

## **CHAPTER III**

### **RESEARCH METHOD**

#### **A. Place of research**

This research was conducted at the XII grade of the SMA Bina Putera Kopo which is located on Jl. Kopo – Cikande, Kp. Sebe Kramat, Ds. Garut, Kec. Kopo, Kab. Serang 42178 Banten. This research was conducted on August 22, 2016 in the 2015/2016 academic year.

The researcher conducted the research at SMA Bina Putera Kopo, because the school has a difference system in learning process which the learning process based on student's competence and activities, so it can be assumed that taking sample from this school appropriate with the researcher need for the subject's research. Therefore, the researcher chooses this school in order to get the research as well as flexible.

#### **B. Population and Sample**

According to Jhonson, "A population is the entire group of entities or person to whom the result of a study is indented to aply".<sup>62</sup>

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<sup>62</sup> Dona M. Jhonson, *Approaches in Second Language Learning*, (University of Arizo, Longman,1991), P. 110

Nunan also says "Population is all cases, situation, or individuals who share one or more characteristics."<sup>63</sup>

The research population was student of SMA Bina Putera Kopo twelfth grade which consist of 60 students. Those students are distributed into two classes; they are class of XII – MIIA 1 and class of XII – MIIA 2.

Arikunto stated that sample is a subject or a part of population that research.<sup>64</sup> To determine the sample the researcher used purposive cluster sampling technique. Purposive sampling is a carefully selected sample relevant to the research design.<sup>65</sup> Based on the sampling technique, the researcher took the class XII – MIIA 1 which consist of 30 students as the sample. This taking sample based on teacher recommendation and the students in this class meet the qualification with the research design.

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<sup>63</sup> David Nnan, *Research Method in Language Learning*, (USA: Cambridge University Press, 1992) P. 231

<sup>64</sup> Suharsimi Arikunto, *Prosedur Penelitian Suatu Pendekatan Praktek*, (Jakarta: PT. Rineka Cipta, 2006). P. 131

<sup>65</sup> S. Nasution, *Metode Research (Penelitian Ilmiah)*, (Jakarta : PT. Bumi Aksara,2003). P. 98

### **C. Research Method**

Method of the research is the way to get information with collecting data and using reliable and valid procedur.<sup>66</sup> The researcher used quantitative method through correlational study. Correlation research is the research that used by the reseacher to know the level of correlation between two or more variables.<sup>67</sup> Therefore, in this research, the researcher used this method to investigate the possibility of relationship between independent variable (X variable) and dependent variable (Y variable). The X variable was the students' learning style and the Y variable was the students' achievement in reading skill.

To analyze the result of research, the researcher has used product moment correlation as the statistical technique in analyzing the data, and to determine the coefficient correlation between student learning styles and their achievements in reading skill.

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<sup>66</sup> Sugiyono, *Metode Penelitian Pendekatan Kuantitatif, Kualitatif dan R&D*, (Bandung: CV Alfa Beta, 2009), cet. 8, P. 2

<sup>67</sup> Suharsimi Arikunto, P. 4

## **D. Data Procedure Collection**

### **a. The Variable of the Research**

#### 1. The Students' Learning Style

Learning style was the individual's fastest and best way to receive, absorb, and understand any information and skills from the outside. Learning style in this research was the score that the students of class of XII MIIA – 1 obtained after they answered the items on the questionnaire. The option that they chose determined what type of learning style they had. Whether they had visual, auditory, or they had kinesthetic learning style.

#### 2. The Students' Reading Skill Achievement

Achievement was what the students have achieved or the skills that they have mastered during the learning process. Student's achievement describe with their score in reading test. In this research, the students' reading skill achievement was the score that students of XII MIIA – 1 class obtained after they answered the paper sheet which consist of some questions in reading test.

### **b. The Instrument of the Research**

The instrument used in the research was questionnaire and test which could be explained as follow:

### 1) The Questionnaire

The questionnaire was distributed to the sample about the students' learning style characteristics in statement form. The purpose of questionnaire was to find out in which type of learning styles the students were. The questionnaire was based on the characteristics of each learning style (visual, auditory, and kinesthetic learning styles). The items were divided into two forms, positive and negative items. Each item had four choices which represented each type of learning styles. Those options were based on agreement level of Likert-Type Scale Anchors. Each option had its own score as in Table 3.1. The indicators of students' learning style can be seen in Table 3.2.

