CHAPTER 3

THE RESEARCH METHODOLOGY

A. Research Design

This research is included in a correlational research with regressional analysis. This research was aimed to disclose the contribution of split information activity toward listening comprehension. There were 2 variabes in this research, the first is split information activity as variable X, then listening comprehension as variable Y.

B. The Location and the Time of the Research

The location of this research was at SMP Islam YLPI Pekanbaru, which is located in JL. Prof. M. Yamin, Pekanbaru. This research will be conducted fromOctober to November 2013.

C. The Subject and the Object of the Research

The subject of this study was the second year students of SMP Islam YLPI Pekanbaru. Then, the object of this researchwas the Split Information Activity andListening Comprehension.

D. The Population and Sample of the Research

The population of this research was the second year students at SMP Islam YLPI Pekanbaru in 2013-2014 academic years. It had 128 students which was devided into 4 classes. The specification of the population can be seen on the table below:

Table III.1

The Total Population at Second Grade Students of Islam YLPI Pekanbaru

NO	Class	Total
1	VIII.1	34
2	VIII.2	30
3	VIII.3	34
4	VIII.4	30
Total		128

The population is large enough to be takenall as sample of the research. The writer tookone class after doing clustering sample randomly. According to Gay, cluster sampling randomly selects group, not individuals. All the members of selected groups have similar characteristics.[1] Then, as the result the writer took class VIII.1

Table III.2

Sample of the Research

No	Class	Male	Female	Total Number of Student
1	VIII.1	14	20	34
Total		14	20	34

E. Technique of Colleting Data

Considering the number of variable in this research were two variables, thus the writer used two techniques in collecting data, it is explained as follows:

1. Questionnaire

This instrument was used to find out the independent variable, that was split information activity applied to the second year students of Private Islamic Junior High School YLPI

[1]L.R. Gay and Peter Airasian, *Educational Research Competencies for Analysis and Application:Sixth Edition*, New Jersey: Prentice-Hall, Inc, 2000, p.129

Pekanbaru. The items of the questionnaire were constructed based on the indicators of split information activity.(To see the queationnaire, see appendix 1) The blue prints of questionnaire are as follows:

Table III.3
The Blue Print of Questionnaire

No	Indicators of Creativity in Role Play	Number of Items
1	The student are devided into pairs	1 - 3
2	Teachers gives different pictures to students A and B	4 - 6
3	Student A describes the first picture to student B	7 -10
4	Student B guesses what the picture is, by looking at his own picture	11 - 14
5	Student B write whether the picture the “same” or “ different”	15 - 17
6	student B take turn to do as what student A did before	18 - 20

The writer used likert scale for the alternative answer of the questionnaire, they are strongly agree, agree, nuetral, disagree, and strongly disagree.[2] Then each response of each item was associated with a point value, which is explained in the following table[3]:

Table III.4
The Score of Students’ Split Information Activity

No	Frequency	Score Positive Statement
1	Strongly agree	5
2	Disagree	4
3	Undecided	3

[2]Marguerite G. Lodico, Dean T. Spaulding and Katherine H. Voegtle, *Methods in Educational Research from Theory to Practice* (San Fransisco: Jossey Bass, 2006), 107. http://bookfi.org (accessed April, 2012).

[3] Loc.Cit,L. R. Gay and Peter Airasian. p. 321

4	Disagree	2
5	Strongly disagree	1

Furthermore, to interpret the level of students in split information activity, the writer used the categorization as follows:[4]

Table III.4
The Categorization of Students' Split Information activity

No	Score	Categories
1	76 - 100 %	High
2	60 - 75 %	Middle
3	00 - 59 %	Low

2. Test

In this research, the writeradministered the testthat consisted of 25 items to assess students' listening comprehension. Every multiple choice item consisted of four answer options (a, b, c, and d). (To see the test, please see appendix 2)

F. Technique of Analyzing Data

In order to find out whether or not there was a significant contribution of split information activity and listening comprehension, the data were analyzed statistically. To answered and analyze the first and the second question of the formulation of the problem the writer used product moment correlation.[5] The formula is as follows:

$$r_{xy} = \frac{N\sum XY - \left(\sum X\right)\left(\sum Y\right)}{\sqrt{\left[N\sum X^2 - \left(\sum X\right)^2\right]\left[N\sum Y^2 - \left(\sum Y\right)^2\right]}}$$

