

CHAPTER IV

FINDING AND DISCUSSION

A. Findings

In this chapter, the writer presents the data that has been collected in the research. The data presentation covers a comparative study learning grammar inductively and deductively of the students in language development center at Antasari State Islamic University.

1. Result of Comparative Learning Grammar between Inductively and Deductively of the students in language Development Center at Antasari State Islamic University

This sub-section presents the data of score learning grammar between inductively and deductively for student's language development center at Antasari State Islamic University to know about comparison in learning grammar between inductively and deductively, the writer conducted the first written test at 07.20 a.m. on May, 5th 2017 at classroom of learning grammar inductively at class 12 and 19, and the second written test at 07.30 a.m. on May 6th 2017 at classroom of learning grammar deductively at class 15 and 21. It was done in 20 minutes for each major to answer 25 questions.

From the test, the writer got the data about learning grammar with inductive and deductive way of the students in answering the test. The data can be seen in the following tables:

Table 4.1 Test Result in Learning Grammar with Inductive for Student's
Language Development Center at Antasari State Islamic University

Subject Number	True/False	Score
1	20	80
2	20	80
3	20	80
4	15	60
5	24	96
6	23	92
7	25	100
8	16	64
9	25	100
10	15	60
11	24	96
12	22	88
13	22	88
14	14	56
15	11	44
16	24	96
17	25	100
18	24	96
19	13	52

20	22	88
21	13	52
22	14	56
23	25	100
24	24	96
25	13	52
26	24	96
27	14	56
28	15	60
29	11	44
30	21	84
31	14	56
32	11	44
33	24	96
34	25	100
35	24	96
36	13	52
37	22	88
38	13	52
39	14	56
40	20	80
41	20	80

42	15	60
43	24	96
44	14	56
Total amount		3.324

Based on the table above, it is found that the highest score of learning grammar with inductive for student's Language Development Center at Antasari State Islamic University is 100, while the lowest score is 44. Then, the accumulated score is 3.324.

According to the data above, the score of learning grammar inductive for student's Language Development Center at Antasari State Islamic University can be classified in the following table:

Table 4.2 The Frequency Distribution of the Test Result in Learning Grammar Inductive for Student's Language Development Center at Antasari State Islamic University

No.	Test Score	Frequency	Percentage	Category
1.	80 -< 100	25	56,82%	Excellent
2.	70 -< 79	0	0%	Good
3.	60 -< 69	5	11,36%	Fair
4.	50 -< 59	11	25%	Low
5.	0 -< 49	3	6,82%	Very Low
Total		44	100%	-

From the table above, it shows that there are 25 students (56,82%) whose score are around 80-< 100 that are classified in the excellent category. There is no student (0%) whose score around 70-<79 that is classified in the good category. There are 5 students (11,36%) whose score around 60-<69 that is classified in the fair category. There are 11 students (25%) whose score around 50-<59 that is classified in the low category. Meanwhile, there are 3 students (6,82%) whose score are around 0-<50 that is classified in the very low category.

Next, to know the score of learning grammar inductive for student's language development center at State Islamic University of Antasari, the writer uses the accounting of mean score as follow:

$$M_1 = \frac{\sum x}{N} = \frac{3324}{44} = 75,55$$

From the data above, it shows that the student's score of learning grammar inductive mean score is 75,55. Thus, the score of learning grammar inductive for student's language development center at Antasari State Islamic University can be concluded in the good category.

