

CHAPTER IV

FINDINGS AND DISCUSSION

A. Findings

To know more about correlation between students' linguistic intelligence and English mastery, the writer spread a questionnaire which consists of 15 questions for students to be answered. Then, to get more valid data about correlation between students' linguistic intelligence and English mastery, there are tested by English mastery questions in order to know their ability in mastering of English.

In order to make easier to know there is correlation or not of students' linguistic intelligence and English mastery, the writer classify them by the result of the questionnaire which has spread to the students. It consists of 15 questions. It is conducted to know is the any correlation between students' linguistic intelligence and English mastery or not.

To know the students' English mastery, the writer conducted a test for them. The test consists of 40 questions. Every right answer will be scored 2.5 points and 0 points for wrong answer. As a result, if the students can answer right for all of the questions, the students can get the highest score is 100 points.

The data used for the research are in the form of scores which are obtained from the result of the student's linguistic intelligence test and English mastery test. The score of the student's linguistic intelligence test and English mastery test in more detail can be described as follows:

1. Students' Written Linguistic Intelligences

To know the students' linguistic intelligences, the researcher gave to the students a questionnaire on 02nd May, 2016. The writer spread a questionnaire which consists of 15 questions for students to be answered. Based on students' questionnaire result of linguistic intelligence (*appendix 2*), it is found that the highest score is 75 and the lowest is 28 in the scoring scale 0-75. It was known that students' total score is 1793 and the mean of total score is:

$$M = \frac{\sum X}{N}$$

$$M = \frac{4884}{92}$$

$$M = 53,09$$

Based on the result of the applied formula above, the total score of linguistic intelligence test is 4884 of 92 students, and the mean score is 53.09. The mean score showed that students' linguistic intelligence is in fair category.

To clarify the result and to find the linguistic intelligence, the researcher classified the data into five categories namely excellent, good, fair, low and very low as the standard score of the test. The clarification of linguistic intelligence can be seen in the table as below:

Table 4.1 the Result of Students' Percentage of Students' Linguistic Intelligence

No	Score	Frequency	Percentage
1	65 – 75	15	16.3%
2	55 - < 65	35	38%
3	45 - < 55	18	19.6%
4	35 - < 45	18	19.6%
5	0 - < 35	6	6.5%
Total		92	100%

The table shown that got score 65 – 75 (Excellent) are 15 students (16.3%), got score 55 - < 65 (Good) are 35 students (38%), got score 45 - < 55 (Fair) are 18 students (19.6%), got score 35 - < 45 (Low) are 18 students (19.6%) and got score 0 - < 35 (Very low) are 6 students (6.5%).

The table above resulted that mean score of linguistic intelligence is in interval 45 - < 55. So that, the researcher concluded that students' linguistic intelligence at the eighth grade of State Islamic Junior High School 1 Gambut academic year 2015/2016 is in fair category.

The frequency distribution of the score of the students' linguistic intelligence with 6 length of interval and 8 numbers of classes and its histogram and polygon can be seen on the table and figures as follows:

