

## **CHAPTER III**

### **RESEARCH METHODOLOGY**

In this part, the writer described research method that consist of design of research type, research design, population and sample, research instrument, data collecting procedure, and data analysis procedure.

#### **A. Research Type**

The study type was quantitative research. The writer chose quantitative approach because this used number and statistic to get the data. According to Ary et al, quantitative research deals with questions of relationship, cause and effect, or current status that writer can answer by gathering and statistically analyzing numeric data.<sup>1</sup> In this study the research used non-experimental quantitative research, and identified variables also look for the level of mastery. It was the study which purposed to know what the level of vocabulary mastery the third semester students of Islamic Education the Study Programs of English Education IAIN Palangka Raya.

#### **B. Research Design**

The approach that writer chose descriptive approach. Descriptive research attempts to describe systematically a situation, problem, phenomenon, service

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<sup>1</sup>Donald Ary Lucy Cheser Jacobs Chris Sorensen Asghar Razavieh, 2010 *introduction to Research in Education*. P. 39

or programme, or provides information about, say, living condition of a community, or describes attitudes towards an issue<sup>2</sup>.

### C. Population

Population is the group of people who want to get generalize to.<sup>3</sup> Population is the area in which people try to get information from. According to Lodico et al., “Population is the larger group to which the writer would like the results of a study to be generalizable. In this study, all or the population was the students of Islamic Education the Study Programs of English Education IAIN Palangka Raya are 369 students by uneven semesters. That’s contain students semester I (81), semester III (72), semester V (87), semester VII (70), and semester XI (62). Base on the result of all semester, the writer containing to semester III, 72 students base on their background knowledge they can classified into three group that’s are like three class contain 27 students in A class, 24 students in B class, and 21 students in C class. Specifically, it can be seen in this following table.

**Table 3.1**  
**The Number Students of English Education Study Program**

No	Semester	Quantity
1	Semester I	81
2	Semester III	72
3	Semester V	84
4	Semester VII	70
5	Semester IX	62
<b>Total</b>		<b>369</b>

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<sup>2</sup>Dawson, Catherine, 2002, *Practical Research Methods*, New Delhi, UBS Publishers’Distributors

<sup>3</sup> Marzuki B. Khalid, *Research Methodology (Overview of Research and its Methodology)*, Module 1, Malaysia: University Teknologi Malaysia, p. 22.

**Table 3.2**  
**Population Class A**

<b>NO</b>	<b>NAME</b>	<b>SRN</b>	<b>PRODI</b>
1	AFS	1301120869	TBI/S1/TARBIYAH
2	AP	1301120877	TBI/S1/TARBIYAH
3	AH	1301120876	TBI/S1/TARBIYAH
4	A	1301120886	TBI/S1/TARBIYAH
5	DS	1301120910	TBI/S1/TARBIYAH
6	DR	1301120855	TBI/S1/TARBIYAH
7	DW	1301120863	TBI/S1/TARBIYAH
8	FMR	1301120901	TBI/S1/TARBIYAH
9	H	1301120879	TBI/S1/TARBIYAH
10	HWPS	1301120925	TBI/S1/TARBIYAH
11	I	1301120871	TBI/S1/TARBIYAH
12	M	1301120861	TBI/S1/TARBIYAH
13	MA	1301120894	TBI/S1/TARBIYAH
14	MT	1301120909	TBI/S1/TARBIYAH
15	NA	1301120881	TBI/S1/TARBIYAH
16	NS	1301120882	TBI/S1/TARBIYAH
17	Y	1301120897	TBI/S1/TARBIYAH
18	RW	1301120883	TBI/S1/TARBIYAH
19	RN	1301120853	TBI/S1/TARBIYAH
20	RH	1301120917	TBI/S1/TARBIYAH
21	RKU	1301120888	TBI/S1/TARBIYAH
22	ST	1301120907	TBI/S1/TARBIYAH
23	TI	1301120916	TBI/S1/TARBIYAH
24	NADP	1301120856	TBI/S1/TARBIYAH
25	FA	1201120791	TBI/S1/TARBIYAH
26	SF	1301120924	TBI/S1/TARBIYAH