[4]Sugiyono, *metode penelitian pendidikan* (Bandung : Alfabeta, 2008) p
[5]Hartono, *Statistik Untuk Penelitian.* (Pekanbaru: Pustaka Pelajar, 2010), p.177-9

Where:

r = Index of correlation “r” product moment

n = Sample

(Σxy) = The sum of score x and y

(Σx) = The total of score x

(Σy) = The total of score y

Then, to see the contribution of split information activity towards listening comprehension the writer used regresi linear, the formula is as follows :

$$\hat{Y} = a + bX$$

$$a = \frac{(\Sigma Y)(\Sigma X^2) - (\Sigma X)(\Sigma XY)}{n\ \Sigma X^2 - (\Sigma X)^2}$$

$$b = \frac{N\Sigma XY - (XY)(\Sigma Y)}{N\Sigma X^2 - (\Sigma X)^2}$$

G. The Validity and Reliability

1. Validity and Reliability of Questionnaire

The writer used Cronbach alpha technique to find out reliability and validity of the questionnaire.The writer gave the to the students (To see the students’ score of each item of the questionnaire, see appendix 3) and it was processed through statistical analysis.

Table III.5
Table of r Product Moment

		TotalScore			Total score
Item1	Pearson Correlation	.541**	Item12	Pearson Correlation	.440**
	Sig. (2-tailed)	0.001		Sig. (2-tailed)	0.009
	N	34		N	34
Item2	Pearson Correlation	.583**	Item13	Pearson Correlation	.614**
	Sig. (2-tailed)	0		Sig. (2-tailed)	0
	N	34		N	34
Item3	Pearson Correlation	.648**	Item14	Pearson Correlation	.433*
	Sig. (2-tailed)	0		Sig. (2-tailed)	0.011
	N	34		N	34
Item4	Pearson Correlation	.449**	Item15	Pearson Correlation	.579**
	Sig. (2-tailed)	0.008		Sig. (2-tailed)	0
	N	34		N	34
Item5	Pearson Correlation	.448**	Item16	Pearson Correlation	.529**
	Sig. (2-tailed)	0.008		Sig. (2-tailed)	0.001
	N	34		N	34
Item6	Pearson Correlation	.511**	Item17	Pearson Correlation	.521**
	Sig. (2-tailed)	0.002		Sig. (2-tailed)	0.002
	N	34		N	34
Item7	Pearson Correlation	.448**	Item18	Pearson Correlation	.618**
	Sig. (2-tailed)	0.008		Sig. (2-tailed)	0
	N	34		N	34
Item8	Pearson Correlation	.484**	Item19	Pearson Correlation	.602**
	Sig. (2-tailed)	0.004		Sig. (2-tailed)	0
	N	34		N	34
Item9	Pearson Correlation	.528**	Item20	Pearson Correlation	.642**
	Sig. (2-tailed)	0.001		Sig. (2-tailed)	0
	N	34			34
Item10	Pearson Correlation	.471**	TotalScore	Pearson Correlation	1
	Sig. (2-tailed)	0.005		Sig. (2-tailed)	34
	N	34			
Item11	Pearson Correlation	.517**			
	Sig. (2-tailed)	0.002			
	N	34			

The table above shows that $r_{obtained}$ for each item of the questionnaire. Then $r_{obtained}$ calculated in to $t_{obtained\ by}$ using[6] : $= \frac{r\sqrt{n-2}}{1-r^2}$

Where :

r = $r_{obtaine}$

n = number of students

Table III.6

Table of Validity Analysis

No	$t_{obtained}$	t_{table}	Status	No	$t_{obtained}$	t_{table}	Status
1	3.63	2.457	Valid	11	3.41	2.457	Valid
2	4.06	2.457	Valid	12	3.08	2.457	Valid
3	6.31	2.457	Valid	13	4.45	2.457	Valid
4	3.18	2.457	Valid	14	2.71	2.457	Valid
5	2.83	2.457	Valid	15	5.7	2.457	Valid
6	3.36	2.457	Valid	16	3.52	2.457	Valid
7	2.83	2.457	Valid	17	3.45	2.457	Valid
8	3.12	2.457	Valid	18	4.44	2.457	Valid
9	3.51	2.457	Valid	19	3.81	2.457	Valid
10	3.02	2.457	Valid	20	4.74	2.457	Valid

The table shows that $t_{obatained}$ for each item of questionnaire. All of $t_{obatain}$ are higher than t_{table} (2.457). In other words, it can be said that the validity of the questionnaires are valid.