Table 4.2. The Data of Linguistic Intelligence

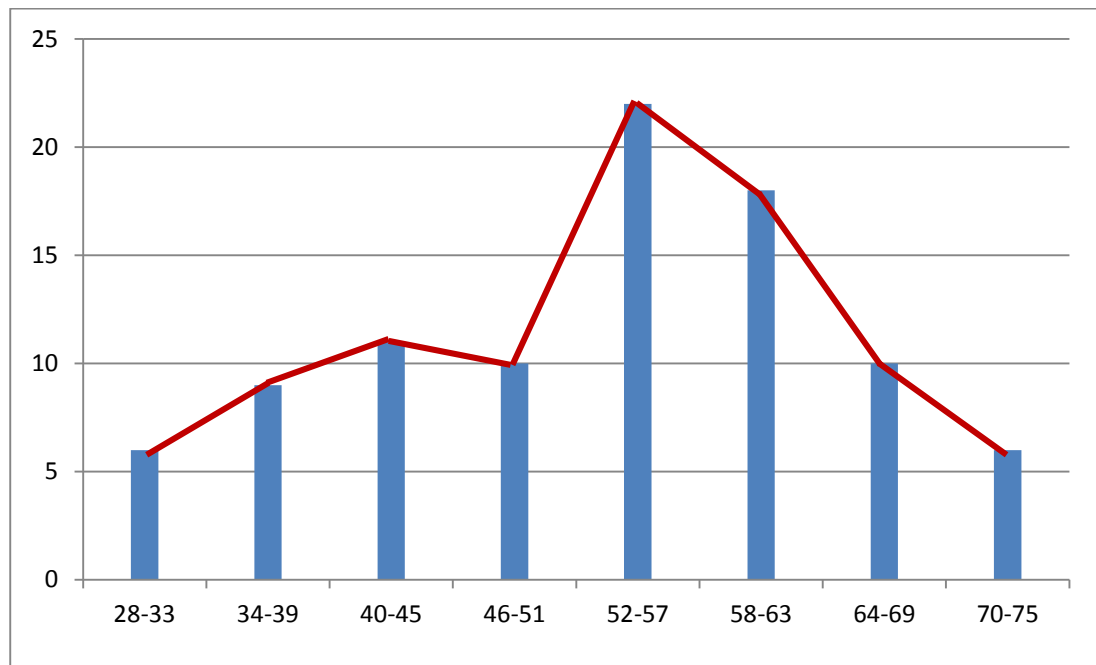
Number	Classification	Result
1.	The highest score	75
2.	The lowest score	28

3.	Score range (r)	$75 - 28 = 47$
4.	Class number	$1 + (3.3) \log n$ $= 1 + (3.3) \log 92$ $= 1 + 6.46$ $= 7.46$ $= 8$
5.	Interval	$r/\text{class number}$ $= 47/8$ $= 5.87$ $= 6$

Table 4.3. The Frequency Distribution of Students' Linguistic Intelligence

Class limits	Frequency	Percentage
28-33	6	6%
34-39	9	10%
40-45	11	12%
46-51	10	11%
52-57	22	24%
58-63	18	20%
64-69	10	11%
70-75	6	6%
Total	92	100%

Figure 4.1 The Histogram and Polygon of Students' Linguistic Intelligence



2. Students' English Mastery

To better understand about students' English mastery the researcher conducted a test of reading text at 02nd May, 2016 in the classroom. The test consists of 40 questions. Based on students' test result of English mastery, it is found that the highest score is 95 and the lowest is 40 in the scoring scale 0 - 100. It was known that students' total score is 6122.5 and the mean of total score is:

$$M = \frac{\sum X}{N}$$

$$M = \frac{6122.5}{92}$$

$$M = 66.54$$

Based on the result of the applied formula above, the total score of linguistic intelligence test is 6122.5 of 92 students, and the mean score is 66.54. The mean score showed that students' English mastery is in fair category.

To clarify the result and to find the linguistic intelligence, the researcher classified the data into five categories namely excellent, good, fair, low and very low as the standard score of the test. The clarification of linguistic intelligence can be seen in the table as below:

Table 4.2 the Result of Students' Percentage of Students' English Mastery

No	Score	Frequency	Percentage
1	80 – 100	17	18.5%
2	70 - < 80	25	27.2%
3	60 - < 70	23	25%
4	50 - < 60	15	16.3%
5	0 - < 50	12	13%
Total		92	100%

The table shown that got score 80 - 100 (Excellent) are 17 students (18.5%), got score 70 - < 80 (Good) are 25 students (27.5%), got score 60 - < 70 (Fair) are 23 students (25%), got score 50 - < 60 (Low) are 15 students (16.3%) and got score 0 - < 50 (Very low) are 12 students (13%).

The table above resulted that mean score of students' English mastery is in interval $60 - < 70$. So that, the researcher concluded that students' English mastery at the eighth grade of State Islamic Junior High School 1 Gambut academic year 2015/2016 is in fair category.