**Table 3.3**  
**Population Class B**

<b>NO</b>	<b>NAME</b>	<b>SRN</b>	<b>PRODI</b>
1	AM	1301120921	TBI/S1/TARBIYAH
2	A	1301120913	TBI/S1/TARBIYAH
3	AA	1301120859	TBI/S1/TARBIYAH
4	BL	1301120906	TBI/S1/TARBIYAH

5	DR	1301120844	TBI/S1/TARBIYAH
6	DSW	1301120858	TBI/S1/TARBIYAH
7	ES	1301120862	TBI/S1/TARBIYAH
8	FF	1301120914	TBI/S1/TARBIYAH
9	LAR	1301120845	TBI/S1/TARBIYAH
10	MR	1301120893	TBI/S1/TARBIYAH
11	MA	1301120912	TBI/S1/TARBIYAH
12	NH	1301120885	TBI/S1/TARBIYAH
13	N	1301120847	TBI/S1/TARBIYAH
14	Nh	1301120873	TBI/S1/TARBIYAH
15	RH	1301120878	TBI/S1/TARBIYAH
16	AM	1301120921	TBI/S1/TARBIYAH
17	A	1301120913	TBI/S1/TARBIYAH
18	BL	1301120906	TBI/S1/TARBIYAH
19	DR	1301120844	TBI/S1/TARBIYAH
20	DSW	1301120858	TBI/S1/TARBIYAH
21	ES	1301120862	TBI/S1/TARBIYAH
22	FF	1301120914	TBI/S1/TARBIYAH
23	LAR	1301120845	TBI/S1/TARBIYAH
24	SLPP	1001120586	TBI/S1/TARBIYAH

**Table 3.4**  
**Population Class C**

<b>NO</b>	<b>NAME</b>	<b>SRN</b>	<b>PRODI</b>
1	AN	1301120904	TBI/S1/TARBIYAH
2	A	1301120895	TBI/S1/TARBIYAH
3	AA(?)	1301120859	TBI/S1/TARBIYAH
4	BAF	1301120896	TBI/S1/TARBIYAH
5	DTH	1301120857	TBI/S1/TARBIYAH
6	DKN	1301120889	TBI/S1/TARBIYAH
7	EA	1301120860	TBI/S1/TARBIYAH
8	FM	1301120923	TBI/S1/TARBIYAH
9	IR (?)	1311120841	TBI/S1/TARBIYAH
10	IS	1301120868	TBI/S1/TARBIYAH
11	K	1301120852	TBI/S1/TARBIYAH
12	MI	1301120850	TBI/S1/TARBIYAH
13	MA	1301120912	TBI/S1/TARBIYAH
14	PRS	1301120843	TBI/S1/TARBIYAH

<b>15</b>	R	1301120890	TBI/S1/TARBIYAH
<b>16</b>	RR	1301120926	TBI/S1/TARBIYAH
<b>17</b>	RN	1301120891	TBI/S1/TARBIYAH
<b>18</b>	S	1301120872	TBI/S1/TARBIYAH
<b>19</b>	SH	1301120866	TBI/S1/TARBIYAH
<b>20</b>	SM	1301120851	TBI/S1/TARBIYAH
<b>21</b>	TT	1301120865	TBI/S1/TARBIYAH
<b>22</b>	WN	1301120875	TBI/S1/TARBIYAH

#### **D. Sample**

Lodico et al., said that: Sample is a smaller group selected from a larger population (in this case, a realistic population) that is representative of the larger population.<sup>4</sup> The sample of this study was the third semester students of Islamic Education the Study Programs of English Education IAIN Palangka Raya. The number of population was about 72 students. It is classified into three classes. Since there was 3 classes in third semester. So the writer minimized the object that will be sample into 1 class for instrumentation tryout, before choosing the research class. The sample in this research was chosen by using cluster random sampling. Cluster sampling, according to Ary, et al., is where the unit chosen is not an individual but, rather, a group of individuals who are naturally together.<sup>5</sup>

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<sup>4</sup> Marguerite G. Lodico, Dean T. Spaulding, Katherine H. Voegtler, *Methods In Educational Research*, San Francisco: Jossey-Bass, 2006, P. 13

<sup>5</sup> *Ibid.*, p. 39.