**Table 3.1**  
**The Questionnaire Item Scoring**

Option Item	Strongly Agree	Agree	Disagree	Strongly Disagree
Positive	4	3	2	1
Negative	1	2	3	4

**Table 3.2**  
**Learning Style Instrument Prediction**

Dimension	Indicator	No Item	
		(+)	(-)
Visual Learning Style	a. Neat and disciplinary	1,2 3	-
	b. use hand movements when describing or recalling events or object	4	-
	c. have a tendency to		

	look upwards when thinking or recalling information	6,7	5
	d. Understand well about picture in the shape, graph, display and diagram.	8,10	9
	e. Learning by visual association		
Auditory Learning Style	a. Good in oral activity	11,12	13,14
	b. when recalling memories tend to tilt their head and use level eye movements.	15	-
	c. Having sensitivity through music	16,17	18
	d. Learning by hearing/listening	19, 20, 21	
Kinesthetic Learning Style	a. Having orientation to do trial-error activity	23	22
	b. Learning through physical activity	24,25,26	-
	c. Physical-oriented and always moving	27	28
<b>Total</b>		<b>21</b>	<b>7</b>
<b>Total Item</b>		<b>28</b>	

In answering the questionnaire, the students are asked to choose one option by giving mark (X) or checklist (√). To identify the students' learning style, the researcher counted the mean score of each learning style type (visual, auditory, and kinesthetic). The students'

highest mean score of learning style determined in which type they were.

## 2) Test

Test used as an instrument to measure the achievement with score. The purpose of test was to find out the score which student was got in reading. The items were divided into two forms, multiple choice and essay. Multiple choice test was consist of 20 question and essay was 10 question.

The assessment format of multiple choices was 1 for right answer and 0 for wrong answer, while the essay was 1 for inappropriate answer, 2 for inexact answer, 3 less exact answers, 4 for an exact answer.

## **E. Technique of Data Analyzing**

The researcher analyzed the result of the research by using product moment correlation technique. Product moment correlation technique is one of technique that usually used to find out the significance of the correlation between two variables. This technique was published by Karl Pearson, therefore it often called by pearson correlation technique. It is called by product moment correlation

because it is usually used to correlate one variable to another variable based on its correlation coefficient value.<sup>68</sup>

The data applies as variable of the study are:

- The students learning style as variable X
- The students achievement in reading skill as variable Y

After identify the student's score, the researcher will analyze it and process data by using data analysis as follow:

1. To arrange data collected from the lowest to highest score
2. Look for the range by formula
3. Look for the class interval
4. Look for the length of class interval
5. Making the table distribution
6. Look for mean
7. Look for median
8. Look for modus
9. Look for Max score
10. Look for Min score
11. Determining standard of deviation
12. Look for product moment score with the formula:

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<sup>68</sup> Anas Sudjiono, Pengantar Statistik Pendidikan, (Jakarta: PT. Raja Grafindo Persada, 2008), p. 190



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

Note:

$r_{xy}$  = correlation coefficient between students' learning style and their achievements in reading skill

N = Number of respondents

X = Distribution of student's learning style

Y = Distribution of student's reading skill achievement

$\sum x$  = Total score of students' learning style

$\sum y$  = Total score of students' reading skill achievement

$\sum xy$  = Total number of multiple between X score and Y score

$\sum x^2$  = Total score quadrate of X variable

$\sum y^2$  = Total score quadrate of Y variable

$(\sum x)^2$  = Total score of X variable in quadrate

$(\sum y)^2$  = Total score of Y variable in quadrate

**Significant critical value: 0.05**

Criteria: If  $r_o > r_t$  means there is correlation and  $H_a$  is accepted,  $H_o$  is rejected

If  $r_o < r_t$  means there is no correlation and  $H_a$  is rejected,  $H_o$  is accepted

$H_o$  : there is no correlation between students' learning style and their achievement in reading skill

$H_a$  : there is correlation between students' learning style and their achievement in reading skill

## CHAPTER IV

### RESEARCH FINDING AND INTERPRETATION

#### A. Research Finding

##### 1. The Description of the Data

The researcher took the students' learning style score (variable X) by using 28 items in the questionnaire and students' reading skill achievement (variable Y) by using English Reading skill score in reading test. Those scores were described and analyzed. The description of data included mean, median, mode, standard deviation, range, minimum score, and maximum score. If X was independent variable and Y was dependent variable, the summary of the result of data was presented as follow:

**Table 4.1**  
**The Summary of the Students' Learning Style (X) and Reading Skill Achievement Score (Y)**

No	Variable Parameter	X	Y
1	Mean	78,6	73
2	Median	79,5	72
3	Mode	79,5	71,5
4	Minimum score	66	62
5	Maximum score	95	85
6	Range	30	23
7	Standard deviation	7,37	7,52

