CHAPTER III

RESEARCH METHODOLOGY

A. The Research Design

This research was an experimental research. Gay says, the experimental research is the only type of research that can test hypotheses to establish cause and effect relationship.[1] Furthermore, the design of the research was a quasy experimental research - non-equivalent control group design, which is intended to find out the influence of using Focus Trio Strategy toward students' listening comprehension. Quasi-experimental design is experimental situation in which the researcher assigns, not randomly, participants to groups because the experimenter cannot artificially create groups for the experiment.[2]

This research consisted of two variables, They were X referring to using the strategy in teaching listening by using Focus Trio Strategy and Y referring to listening comprehension of the Second Grade students at SMAN 2 Siak Hulu Kampar Regency. X is an independent variable and Y is a dependent variable as Creswell has stated that an experiment is used when you want to establish possible cause and effect between your independent and dependent variables.[3] An independent variable is an attribute or characteristic that influence or affects an outcome (dependent variable). Whereas, a

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[1] L.R. Gay and Peter Airasian, *Educational Research Competencies for Analysis and Application Sixth Edition* (New Jersey: Pearson Education, 2000).p.367.
[2] Jhon W.Cresswell, *Educational Research: Planning, Conducting and Evaluating Quantitative and Qualitative Research* (New Jersey: Pearson Education, 2008), p.645.
[3] *Ibid*, p.299.

dependent variable is an attribute or characteristic that is influenced by the independent variable. So, using Focus Trio Strategy influenced the listening comprehension (independent variable) while listening comprehension was affected by using Focus Trio Strategy (dependent variable).

Then, this research also used two classes as sample. The first class functioned as experimental class treated by using Focus Trio Strategy. The second was the control class treated without using Focus Trio Strategy. The writer chose two classes that were homogenous (having the same teacher of English and materials). Before performing the treatment, the writer gave pretest for both of classes. Afterwards at the end of treatment the writer gave post testfor both class, experimental class and control class.

Table III.1

Reserach Design

Class	Pre-test	Treatment	Post-test
Experimental	T1	X	T2
Control	T1		T2

Note:

T1: Pre-test to experiment and control class   : No treatment

T2: Post-test to experiment and control class

X: Receiving treatment, that was using Focus Trio Strategy

B. The Time and Location of the Research

This research was conducted from August to September 2013. It was located at State Senior High School 2 Siak Hulu Kampar Regency.

C. The Subject and the Object of the Research

The subject of this research was the second grade students of State Senior High School 2 Siak Hulu Kampar Regency. The object of this research was listening comprehension and Focus Trio strategy.

D. Population and Sample

The population of this research was the second grade students of SMAN 2 Siak Hulu. Total population was 351 students. It can be seen in the following table Population below:[4]

Table III.2

Population of the Research

No	Class	Population		Total
		Female	Male	
1	XI IPA 1	31	9	40
2	XI IPA 2	30	10	40
3	XI IPA 3	29	11	40
4	XI IPA 4	24	16	40
5	XI IPS 1	22	18	40
6	XI IPS 2	25	14	39
7	XI IPS 3	29	11	40
8	XI IPS 4	18	19	37
9	XI IPS 5	18	17	35
	Total	226	125	351

The population above was too large enough to be taken all as sample of the research. Sample of this research had been chosen by using cluster

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[4] Interview data from English Teacher of SMA 2 Siak Hulu, 22 February 2013

sampling technique. According to gay, et.al. cluster sampling select the groups not individual. All the members of selected groups have similar characteristics. [5] It means that the subject of this research have the same material, the same grade, and the same teacher in teaching these classes. Because the sample of this research had been chosen by using cluster sampling technique, so the writer had taken two classes as the sample of this research. They were class XI IPA 1 and XI IPA 3. As the result, the writer took X IPA 1 as an experimental class and X IPA 3 as a control class Therefore the sample was 80 students.

