importance in the use of public achievement, proficiency and classroom tests.[13] The mean and standard deviation of

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[13]*Op.Cit*. p.159

the test must be known for obtaining the reliability of the test. To know the reliability of the test, the writer used the formula KR-20[14]:

$$rii = \frac{k}{k-1} \quad \frac{s^2 - \sum pq}{s^2}$$

Where:

rii : Instrument reliability

k : Number of items

S : Deviation standard

p : The proportion of the students making correct answers was divided by the total number of the students

q : The proportion of the students making incorrect answers was divided by the total number of the students.

The calculation of reliability can be seen as follows:

a. **The mean score of the try out**

$$M = \frac{x}{N}$$

$$= \frac{1130}{20} = 56.5$$

$$M = 13.26$$

[14]Suharsimi Arikunto, *Prosedur Penelitian*: *Suatu Pendekatan Praktek*, (Jakarta: PT Rineka Cipta, 2006),p.187

b. The standard deviation

$$S_t = \frac{x^2}{n}$$

$$= \frac{64600}{20}$$

$$= 3230$$

$$Xt^2 = Xt^2 - \frac{\sum X_t^{\ 2}}{n}$$

$$= 64600 - \frac{1130^{\ 2}}{20}$$

$$= 755$$

$$St^2 = \frac{X^2}{n}$$

$$= \frac{755}{20}$$

$$= 37.75$$

$$Ri = \frac{20}{20-1} \ x \ \frac{37.75-4.82}{37.75}$$

$$= 1.05 \ x \ 0.87$$

$$= \boldsymbol{0.913}$$

c. The reliability

$$rii = \frac{k}{k-1} \ \frac{s^2 - \sum pq}{s^2}$$

$$rii = \frac{20}{20-1} \ \frac{37.75 - 4.82}{37.75}$$

$$= \frac{20}{19} \ \frac{32.93}{37.75}$$

$$= 1.05 \quad 0.87$$

$$rii = 0.913$$

The score obtained (0.913) compared to the r Product moment at the degree of freedom is 20. r product moment at the level 5% is 0.423 and at 1% is 0.537. The score obtained is higher than r-table. It can be read 0.423<0.913>0.537. It means that the test was reliable.

H. Technique of Data Analysis

1. Normality Test

Before analyzing the data by using t-test formula, the researcher had to find out the normality test of the data. It was used to know whether the data were normal or not. If the data have normal distribution, a parametric test should be used and if the data distribution is not normal, a nonparametric test should be used.[15] The normality test of the data was analyzed by using Kolmogorov-Smirnove technique with SPSS 16 version.

Analysis:

H_o : population with normal distribution

H_a : population with not normal distribution

If the probability > 0.05 H_o was accepted

If the probability < 0.05 H_o was rejected

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[15]L.R. Gay and Peter Airasian,*Op.cit* ,p.367

a. **Post Test of Experimental Class**

Table III.10
Descriptive Statistics

Post Experiment Valid (listwise)	N	Minimum	Maximum	Mean	Standard Deviation
	31	50	90	72.42	8.049

Based on the table above, the mean was 72.42, the minimum was 50, the maximum was 90 and the standard deviation was 8.049.

Table III.11
One Sample Kolmogorov-Smirnov Test

Post-Test of Experimental Class		
N		31
Normal Parameters[a,b]	Mean	72.49
	Standard Deviation	8.049
Most Extreme Differences	Absolute	.239
	Positive	.18
	Negative	-239
Kolmogorov-Smirnov Z		1.329
Asymp. Sig. (2-tailed)		.079

Based on the output SPSS above, the test of normality shows:

Sig or p was $0.079 > 0.05$. It means H_o was accepted or the data were normal.

b. **Post-Test of Control Class**

Table III.12
Descriptive Statictics

Post Experiment Valid (listwise)	N	Minimum	Maximum	Mean	Standard Deviation
	30	40	85	64.50	9.591

Based on the table above, the mean was 64.50, the minimum was 40, the maximum was 85 and the standard deviation was 9.591.

Table III.13

One Sample Kolmogorov-Smirnov Test

Post-Test of Control Class		
N		30
Normal Parameters[a,b]	Mean	64.50
	Standard Deviation	9.591
Most Extreme Differences	Absolute	.219
	Positive	.181
	Negative	-.219
Kolmogorov-Smirnov Z		1.202
Asymp. Sig. (2-tailed)		.111

Based on the output SPSS above, the test of normality shows:

Sig or p was $0.111 > 0.05$. It means H_o was accepted or the data was normal

Based on the output SPSS, the test of normality shows:

Sig or p was $0.079 > 0.05$

Sig or p was $0.111 > 0.05$

It means H_o was accepted or the data were normal. Therefore, the researcher used T-test formula as a parametric test for analyzing the data.

2. Analysis Data t-test

The technique of data analysis used in this research was T-test formula by using SPSS (Statistical Package for the Social Sciences) 16 Version. For analyzing the data, the researcher used the scores of post-test of experimental as well as control class.

The t-test was obtained by considering the degree of freedom (df) = (N1+N2)-2. Statistically the hypotheses are:

H_o: to < If the probability

H_a: to > If the probability

H_o is accepted if t_o< probability or there is no significant effect on students listening comprehension taught by using and without using Over to You strategy.

H_a is accepted if t_o> probability or there is a significant effect on students listening comprehension taught by using and without using Over to You strategy.