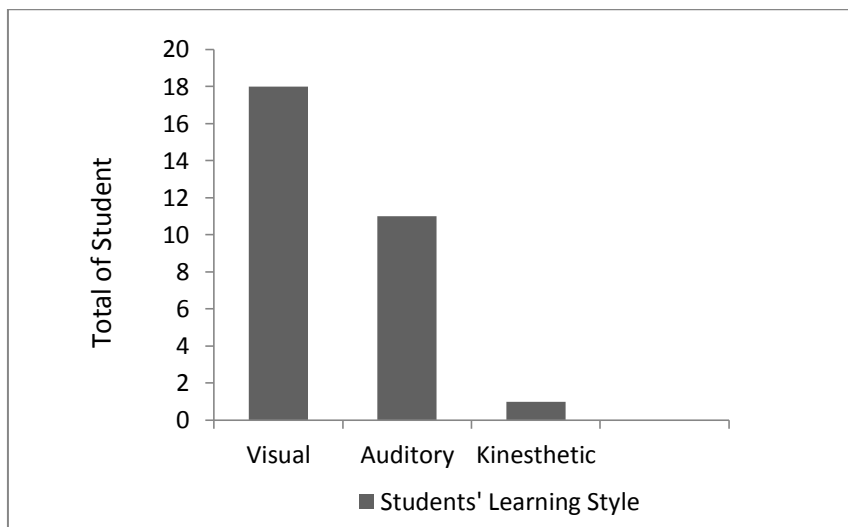
The researcher elaborated the data information's in the table detail as following:

From the Table 4.1, it could be described that the mean score of the students' learning style (X) was 78,6 the median score was 79,5 the mode score was 79,5 the minimum score was 66, the maximum score was 95, the range score was 30, and the standard deviation score was 7,37. Whereas the mean score of the students' reading achievement (Y) was 73, the median score was 72, the mode score was 71.5, the minimum score was 62, the maximum score was 85, the range score was 23, and the standard deviation score was 7.52.

#### a. The Students' Learning Style

To determine the students' learning style (X), the researcher counted mean score for each type of learning style. The highest students' mean score determined what type they were (the process of the students' learning style mean score calculation could be seen in Appendix 12). From the calculation, it was obtained that the most dominant students' learning style was visual (18 students), followed by auditory (10 students), and the last was kinesthetic (1 students). The ratio of the student total of each learning style could be seen in Chart 4.1

**Chart 4.1**  
**The Ratio of the Student Total of Each Student's Learning Style**



b. The Students' Reading Skill Achievement

The students' Reading skill achievement was from their twice test in reading. The form of test was multiple choice and essay. The total score of students' reading skill achievement (Y) was 2193 from 30 students. From the Table 4.1, it could be seen that the highest score was 85 and the lowest score was 62. Based on the data, the range score was 23 (85-62), the mean score was 73 (2193:30), and the standard deviation score was 7, 52. The list students' reading achievement score could be seen on the following table:

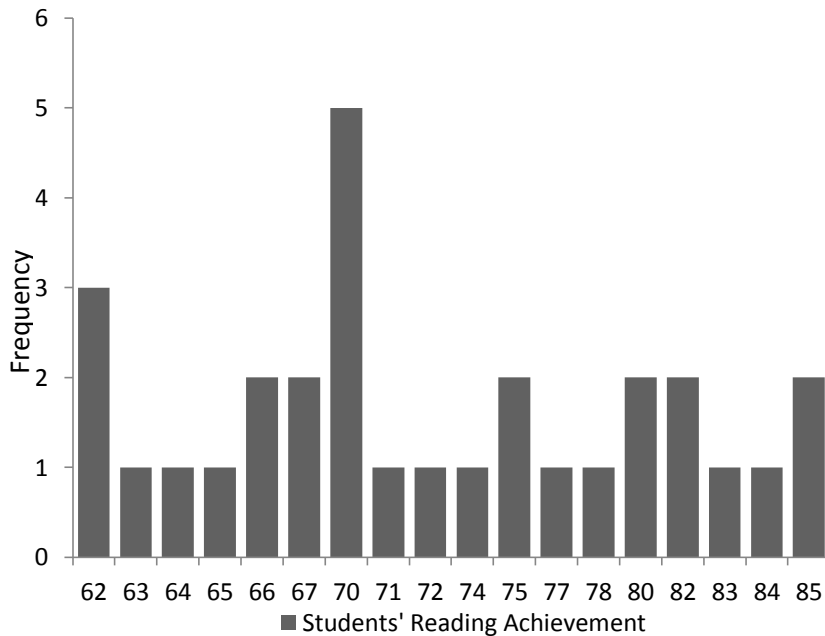
**Table 4.2**  
**The Score of the Students' Reading Achievement**