Table III.3

Sample of the Research

No.	Class	Total
1.	XI IPA 1 (Experimental Class)	40
2.	XI IPA 3 (Control Class)	40
	Total	80

E. The Technique of Collecting Data

The technique used for collecting the data was listening test. In this research, the test was designed to provide information about how well the students comprehend of what they listened to. This test was designed into two tests; they were pre test and post test. Then, the tests were contributed into two classes, namely experimental class and control class. Next, to get information about the effect of the strategy, the test was arranged based on the indicators of listening that had been stated in operational concept. Pre

[5]L.R. Gay and Peter Airasian. *Op.Cit.* Pg.129.

test was done before treatment and post test was done after treatment. Testing is the way in which the information about people language ability can be gathered. The test will be distributed to measure the student's listening comprehension in monologue form. The test would be multiple choices. Then, the writer will take the total score from the result of the listening comprehension test. The classification of the students' score is shown below.[6]

Table III.4

The Classification of Students' Score

Score	Categories
80 – 100	Very good
66 – 79	Good
56 – 65	Enough
40 – 55	Less
30 – 39	Fail

F. The Technique of Analyzing Data

In order to find out whether there is significant effect of using Focus Trio Strategy toward listening comprehension of the second grade students at SMAN 2 Siak Hulu who were taught and who were not taught by using Focus Trio Strategy, the data were analysed statistically. The technique of data analysis in this research used software of SPSS 16.To know there was significant difference or there was no significant difference between two or more variables, can be analysed by using

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[6]Suharsimi Arikunto. *Dasar-Dasar Evaluasi Pendidikan.* (Jakarta: Bumi Aksara. 2009). p. 245

Independent Sample t_{test}.[7] Gay added that the t-test for independent sample is used to determine whether there is or not probably a significant difference between the means of two independent samples.[8] The formula is as follow:

$$t_o = \frac{Mx - My}{\sqrt{\left(\frac{SD_x}{\sqrt{N-1}}\right)^2 + \left(\frac{SD_y}{\sqrt{N-1}}\right)^2}}$$

Where:

t_0 = Table Observation

SD   = Standard Deviation

M_x = Mean of variable x and

M_y = Mean of variable y

SD_x = Standard deviation of experimental group

SD_y = Standard deviation of control group

N   = The Number of respondent

The t-table has the function to see if there is a significant difference among the mean of the score of both experimental and control group. The t-obtained value is consulted with the value of t-table at the degree of freedom (df) = (N1+N2)-2 which is statistically hypothesis:

Ha: to > t-table

Ho: to < t-table

Ha is accepted if to > t-table or there is effect of using Focus Trio Strategy toward students' listening comprehension.

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[7]Hartono, *Statistik Untuk Penelitian* (Pekanbaru: Pustaka Pelajar, 2010), p.177-9

[8]L.R Gay, Op.cit, p. 484.

Ho is accepted if to< t-table or there is no effect of using Focus Trio Strategy toward students' listening comprehension.

G. Validity and Reliability of the Instrument

1. Validity

Before getting the data, the researcher used all of items in try out. Try out was intended to know the value of the test. The value itself was used to find out the level of difficulties of each item. The standard of value used was   0.30 and   0.70[9].

The items that could not fulfil the standard value were replaced. The facility value under 0.30 is considered difficult and above 0.70 is considered easy.

The level of difficulty was used to show how easy and difficult an item was. It was calculated by using the formula:

$$P = \frac{B}{JS}$$

Where:

P   : index of difficulty

B   : the number of correct answer

JS   : students taking test

For example, if the number 1 was correct by 8 students of 20 students, the difficulty could be calculated as follows:

$$P = \frac{B}{JS}$$

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[9] Suharsimi Arikunto. *Dasar – Dasar Evaluasi Pendidikan,* (Jakarta: Bumi Aksara 2009) P.208

$$P = \frac{8}{20}$$

$$P = 0.4$$

If the value was changed into percentage, it could be calculated 0.4 x 100% = 40. The value was considered standard, and could be used to get the data. In other words, the item did not need to be changed. After doing try out, the researcher found that there were no any items modified because the level of difficulty reached the standard item of difficulty. Then, the proportion correct was represented by "p" , whereas the proportion incorrect was represented by "q".