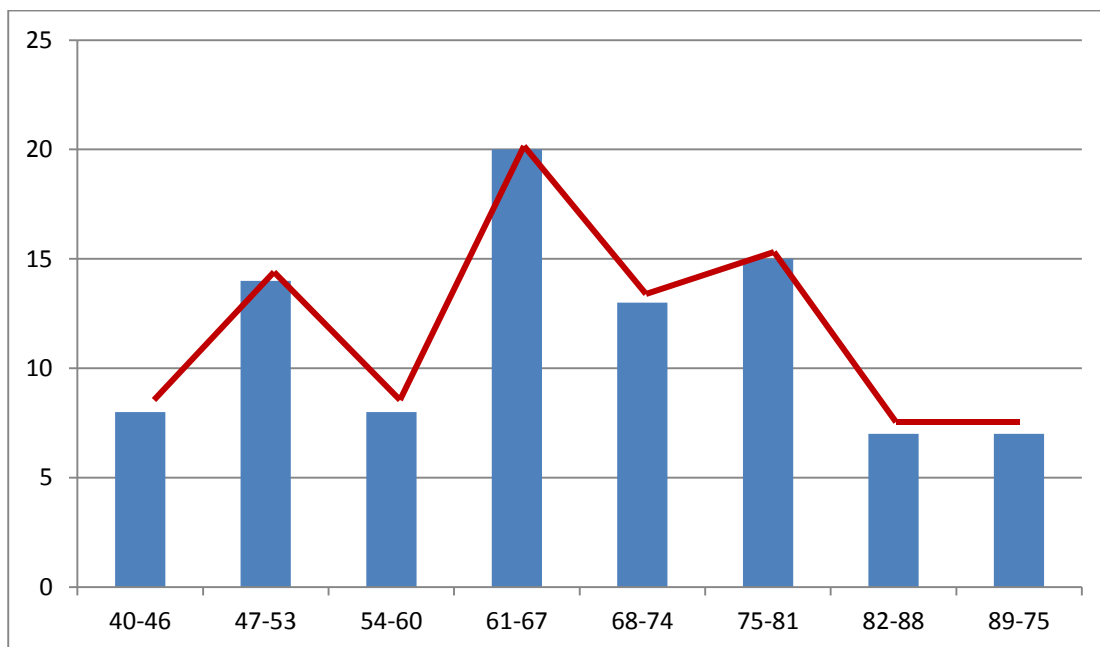
The frequency distribution of the score of the students' linguistic intelligence with 7 length of interval and 8 numbers of classes and its histogram and polygon can be seen on the table and figures as follows:

Table 4.2. The Data of Students' English Mastery

Number	Classification	Result
1.	The highest score	95
2.	The lowest score	40
3.	Score range (r)	$95 - 40 = 55$
4.	Class number	$1 + (3.3) \log n$ $= 1 + (3.3) \log 92$ $= 1 + 6.46$ $= 7.46$ $= 8$
5.	Interval	$r/\text{class number}$ $= 55/7$ $= 6.87$ $= 7$

Table 4.3. The Frequency Distribution of Students' English Mastery

Class limits	Frequency	Percentage
40-46	8	8%
47-53	14	15%
54-60	8	8%
61-67	20	23%
68-74	13	14%
75-81	15	16%
82-88	7	8%
89-95	7	8%
Total	92	100%

Figure 4.2 The Histogram and Polygon of Students' English Matery

3. Correlation Between Students' Strength in Linguistic Intelligence and English Mastery at the Eighth Grade of State Islamic Junior High School 1 Gambut Academic Year 2015/2016

The data of score of the students' linguistic intelligence and English mastery can be seen in table 4.1 and 4.3. After the average of data X and data Y are defined, the writer made working table which can be seen in the following table.

Table 4.7 Working Table of Data Analysis

Subject	X	Y	X ²	Y ²	XY
1	55	47.5	3025	2256.25	2612.5
2	62	85	3844	7225	5270
3	64	82.5	4096	6806.25	5280
4	58	70	3364	4900	4060
5	56	67.5	3136	4556.25	3780
6	57	75	3249	5625	4275
7	58	70	3364	4900	4060
8	72	95	5184	9025	6840
9	53	85	2809	7225	4505
10	57	65	3249	4225	3705
11	63	87.5	3969	7656.25	5512.5
12	66	62.5	4356	3906.25	4125
13	59	82.5	3481	6806.25	4867.5
14	71	67.5	5041	4556.25	4792.5
15	54	70	2916	4900	3780
16	59	52.5	3481	2756.25	3097.5
17	57	62.5	3249	3906.25	3562.5
18	69	90	4761	8100	6210
19	70	72.5	4900	5256.25	5075
20	59	70	3481	4900	4130
21	56	85	3136	7225	4760
22	55	65	3025	4225	3575
23	59	50	3481	2500	2950
24	61	45	3721	2025	2745
25	56	67.5	3136	4556.25	3780