**Table 3.5**  
**Tryout Class (B Class)**

<b>NO</b>	<b>NAME</b>	<b>SRN</b>	<b>PRODI</b>
1	AM	1301120921	TBI/S1/TARBIYAH
2	A	1301120913	TBI/S1/TARBIYAH
3	AA	1301120859	TBI/S1/TARBIYAH
4	BL	1301120906	TBI/S1/TARBIYAH
5	DR	1301120844	TBI/S1/TARBIYAH
6	DSW	1301120858	TBI/S1/TARBIYAH
7	ES	1301120862	TBI/S1/TARBIYAH
8	FF	1301120914	TBI/S1/TARBIYAH
9	LAR	1301120845	TBI/S1/TARBIYAH
10	MR	1301120893	TBI/S1/TARBIYAH
11	MA	1301120912	TBI/S1/TARBIYAH
12	NH	1301120885	TBI/S1/TARBIYAH
13	N	1301120847	TBI/S1/TARBIYAH
14	Nh	1301120873	TBI/S1/TARBIYAH
15	RH	1301120878	TBI/S1/TARBIYAH
16	AM	1301120921	TBI/S1/TARBIYAH
17	A	1301120913	TBI/S1/TARBIYAH
18	BL	1301120906	TBI/S1/TARBIYAH
19	DR	1301120844	TBI/S1/TARBIYAH
20	DSW	1301120858	TBI/S1/TARBIYAH
21	ES	1301120862	TBI/S1/TARBIYAH
22	FF	1301120914	TBI/S1/TARBIYAH
23	LAR	1301120845	TBI/S1/TARBIYAH
24	SLPP	1001120586	TBI/S1/TARBIYAH

#### **E. Research Instrument**

The purpose of this study was to know the mastery level of vocabulary attained by the third semester students of Islamic Education the Study Programs of English Education IAIN Palangka Raya. To get the needed data the writer used instruments, such as test. The writer collected the data through a test in form of the multiple choice items. It was arranged according to the

material given. Because multiple choice can make object of the study so be fluently to understanding the writer not used writing, reading, listening, or speaking for support the research because mastery vocabulary must to known before to applied that's skills for English devolving.

**a. Research Instrument Test**

The main data of this study was the data of the students' vocabulary mastery. In order to get the data, the writer conducted a test. It was conducted after the writer measure the validity and reliability of the test instrument. The test was done in three classes. The test was constructed in the form of multiple choice item which consisted of 100 items of test, include in the test three kinds of vocabulary such as noun, verb, and adjective. Moreover, the test was done in four classes, those were; A class (Tuesday / November 11, 2014), B class (Tuesday / November 18, 2014), and C class (Tuesday / November 25, 2014).

The writer gave the test to the third Semester Students of Islamic Education the Study Programs of English Education IAIN Palangka Raya. Based on the result, it is known that the highest score was and the lowest score and the mean score of the test result.