Furthermore, in order to count the t-test to answer the third question of the research easily, the writer counted the total value based on the mean which has been calculated above to know the standard deviation value of this group. The data about this is showed in the table below:

Table 4.3 Working table of data analysis of learning grammar inductive for student's language development center at Antasari State Islamic University

Subject Number	Score(x)	$x = x - Mx$	x^2
1	80	4.45	19.80
2	80	4.45	19.80
3	80	4.45	19.80
4	60	-15.55	241.80
5	96	20.45	418.20
6	92	16.45	270.60
7	100	24.45	597.80
8	64	-11.55	133.40
9	100	24.45	597.80
10	60	-15.55	241.80
11	96	20.45	418.20
12	88	12.45	155.00
13	88	12.45	155.00
14	56	-19.55	382.20
15	44	-31.55	995.40
16	96	20.45	418.20
17	100	24.45	597.80
18	96	20.45	418.20
19	52	-23.55	554.60

20	88	12.45	155.00
21	52	-23.55	554.60
22	56	-19.55	382.20
23	100	24.45	597.80
24	96	20.45	418.20
25	52	-23.55	554.60
26	96	20.45	418.20
27	56	-19.55	382.20
28	60	-15.55	241.80
29	44	-31.55	995.40
30	84	8.45	71.40
31	56	-19.55	382.20
32	44	-31.55	995.40
33	96	20.45	418.20
34	100	24.45	597.80
35	96	20.45	418.20
36	52	-23.55	554.60
37	88	12.45	155.00
38	52	-23.55	554.60
39	56	-19.55	382.20
40	80	4.45	19.80

41	80	4.45	19.80
42	60	-15.55	241.80
43	96	20.45	418.20
44	56	-19.55	382.20
Total		-0,2	16966.8

Table 4.4 The Frequency Distribution of the test result in learning grammar deductive for student's language development center at Antasari State Islamic University

Subject Number	True/False	Score
1	22	88
2	20	80
3	20	80
4	15	60
5	24	96
6	23	92
7	25	100
8	16	64
9	25	100
10	15	60
11	24	96
12	22	88
13	22	88

14	14	56
15	11	44
16	24	96
17	25	100
18	24	96
19	13	52
20	22	88
21	13	52
22	14	56
23	25	100
24	24	96
25	13	52
26	24	96
27	14	56
28	15	60
29	11	44
30	21	84
31	15	60
32	16	64
33	20	80
34	13	52

35	13	52
36	20	80
37	19	76
38	23	92
39	17	68
40	15	60
41	19	76
42	22	88
43	21	84
44	16	64
Total		3316

Based on the table above, it is found that the highest score of learning grammar with deductive for student's language development center at Antasari State Islamic University is 100, while the lowest score is 44. Then, the accumulated score is 3.316.

According to the data above, the score of learning grammar deductive for student's language development center at Antasari State Islamic University can be classified in the result category that is showed in the following table:

Table 4.5 The Frequency Distribution of the Test Result in Learning Grammar Deductively for students in Language Development Center at Antasari State Islamic University

No.	Test Score	Frequency	Percentage	Category
1.	80 – 100	23	52,27%	Excellent
2.	70 -< 79	2	4,55%	Good
3.	60 -< 69	9	20,45%	Fair
4.	50 -< 59	8	18,18%	Low
5.	0 -< 49	2	4,55%	Very Low
Total		44	100%	

From the table before, it shows that there are 23 students (52,27%) whose scores are around 80-<100 that is classified in the excellent category. There are 2 students (4,55%) whose scores around 70-<79 that is classified in the good category. There are 9 students (20,45%) whose scores around 60-<69 that is classified in the fair category. There are 8 students (18,18%) whose scores around 50-<59 that is classified in the low category. Meanwhile, there are 2 students (4,55%) whose scores are around 0-<49 that is classified in the very low category.

Next, to know the score of learning grammar deductive for students in Language Development Center at Antasari State Islamic University, the writer uses the accounting of mean score as follows:

$$M_2 = \frac{\sum x}{N} = \frac{3316}{44} = 75,36$$

From the data above, it shows that the mean score of students in learning grammar deductively is 75,36. Thus, the score of learning grammar deductively for students in Language Development Center at Antasari State Islamic University can be concluded in the good category.