The data obtained by using post test and was evaluated in 5 component:

1. Students are able to identify main idea/topic of the narrative text listened

2. Students are able to identify the communicative purpose of the narrative text listened

3. Students are able to distinguish the supporting details including language features of narrative text listened

4. Students are able to identify spesific details containing of characters included in narrative text listened

5. Students are able to make inference of the narrative text listened.

Table III. 5
The Students Are Able to Identify Main Idea/topic of the Narrative Text Listened Accurately

Indicator	Identifying topic of the monologue text listened accurately				N
Item no.	1	9	15	17	
Correct	23	23	16	19	35
P	**0,66**	**0,66**	**0,46**	**0,54**	
Q	0,34	0,40	0,40	0,46	

$$P = \frac{B}{JS} \qquad Q = 100 - P$$

The table 3.5 above shows the portion of correct answer. For item number 1 shows the proportion of correct 0.66, item number 9 shows the proportion of correct 0.66, item number 15 shows the proportion of correct 0.46, item number 17 shows the proportion of correct 0.54. Based on the standard level of difficulty "p" < 0.30 and > 0.70, it is pointed out that item difficulties in average of each items number for finding meaning of the text are accepted.

Table III. 6
The Students Are Able to Identify the Communicative Purpose of the Narrative Text Listened accurately

Indicator	Identifying the communicative purpose of the monologue text listened accurately				N
Item no.	4	7	11	16	
Correct	22	19	22	23	35
P	**0,63**	**0,54**	**0,63**	**0,66**	
Q	0,37	0,46	0,37	0,34	

$$P = \frac{B}{JS} \qquad Q = 100 - P$$

Based on the Table III.6 above, the proportion of correct answers for item number **4** shows the proportion of correct **0.63**, item number **7** shows the proportion of correct **0.54**, item number **11** shows the

proportion of correct **0.63,** and item number **16** shows the proportion of correct **0.66.** Thus, based on the standard level of difficulty "p" < 0.30 and > 0.70, it is pointed out that item difficulties in average of each items number to identify the communicative purpose of the monologue text listened accurately are accepted.

Table III.7
The Students Are Able to Distinguish The Supporting Details Like Text Organization of Monologue Text Listened Accurately

Indicator	Distinguishing the supporting details like text organization of monologue text listened accurately				N
Item no.	5	8	12	18	
Correct	22	24	12	21	35
P	0,63	0,69	0,34	0,60	
Q	0,37	0,31	0,66	0,40	

$$P = \frac{B}{JS} \qquad Q = 100 - P$$

Based on the Table III.7 above, the proportion of correct answers for item number **5** shows the proportion of correct **0.63**, item number **8** shows the proportion of correct **0.69**, item number **12** shows the proportion of correct **0.34,** and item number **18** shows the proportion of correct **0.60.** Thus, based on the standard level of difficulty "p" < 0.30 and > 0.70, it is pointed out that item difficulties in average of each items number to distinguish the supporting details like text organization of monologue text listened accurately are accepted.

TABLE III.8
The Students Are Able to Identify Spesific Details Containing of
Characters Included In Narrative Text Listened Accurately

Indicator	Identify spesific details containing of characters included in narrative text listened				N
Item no.	**3**	**10**	**13**	**19**	
Correct	23	22	25	15	35
P	**0,66**	**0,63**	**0,71**	**0,43**	
Q	0,40	0,37	0,29	0,57	

Based on the Table III.8 above, the proportion of correct answers for item number **3** shows the proportion of correct **0.66**, item number **10** shows the proportion of correct **0.63**, item number **13** shows the proportion of correct **0.71,** and item number **19** shows the proportion of correct **0.43.**Thus, based on the standard level of difficulty "p" < 0.30 and > 0.70, it is pointed out that item difficulties in average of each items number to make inference of the monologue text listened accurately are accepted.