**Table 3.6**  
**The Number Students of Third Semester**

No	Class	Quantity
1	A	23
2	B	20
3	C	18
<b>Total</b>		<b>61</b>

The test was constructed in the form of multiple choice which consisted of 100 items test. 23 items of noun, 48 items of verb, and 29 items of adjective. The writer took this three kinds of vocabulary because they were included as Four Main Forms of Word consist of noun, verb, adjective and adverb. In addition, she adjusted the test with vocabulary level test (VLT) that was developed by Schmitt.<sup>6</sup>

**Table 3.7**  
**The Content of Specification Items**

No	Indicators	Items	Percentage
1	Noun	23	23%
2	Verb	48	48%
3	Adjective	29	29%
Total		100	100%

Noun	Verb	Adjective
14 – 17	1 – 5	6 – 13
24 – 25	18 – 23	30
27 – 28	26, 29	35 – 41
44 , 48, 52	31 – 34	45 – 46
63 – 64	42 – 43	61, 71, 74, 82
66 – 67	47	92 – 94
69 – 70	49 – 51	96 – 97
78	53 – 60	100
88 – 89	62, 65, 68, 72	
91, 95, 99	75 – 77	
	79 – 81	
	83 – 87	
	90, 98	

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<sup>6</sup> Norbert Schmitt, *Research Vocabulary*, p. 21.



**b. Research Instrument Try Out**

The writer tried out the test instrument before it was applied to the real sample of the study. The writer take the result of random sampling into B class. And then tryout test was given to the students at IAIN Palangka Raya on 31 October 2014. In this case, the students were assigned to do a vocabulary test which consist of three parts such as noun, verb and adjective. The value of the tryout test are 140 questions. They were required to match the answer and questions with a suitable choice. Because the writer would known what are information of the question that's in category easy, medium, or so hard. Then, the writer gave score and analyzed data to check the validity, reliability, and index of difficulty of the instrument. There were some procedures as bellow:

1. The writer prepared test instrument
2. The writer gave try out tothe respondents
3. The writer collected the answer and gave score
4. The writer calculated the result of the test
5. The writer analyzed the data obtained to know the instrument validity, reliability, and index of difficulty
6. After that all. The writer knew the valid and invalid items, and revised the invalid items to be tested to the real smple of the test

**c. Research Instrument Reliability**

According to Ary, "Reliability is concerned with the effect of error on the consistency of scores. Reliability is consistent in measuring

whatever it is measuring.<sup>7</sup> Reliability is necessary characteristic of any good test: for it to be valid all, a test must be reliable as a measuring instrument.<sup>8</sup> The writer examined reliability of the item by using conbrach alpha and spss 16. So, the formula is:

$$r_{11} = \left( \frac{k}{k-1} \right) \left( 1 - \frac{\sum S_i^2}{S_t} \right)$$

Where:

$r_{11}$  = Reliability Value

$k$  = Number Items of the test

$\sum S_i^2$  = Sum of Variances of the Item Score

$S_t$  = Variance of the Test Scores (all  $K$  items)

#### d. Index of Difficulties

Index of difficulties is used to know how difficult or easy of the test items are. To know the level of difficulty of the test and the formula used is:

$$F.V = \frac{R}{N}$$

F.V = Facility Value

R = Represent the Number of Correct Answer

N = The Number of the Students

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<sup>7</sup>Donal Ary, *Introduction to research in Education*, second edition, New York, p. 237.

<sup>8</sup>J.B. Heaton, *Writing Language English Test*, London: Logman, 1974, p. 155

It will be classified as:

F.V 0,00 – 0,30 = Difficult

F.V 0,30 – 0,70 = Fair

F.V 0,70 – 1,00 = Easy

#### e. **Research Instrument Validity**

Instrument validity discuss about content validity and construct validities of the test which use in the research.<sup>9</sup> Validity refers to the extent to which an instrument measures what it is intended to measure.<sup>10</sup> An instrument is consider being a good one of it meets some requirement. One of them is validity. Validity is a Measurement Which Shows the grades of number of an Instrument.nA valid Instrument must have high validity, it means that an Instrument Which lacks validity is said to be Invalid instrument.

##### a) Content Validity

According to Heaton, content validity is:

*Kinds of validity depends on a careful analysis of the being test and the particular course objective. The test should be as constructed as contain a representative sample of the course, the relationship between the test item and the course objectives always being apparent.*<sup>11</sup>

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<sup>9</sup>*Ibid.*, p. 106.