Furthermore, in order to count the t-test to answer the third question of the research easily, the writer counted the total value based on the mean which has been calculated above to know the Standard Deviation value of this group. The data about this is showed in the table below:

Table 4.6 Working table of data analysis of Learning Grammar Deductively for Students in Language Development Center at Antasari State Islamic University

Subject Number	Score(x)	$x = x - Mx$	x^2
1	88	12.64	159.76
2	80	4.64	21.52
3	80	4.64	21.52
4	60	-15.36	235.92
5	96	20.64	426.00
6	92	16.64	276.88
7	100	24.64	607.12
8	64	-11.36	129.04
9	100	24.64	607.12
10	60	-15.36	235.92
11	96	20.64	426.00

12	88	12.64	159.76
13	88	12.64	159.76
14	56	-19.36	374.80
15	44	-31.36	983.44
16	96	20.64	426.00
17	100	24.64	607.12
18	96	20.64	426.00
19	52	-23.36	545.68
20	88	12.64	159.76
21	52	-23.36	545.68
22	56	-19.36	374.80
23	100	24.64	607.12
24	96	20.64	426.00
25	52	-23.36	545.68
26	96	20.64	426.00
27	56	-19.36	374.80
28	60	-15.36	235.92
29	44	-31.36	983.44
30	84	8.64	74.64
31	60	-15.36	235.92
32	64	-11.36	129.04

33	80	4.64	21.52
34	52	-23.36	545.68
35	52	-23.36	545.68
36	80	4.64	21.52
37	76	0.64	0.40
38	92	16.64	276.88
39	68	-7.36	54.16
40	60	-15.36	235.92
41	76	0.64	0.40
42	88	12.64	159.76
43	84	8.64	74.64
44	64	-11.36	129.04
Total		0,16	14013,76

2. Data Analysis

To know the comparative study between learning inductively and deductively for the students (group B) in Language Development Center at Antasari State Islamic University academic year 2016-2017, the writer uses “t-test”. After all the collected data have been processed, the writer analyzes them by using the “t-test” formula. These are following steps to do it:

1. Based on the result of the test in appendix, the writer calculates the mean of the result of learning grammar inductively and learning grammar deductively. To keep the subject identity, the writer uses numbers for identifying the subject.

$$M_1 = \frac{\sum x}{N} = \frac{3324}{44} = 75,55$$

$$M_2 = \frac{\sum x}{N} = \frac{3316}{44} = 75,36$$

2. The writer counts standard deviation of learning grammar with inductively and deductively by using the formula:

$$SD_1 = \sqrt{\frac{\sum x^2}{(N-1)}} = \sqrt{\frac{16966,8}{(44-1)}} = \sqrt{394,57} = 19,864$$

$$SD_2 = \sqrt{\frac{\sum y^2}{(N-1)}} = \sqrt{\frac{14013,76}{(44-1)}} = \sqrt{325,90} = 18,053$$

3. Then, the writer counts standard error from the score of learning grammar with inductively and deductively by using formula:

$$\begin{aligned} SE_{m1} &= \frac{SD}{\sqrt{N-1}} \\ &= \frac{19,864}{\sqrt{44-1}} = \frac{19,864}{\sqrt{43}} = \frac{19,864}{6,55} = 3,04 \end{aligned}$$

$$\begin{aligned} SE_{m2} &= \frac{SD}{\sqrt{N-1}} \\ &= \frac{18,053}{\sqrt{44-1}} = \frac{18,053}{\sqrt{43}} = \frac{18,053}{6,55} = 2,76 \end{aligned}$$

4. Next, the writer counts standard error from both subjects by using:

$$\begin{aligned}
 SE_{M_1 - M_2} &= \sqrt{SE_{M_1}^2 + SE_{M_2}^2} = \sqrt{3,04^2 + 2,76^2} \\
 &= \sqrt{(9,24) + (7,61)} \\
 &= \sqrt{16,85} \\
 &= 4,10
 \end{aligned}$$

5. The writer counts t-test by using formula:

$$t\text{-test} = \frac{M_1 - M_2}{SE_{M_1 - M_2}} = \frac{3,04 - 2,76}{4,10} = \frac{0,28}{4,10} = -0,068$$

6. The writer giving interpretation for “t” by consulting t table;

- Looking for Degree of Freedom

$$\begin{aligned}
 df/db &= (N_1 + N_2) - 2 \\
 &= (44 + 44) - 2 \\
 &= 88 - 2 \\
 &= 86
 \end{aligned}$$

- Consulting score of “db/df” with “t table”
- In significant degrees t table 5% = 1,99
- In significant degrees t table 1% = 2, 63 (Henry E. Garret in Anas Sudijono 1987, p.405)

After the writer finds the df (degree of freedom), which is 88, the writer uses nearest df in the table, that is df at 90. The table is put in appendix.