TABLE III.9
The Students Are Able to Make Inference of the Narrative Text Listened
Accurately

Indicator	Making inference of the narrative text listened accurately				N
Item no.	**2**	**6**	**14**	**20**	
Correct	23	22	21	15	35
P	**0,66**	**0,63**	**0,60**	**0,43**	
Q	0,40	0,37	0,24	0,57	

$$P = \frac{B}{JS} \qquad Q = 100 - P$$

Based on the Table III.9 above, the proportion of correct answers for item number **2** shows the proportion of correct **0.66**, item number **6** shows the proportion of correct **0.63**, item number **14** shows the

proportion of correct **0.60,** and item number **20** shows the proportion of correct **0.43.** Thus, based on the standard level of difficulty "p" < 0.30 and > 0.70, it is pointed out that item difficulties in average of each items number to make inference of the monologue text listened accurately are accepted.

2. **The Reliability of the Test**

Brown says that, reliability has to do with accuracy of measurement. This kind of accuracy was reflected in obtaining of similar results when measurement was repeated on different occasions or with different instruments or by different persons. The characteristic of reliability was sometimes term consistency.[10] Meaning that, the test is reliable when an examiner's results are consistent on repeated measurement.

To obtain the reliability of the test, it must know the mean and standard deviation of test. Reliability in general refers to appropriateness of a given test of ay of its component part as measure of what it was purposed to measure. It means the test will be valid to the extent that is measured what it is supposed to measure.

The reliability coefficients for good identified kinds of structure text and reading comprehension test were expected to exceed 0.0 and

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[10] H. Douglass Brown, *Language Assesment: Principles and Classroom Practices.* (New Rock: Pearson Education Inc, 2003), p.19

closed 1.00. According to Arikunto, there are the interpretations of reliability as follows:[11]

a. Between 0.800 – 1.00: very high

b. Between 0.600 – 0. 800: high

c. Between 0.400- 0.600: enough

d. Between 0.200 – 0.400: low

e. Between 0.00 – 0.200: very low

　　　To obtain the reliability of the test given, the writer used the formula KR20 as follow:

$$\text{ri} = \frac{k}{(k-1)} \frac{s_{t^2} - \sum p_i q_i}{s_{t^2}}$$

Where:

k　　　　: number of items in the instrument

pi　　　　: proportion of subject who answered the item correctly

qi　　　　: proportion of subject who answered the item wrong (1-pi)

　piqi　　: the multiplication result between p and q

S_t^2　　　: total variance[12]

　　　Firstly the writer calculates the total variance:

$$s_{t^2} = \frac{x^2}{n}$$

Where:

n　　　　: number of respondents

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[11] Suharsimi Arikunto, *Op.Cit.,* p. 65

[12] Sugiyono.*Statistik untuk Penelitian* (Bandung: Alfabeta, 2007), p.359

$$x^2 = \sum xt^2 - \frac{(\sum xt)^2}{n}$$

$$= 5413 - \frac{(423)^2}{35}$$

$$= 5413 - \frac{178929}{35}$$

$$= 5413 - 5112.25$$

$$= 300.75$$

$$s_{t^2} = \frac{300.75}{35}$$

$$= 8.59$$

$$ri = \frac{k}{(k-1)} \; \frac{s_{t^2} - \sum piqi}{s_{t^2}}$$

$$ri = \frac{20}{(20-1)} \; \frac{8.59 - 4.56}{8.59}$$

$$ri = \frac{20}{19} \; \frac{6.29}{10.83}$$

$$ri = 1.05 \times 0.580$$

$$ri = 0.609$$

Based on the result above, the reliability value is **0,609** categorized as high category. It also can be depicted that to know whether the test is reliable or not, the value of *ri* must be compared with r product moment. The value of *ri* must be higher than r table. From the calculation above the value of *ri* was 0.609. Then the significance of r table at 5% is 0.325. Whilethe significance of r table at 1% is 0.418. So, it can be conclude that 0.325<0.609>0.418. On the other word, the instrument was reliable because the value of *ri* was higher than r table.