<sup>10</sup>Donal Ary, *Introduction to Research in Education*, second edition, New York, p.196.

<sup>11</sup>J. B. Heaton, *Writing English Language Test*, England: Longman, 1974, p. 153

In this study, the writer used multiple choice item. Which match with suitable answer to the questions. The writer analyzed and scored the answers to know the students' level of vocabulary mastery.

b) Construct Validity

Construct validity is a slightly more complex issue related to the internal structure of an instrument and the concept it is measure. It is related to our theoretical knowledge of the concept. In order, to know the degree of the validity of the test items based on the coefficient correlation. To find the validity of the test, the formula is used is:

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

*Notice :*

$r_{xy}$  : The Coefficient of Correlation

$\Sigma X$  : Total Value of Score X

$\Sigma Y$  : Total Value of Score Y

$\Sigma XY$  : Multiplication Result between Score X and Score Y

N : Number of Students

To know the validity level of the instrument, the result of the test would be interpreted to the criteria as follows.<sup>12</sup>

**Table. 3.8**  
**The Interpretation of Correlation Pearson Product Moment**

<b>Coefission</b>	<b>Criteria</b>
0.800 – 1.000	Very High Validity
0.600 – 0.799	High Validity
0.400 – 0.599	Fair VaLidity
0.200 – 0.399	Poor Validity
0.001 – 0.199	Very Poor Validity

#### **F. Data Collection Procedure**

First, the writer gave the test item of vocabulary to the students who became sample in this study. After that, the writer collected the results of the test given to them after filling out the test item.

- 1) The writer prepared the instrument.
- 2) The writer held the tryout test to the students.
- 3) The writer gave score to the students answer sheet.
- 4) The writer calculated the result of the test by using formula.
- 5) The writer analyzed the data obtained to know the instrument validity and instrument reliability.
- 6) If the result is valid, it means that the test item as the instrument of this study are suitable to be given.

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<sup>12</sup>Soenardi Djiwandono, *Tes Bahasa Pegangan bagi Pengajar Bahasa*, Jakarta: PT Indeks Jakarta, 2011, p. 168- 188

## G. Data Analysis Procedure

In this chapter the writer presented and analyzed the data which has been collected from the test. This gave much information about the students' mastery on the English Vocabulary at the Third Semester Students Study Program at IAIN Palangka Raya in academic year 2013/2014.

In analyzing the data this study used quantitative method. In quantitative data analysis the writer used the percentage procedure. It is used to find out how many students mastery the material of the test.

- a. Editing is recheck the correctness of the data that has been gathered.
- b. Tabulating is collecting and listing data into table.
- c. Scoring the data. In this case, each item gets 1 point. The number of the items is 100. So, the total score is 100. To get the score, the formula is:

$$\text{Score} = \text{The Total of the Right Answers} \times 1$$

- d. Finding the average score of the students' vocabulary mastery, the formula is:

$$S = \frac{R}{N}$$

Notes:

S = The Average Score of the Students' Mastery

R = The Total Students' Score (the right answers)

N = The Number of Students

- e. Data interpretation, which is used for giving interpretation toward data in tabulation. In this case. The writer uses category as follow:

**Table 3.9**  
**Distribution Frequency and Presentation Score of the Students' Mastery**  
**Level in Vocabulary Size of IAIN Palangka Raya**

<b>No</b>	<b>Level</b>	<b>Interpretation</b>	<b>Letter Value</b>
1	80 – 100	Very Good	A
2	70 - < 80	Good	B
3	60 - < 70	Fair	C
4	50 - < 60	Poor	D
5	0 - < 50	Very Poor	E

f. Making conclusion about the students' vocabulary mastery.

In quantitative data analysis the writer used technique deal with non-numerical data. The analysis is done by

- (1) Describing the instrument and data expected from the research
- (2) Presenting the factual found in the data research
- (3) Analyzing the data found
- (4) Interpreting the data