7. The writer makes conclusion

Thus, based on the explanation of the formulas above, it is clearly seen that **t count** (0,068) < t table 5% (1,99) < t table 1% (2,63). Because T

table is higher than t count, **Ho (Zero Hypotheses) is accepted and Ha (Alternative Hypothesis) is rejected.**

From the research, the writer found that there is no difference in learning grammar inductively and deductively for student's language development center at Antasari State Islamic University academic year 2016-2017.

B. Discussion

1. The students' score in learning grammar inductively

The objective of this research is to know the students' score in learning grammar inductively at Language Development Center of group B. The percentage of students' score in learning grammar inductively that there are 25 students (56,82%) whose score are around 80-< 100 that are classified in the excellent category. There is no student (0%) whose score around 70-<79 that is classified in the good category. There are 5 students (11,36%) whose score around 60-<69 that is classified in the fair category. There are 11 students (25%) whose score around 50-<59 that is classified in the low category. Meanwhile, there are 3 students (6,82%) whose score are around 0-<50 that is classified in the very low category. The mean of the student's score of learning grammar inductive was 75,55. Thus, the score of learning grammar inductively for student's language development center at Antasari State Islamic University can be concluded in the good category.

2. The students' score in learning grammar deductively

The objective of this research is to know the students' score in learning grammar deductively at Language Development Center of group B. The percentage of students' score in learning grammar inductively that there are 23 students (52,27%) scores are around 80-<100 that is classified in the excellent category. There are 2 students (4,55%) whose scores around 70-<79 that is classified in the good category. There are 9 students (20,45%) whose scores around 60-<69 that is classified in the fair category. There are 8 students (18,18%) whose scores around 50-<59 that is classified in the low category. Meanwhile, there are 2 students (4,55%) whose scores are around 0-<49 that is classified in the very low category. The mean of the student's score of learning grammar inductive was 75,55. Thus, the score of learning grammar deductively for student's language development center at Antasari State Islamic University can be concluded in the good category.

Mahmudah (2014) also has already investigated about The Comparative Study of Students' Grammar Mastery between the Fourth Class and the Third Experiment Class at Islamic Boarding School An-Najah Cindai Alus Martapura Banjar Regency and the result is there is no difference. The result of the study is there is no difference in students' grammar mastery between the fourth class and the third experiment class at Islamic Boarding School An-Najah Cindai Alus Martapura Banjar Regency.

3. The significant difference students' score of learning grammar inductively and deductively

From the statistical measurement above shows that H_0 (Zero Hypothesis) is accepted; H_a (Alternative Hypothesis) is rejected, because value of t-count is *lower than* of t-table (value of critic "t"). It means "there is no significance different" in learning grammar inductively and deductively for (group B) student's language development center at Antasari state Islamic University academic year 2016-2017.

The study has familiar parts with some past research, like Schafer (1989) who asserts that there is not a significant difference between two approaches. But different from Schafer's research, this study indicates that deductive teaching is more advantageous for adult learners in contrast with the studies of Herron & Tomasello (1992), which present more favorable results for inductive teaching. But, this study supports the claims of Erlam (2003), Robinson (1996) and Seliger (1975) who ascertain a general advantage for deductive instruction.

Additionally, Norris and Ortega (2000) propose that explicit analysis of grammar seems more useful than indirect or implicit treatment of grammar. This assertion is in the same direction with the findings of this study. From the result of the research above, the writer conclude, even the students learn grammar inductively or deductively method it does not influence the students score.