<b>No Respondent</b>	<b>Test Item</b>		<b>Total</b>	<b>Score</b>
	<b>Multiple Choice</b>	<b>Essay</b>		
1.	80	54	134	67
2.	70	86	156	78
3.	90	58	148	74
4.	60	90	150	75
5.	75	79	154	77
6.	90	80	170	85
7.	60	64	124	62
8.	75	89	164	82
9.	90	60	150	75
10.	60	72	132	66
11.	75	59	134	67
12.	80	88	168	84
13.	80	64	144	72
14.	70	94	164	82
15.	95	71	166	83
16.	70	70	140	70
17.	60	66	126	63
18.	80	90	170	85
19.	80	62	142	71
20.	60	64	124	62
21.	75	65	140	70

22.	80	60	140	70
23.	65	67	132	66
24.	80	80	160	80
25.	55	70	125	65
26.	70	70	140	70
27.	80	80	160	80
28.	60	64	124	62
29.	80	60	140	70
30.	65	63	128	64

From the table 4.2, it could be seen that the students who got 62 was three students, the students who got 63, 64, and 65 was one student for each score, the student who got 66 was two students, the student who got 67 was two students, the student who got 70 was five students, the student who got 71, 72, and 74 was one student for each score, the student who got 75 was two students, the student who got 77 and 78 was one student for each score, the student who got 80 was two students and the student who got 82 was two student for each score, the student who got 83 and 84 was one student for each score, and 85 was two students for each score. The presentation of frequency distribution of the students' reading skill achievement score were presented in Chart 4.2

**Chart 4.2**  
**The Frequency Distribution of Students' Reading Skill Achievement Score**



c. The Correlation Between Students' Learning Achievement and Students' Reading Achievement

After achieving the data of students' learning style as variable X and score of reading achievement as variable Y, the next step is determine the calculation table, which is to be used as the calculation of product moment.

In this case, both of the students' learning style and their reading achievement scores are correlated by using Pearson's Product Moment formula. The data described on the following table:



**Table 4.3**  
**Coefficient Correlation Variable X and Y**

<b>N</b>	<b>Xi</b>	<b>Yi</b>	<b>Xi<sup>2</sup></b>	<b>Yi<sup>2</sup></b>	<b>Xi.Yi</b>
1	79	67	6241	4489	5293
2	78	78	6084	6084	6084
3	67	74	4489	5476	4958
4	84	75	7056	5625	6300
5	80	77	6400	5929	6160
6	79	85	6241	7225	6715
7	74	62	5476	3844	4588
8	76	82	5776	6724	6232
9	66	75	4356	5625	4950
10	75	66	5625	4356	4950
11	96	67	9216	4489	6432
12	88	84	7744	7056	7392
13	91	72	8281	5184	6552
14	90	82	8100	6724	7380
15	85	83	7225	6889	7055
16	83	70	6889	4900	5810
17	75	63	5625	3969	4725
18	80	85	6400	7225	6800
19	79	71	6241	5041	5609
20	68	62	4624	3844	4216
21	76	70	5776	4900	5320
22	76	70	5776	4900	5320
23	83	66	6889	4356	5478

24	70	80	4900	6400	5600
25	92	65	8464	4225	5980
26	73	70	5329	4900	5110
27	84	80	7056	6400	6720
28	73	62	5329	3844	4526
29	79	70	6241	4900	5530
30	75	64	5625	4096	4800
<b>Total</b>	<b><math>\Sigma</math> 2374</b>	<b><math>\Sigma</math> 2177</b>	<b><math>\Sigma</math> 189474</b>	<b><math>\Sigma</math> 159619</b>	<b><math>\Sigma</math> 172585</b>

**Note:**

- $X_i$  was the distribution score of students' learning style as variable X. The total score was 2374
- $Y_i$  was the distribution score of students' reading achievement as variable Y. The total score was 2177
- $X_i^2$  was distribution score from  $X_i$  in quadrate. The total score was 189474
- $Y_i^2$  was distribution score from  $Y_i$  in quadrate. The total score was 159619
- $X_i.Y_i$  was distribution score from multiplication of  $X_i$  and  $Y_i$ . The total score was 172585