To find the reability of the questionnaire, the writer used SPSS 16 for Window.

Table III.7
Reliability

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items

[6] Hartono, *Analisis Item Instrumen* (Bandung: Nusamedia, 2010),

Table III.7
Reliability

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.660	.666	20

The cronbach's alpha in the table is 0.660. The interpretation of reliability used to determine the level of reliability of the questionnaire is as follow:[7]

Table III.8
The Level of Reliability

No	Reliability	Level of Reliability
1	0– 0.20	Low
2	0.21 – 0.40	Sufficient
3	0.41 – 0.70	High
4	0.71 – 1.0	Very high

From the table of reability above, the number of reability is categorized into High.

2. Validity and Reliability of listening Test

According to Arikunto the test is accepted if the degree of difficulty is between 0.30 – 0.70.[8] It was determined by finding the difficulty level of each item. The formula for item difficulty is as follows:[9]

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

Where:

[7] Zelly Putriani. The Correlation between Reported Speech Mastery and Speaking Ability of the Second Year Students of SMKN 1 Pekanbaru (Pekanbaru: Unpublished, 2011), p. 32

[8] SuharsimiArikunto.*ProsedurPenelitian.* (Jakarta: PT. RinekaCipta, 1997). p. 208

[9] Ibid. p 208

P : Index of difficulty

B : The number of correct answer

JS : The number of students

The difficulty level of an item shows how easy or difficult a particular item in a test. The items that do not reach the standard level of difficulty are excluded from the test and they are changed with new items that are appropriate.

The standard level of difficulty used is < 0.30 and > 0.70. It means that an item is accepted if the level of difficulty is between 0.30-0.70 and it is rejected if the level of difficulty is less than 0.30 (the item is too difficult) and over than 0.70 (the item is too easy). The proportion of correct is represented by "p", whereas the proportion of incorrect is represented by "q".(The data can be seen in the appendix 4)

A test must first be reliable as measuring instrument. Reliability is a necessary characteristic of any good test. Reliability is used to know the consistency of the test.Reliability refers to whether a test measures somethingwell.[10]According to Weir, a reliable test can be depended on producing similar results in repeateduses.[11]It focuses on how many items were given to respondents. Reliability is related to validity. Even validity is more important, but reliability supports validity[12]. There are several formulas that can be used to measure the reliability of the test. In this research,used Kuder Richardson 20 (K-R 20) formula to calculate the reliability of the test. The formula is as follows:

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[10] Jeremy Miles and Philip Banyard, *Understanding and Using Statistics in Psychology*, New York: Pearson Education, 2007, p. 270

[11] Cyril J. Weir, *Language Testing and Validation*, New York: Palgrave Macmillan, 2005, p. 22

[12] Suharsimi Arikunto, *Dasar-dasar Evaluasi Pendidikan*, Jakarta: Bumi Aksara, 2011, p. 208

$$r_{11} = \frac{n}{n-1} \quad \frac{S^2 - \sum pq}{S^2}$$

Where:

r_{11} = Reliability

p = Proportion the correct scores

q = Proportion the incorrect scores

$\sum pq$ = Total of p times q

n = Total items

S = Variance total of the test

Then to find out the reliability of the test, see the calculation below :

$$r_{11} = \frac{n}{n-1} \quad \frac{S^2 - \sum pq}{S^2}$$

$$r_{11} = \frac{25}{25-1} \quad \frac{6.21^2 - 3.94}{6.21^2}$$

$$r_{11} = 1.04 \quad \frac{38.56 - 3.94}{38.56}$$

$$r_{11} = 1.04 \quad \frac{34.62}{38.56}$$

$$r_{11} = 1.04 \quad 0.897$$

$$r_{11} = 0.932$$

To know the test is reliable or not, the value of r_{11}should be compared with r product moment. The value of r_{11} must be higher than r table. From the calculation, the value of r_{11} is 0.932. Then the r_t at 5% grade of significance is 0.339. While r_t at 1% grade significance is 0.436. In other words, the instrument is reliable because the value of r_{11} is higher than r_t.