26	61	72.5	3721	5256.25	4422.5
27	55	50	3025	2500	2750
28	61	77.5	3721	6006.25	4727.5
29	56	75	3136	5625	4200
30	54	70	2916	4900	3780
31	45	50	2025	2500	2250
32	35	45	1225	2025	1575
33	42	52.5	1764	2756.25	2205
34	33	42.5	1089	1806.25	1402.5
35	32	40	1024	1600	1280
36	50	65	2500	4225	3250
37	51	67.5	2601	4556.25	3442.5
38	59	70	3481	4900	4130
39	61	80	3721	6400	4880
40	56	72.5	3136	5256.25	4060
41	58	75	3364	5625	4350
42	33	42.5	1089	1806.25	1402.5
43	31	40	961	1600	1240
44	63	87.5	3969	7656.25	5512.5
45	65	90	4225	8100	5850
46	69	92.5	4761	8556.25	6382.5
47	40	55	1600	3025	2200
48	56	67.5	3136	4556.25	3780
49	48	65	2304	4225	3120
50	72	95	5184	9025	6840
51	50	70	2500	4900	3500
52	39	50	1521	2500	1950
53	70	90	4900	8100	6300
54	70	92.5	4900	8556.25	6475
55	68	77.5	4624	6006.25	5270
56	47	62.5	2209	3906.25	2937.5
57	53	75	2809	5625	3975
58	48	60	2304	3600	2880
59	38	52.5	1444	2756.25	1995
60	40	52.5	1600	2756.25	2100
61	46	67.5	2116	4556.25	3105
62	54	72.5	2916	5256.25	3915
63	45	47.5	2025	2256.25	2137.5

64	66	70	4356	4900	4620
65	28	40	784	1600	1120
66	37	47.5	1369	2256.25	1757.5
67	56	47.5	3136	2256.25	2660
68	35	60	1225	3600	2100
69	39	55	1521	3025	2145
70	41	57.5	1681	3306.25	2357.5
71	57	60	3249	3600	3420
72	62	65	3844	4225	4030
73	61	70	3721	4900	4270
74	44	67.5	1936	4556.25	2970
75	68	75	4624	5625	5100
76	65	75	4225	5625	4875
77	36	50	1296	2500	1800
78	35	57.5	1225	3306.25	2012.5
79	47	65	2209	4225	3055
80	42	67.5	1764	4556.25	2835
81	55	77.5	3025	6006.25	4262.5
82	61	67.5	3721	4556.25	4117.5
83	67	80	4489	6400	5360
84	54	80	2916	6400	4320
85	41	42.5	1681	1806.25	1742.5
86	47	75	2209	5625	3525
87	42	50	1764	2500	2100
88	55	57.5	3025	3306.25	3162.5
89	35	65	1225	4225	2275
90	47	77.5	2209	6006.25	3642.5
91	42	62.5	1764	3906.25	2625
92	59	75	3481	5625	4425
Total	4884	6122.5	270674	425706	335608

After the writer made a working table, the degree of r_{xy} will be determined by implementing formula as follow:

$$r_{xy} = \frac{N\sum XY - (\sum X)(\sum Y)}{\sqrt{\{NX^2 - (\sum X)^2\} \{N\sum Y^2 - (\sum Y)^2\}}}$$

Where:

r_{xy} : coefficient of correlation between X variable and Y variable

X : sum of score in X distribution

Y : sum of score in Y distribution

XY: sum of multiplication of X an Y

X^2 : sum of X quadrate

Y^2 : sum of Y quadrate

The result is a follow:

N : 92

$\sum X$: 4884

$\sum Y$: 6122.5

$\sum X^2$: 270674

$\sum Y^2$: 425706

$\sum XY$: 335608

$$r_{xy} = \frac{N\sum XY - (\sum X)(\sum Y)}{\sqrt{\{NX^2 - (\sum X)^2\} \{N\sum Y^2 - (\sum Y)^2\}}}$$

$$r_{xy} = \frac{92.335608 - 4884.6122.5}{\sqrt{\{92.270674 - (4884)^2\} \{92.425706 - (6122.5)^2\}}}$$

$$r_{xy} = \frac{30875936 - 29902290}{\sqrt{\{24902008 - 23853456\} \{39164952 - 37485006.3\}}}$$

$$r_{xy} = \frac{973646}{\sqrt{1048552.1679945.7}}$$

$$r_{xy} = \frac{973646}{\sqrt{1761510423626.4}}$$

$$r_{xy} = \frac{973646}{1327219.06}$$

$$r_{xy} = 0.734$$

After finding the result of the calculation by using correlation formula, the data by using Statistical Product and Service Solution (SPSS) 19.0 will be re-calculated in order to confirm the calculation result, and the result is 0.734. The result from SPSS 19.0 can be seen in the following table:

Table 4.8 SPSS 19.0 Correlation between Linguistic Intelligence and English Mastery Result

Correlations		
	x	y
X Pearson Correlation	1	,734
Sig. (2-tailed)		,000
N	92	92
Y Pearson Correlation	,734	1
Sig. (2-tailed)	,000	
N	92	92

** . Correlation is significant at the 0.01 level (2-tailed).

Based on the result of the calculation in the findings, it is known that r_{xy} of Linguistic Intelligence and English Mastery is 1.230. To test the hypothesis of the research there are two steps that the writer have performed, it can be known whether there is a significant correlation or not.

Firstly, the writer consulted to the table of product moment. More detail about table of product moment can be seen in the appendix. Then found out that the “r” value for $df = N-2$, $df = 92 - 2 = 90$ is 0.205 for 5% significance degree. It is clear that $r_{xy} < r_t$.

$$r_{xy} = 0.734$$

$$r_t = 0.205$$

$$r_{xy} < r_t$$

It means, that the hypothesis alternatif (H_a) is accepted and hypothesis null (H_o) is denied. It means there is significance correlation between students’ Linguistic Intelligence and English Mastery.

Secondly, in order to confirm the first step, the writer consulted to table of standard classification of correlation degree below:

Table 4.12. Standard Categories of “r” Product Moment Value

The score of “r” product moment (r_{xy})	Interpretation
0.00-0.19	There is a relationship between X and Y, but the correlation is very week or little so it is ignored or it is considered no correlation in this rating.
0.20-0.39	There is a relationship between X and

	Y, but it is weak or little.
0.40-0.69	There is a relationship between X and Y. The value is medium.
0.70-0.89	There is high relationship between X and Y.
0.90-1.00	There is very high relationship between X and Y.

From the table above, it is seen that the r_{xy} of linguistic intelligence and English mastery 1.230. It means that the correlation between variable X and variable Y in this research is Very high level. It means there is a correlation between variable X (linguistic intelligence) and Y (English mastery).

B. Discussion

Based on the correlation computing between linguistic intelligence and students' English mastery, it indicated that the correlation between linguistic intelligence and students' English mastery was between 0.9 and 1.0 (-0.7 and -1.0). It means that the calculated $r = 0,734$ was classified as high correlation.

Linguistic intelligence as part of the multiple intelligences is a form of intelligence that is essential in daily life. In this study, the researcher found that this research gives a real description that the classification of the students' linguistic intelligence and students' English mastery was high correlation. It means that students' linguistic intelligence influenced students' English mastery strongly.

According to Gardner (1983, p:56), "memorizing, reading, writing, speaking, listening are activity that is controlled by a person who has linguistic intelligence." Based on Gardner (1983, p:58), "children with linguistic intelligence excel at reading,

writing, telling stories, and doing crossword or other word puzzles". Armstrong (2009) stated that a person who has linguistic intelligence with the high ability, they think through the words. They also love reading, writing, telling stories, playing word games. In addition, they also need books, writing materials, diary, debates, and other things so to support their learning activities.

Students' linguistic intelligence influenced their attitude in English learning process. This positive attitude will affect the students to increase their learning especially in mastering English Language. Finally, it can be concluded that there is correlation between linguistic intelligence and students' English mastery. Linguistic intelligence influenced students' English mastery and students' English mastery was depend on linguistic intelligence.