## 2. Research Finding Analysis and Test of Hypothesis

### a. Research Finding Analysis

After the calculation of whole data from variable X and Y, next step is to insert the data from table to Product Moment's formula to find the correlation index as formula

$$r_{xy} = \frac{N \cdot \Sigma XY - (\Sigma X) \cdot (\Sigma Y)}{\sqrt{[N \cdot \Sigma x^2 - (\Sigma x)^2] \cdot [N \cdot \Sigma Y^2 - (\Sigma Y)^2]}}$$

$$r_{xy} = \frac{30 \cdot 172585 - (2374) \cdot (2177)}{\sqrt{[30 \cdot 189474 - (2374)^2] \cdot [30 \cdot 159619 - (2177)^2]}}$$

$$r_{xy} = \frac{5177550 - 5168198}{\sqrt{[5684220 - 5635876] \cdot [4788570 - 4739329]}}$$

$$r_{xy} = \frac{9352}{\sqrt{48344.49241}}$$

$$r_{xy} =$$

$$r_{xy} = \frac{9352}{\sqrt{2380506904}}$$

$$r_{xy} = \frac{9352}{48790}$$

$$r_{xy} = 0,1916$$

**Determining degree of freedom (df)**

$$df = N - 2$$

$$df = 30 - 2 = 28$$

df= 28 (see table of “r” values of degree of significance 5% )

at degree of significance 5% = 0,374

$$5\% = r_o : r_t = 0,191 : 0,374$$

**b. Test of Hypothesis**

Having analyzing the data of students’ learning style and their achievement in reading, it was found that the obtained data “ $r_o$ ” was 0,191 with the degree of freedom was  $30 - 2 = 28$ . The test of hypothesis in this research was based on criteria: If  $r_o > r_t$  means there is correlation and  $H_a$  is accepted,  $H_o$  is rejected

If  $r_o < r_t$  means there is no correlation and  $H_a$  is rejected,  $H_o$  is accepted

From the calculation, it could be concluded that the obtained in the significance 5% “ $r_o$ ” was smaller than “ $r_t$ ” ( $0.191 < 0,374$ ). It means that  $H_o$  was accepted and  $H_a$  was rejected.

**B. Interpretation**

From the data of students’ learning style and their reading achievement, it has found that the obtained “ $r_o$ ” data was 0.191. it means there is no positive correlation between two variables. To give

simple interpretation toward the correlation index “r” product moment ( $r_{xy}$ ) can be seen by following table:

**Table 4.4**  
**Interpretation of Product Moment Score**

“r” score of product moment ( $r_{xy}$ )	Interpretation
0	There is no correlation
0.00 – 0.20	The correlation is very low
0.21 – 0.40	The correlation is low
0.41 – 0.60	The correlation is rather low but it is
0.61 – 0.80	significance
0.81 – 0.99	The correlation is enough
1	The correlation is high
	The correlation is very high

Looking at the score “ro” = 0,191 that the score approximately between 0.00 – 0.20 is very low correlation. It means that there is no significant correlation between two variable.

The researcher has used the interpretation with determining degree of freedom (df):  $N - 2 = 30 - 2 = 28$ . Looking at the table of significant of 5% in  $r_{table} = 0.374$ . Based on df and significance level 5%, “r” table = 0.374. It means the obtained “ro” was smaller than “r”

table ( $0.191 < 0.374$ ). It meant that  $H_0$  was accepted and  $H_a$  was rejected. Since  $H_0$  was accepted, the finding shows that there was no significant relationship between students' learning style and their achievement in reading skill at the XII grade of the SMA Bina Putera Kopo.

In table 4.2 above, it could be seen that students' reading score was variety. Each student has had different score in their test, multiple choice and essay. Some students have gotten the high score from multiple choice test than essay, and the others have gotten the high score from essay than multiple choice. It can be assumed that students' comprehension was difference in comprehending text whether in the multiple choice test or essay test. it meant that students comprehension in reading was variety.

This variation could be seen that students have their own learning style in comprehending text. As the learning styles theories explained that every student has their own learning style. Students have their own way how to get understanding the information and to get concentration in learning process.<sup>69</sup> In this case, the researcher

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<sup>69</sup> R. R. Jordan, p. 95

described that students have their own way in comprehending text in reading test as well as their learning style.

In the other hand, the finding contradicted and refused the theory that learning style is influential on achievement. The insignificance finding occurred since learning style was not the only factor that affects students' achievement in reading. Meanwhile in some theories explained that learning style could affect the ability to study efficiently and to achieve success,<sup>70</sup> but in this case, the researcher was not found the correlation that described that students' reading achievement was affected by their learning style. Since those factors occur while students were reading, the students will have difficulty in comprehending. The researcher believes that those other factors give dominant effect to reading achievement than their learning style.

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<sup>70</sup> Deborah D. Shain, p. 1