CHAPTER III

RESEARCH METHODOLOGY

This chapter discussed the research design and the design strategies underpinning this research study. In addition, the chapter discussed the research design and approach which used in the study including place and time of the study, population and sample, research instrument, data collecting procedure and data analysis procedure while explaining the stages and processes involved in the study.

A. Research Design and Approach

The main purpose of the research design was to help to avoid the situation in which the evidence does not address the initial research questions.[1] This suggested a research design focuses on the methods with which data were collected and annalyzed to investigate a research question in the most logical manner.

The research design of this study was survey research. In survey research, investigators ask questions about peoples' beliefs, opinion, characteristics, and behaviour. A survey researcher may want to investigate associations between respondents' characteristic such as age, education, social class, race, and their current attitudes toward some issues.[2]

According to Donald Ary "Inquiry employing operational definitions to generate numeric data to answer predetermined hypotheses definitions or

[1] Yin, *Case Study Research: Design and Methods,* 3rd Edition, New Delhi: SAGE Publications, 2003, p.20-21.
[2] Ibid.p.390

questions".[3] By this statement the writer studied to summarize data in numerical indices. The writer physically went to the people, setting, site, or institution to observe or record behaviour in it was natural setting.[4]

In this study the design was mixed method which used survey research with the classification according to focus and scope as a census intangibles and the focus information as attitudinal information because this study concerned with students' perception in process. Attitudinal information, attitudinal questions seeked to find out more about the opinions, beliefs, or interests of teachers or learners. These questions were often used in needs analysis research when researchers want to gather information on such topics as what learning goals students had or what skill areas they were most interested in.[5] The data collected from the students' information. It meant the data were statistic data and written.

By the statements above, the writer concluded that survey research was a process of collecting information about the respondents of population. In this research, the writer also did not control over the independent variable as non experimental research. Therefore the writer used the quantitative and survey research to measure the students' perceptions towards search engine resources as learning media to promote reading comprehension at Study Program of English Education of IAIN Palangka Raya.

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[3] Donald Ary, and friends, *Introduction to Research in Education Eight Edition*, USA: Wadsworth, 2010. p. 648.

[4] John Crasswell, *Research Desaign Qualitative and Quantitative,* California: Sage Publication, inc, 1994, p. 145.

[5] Sandra Lee Mckey, *Researching Second Language Classroom*, London: Laurance Erlbaum Associates, 2006. p. 35.

B. Place and Time of the Study

A research was conducted at Palangka Raya, especially at Campus of IAIN Palangka Raya. This research was conducted on September 13 up to November 13, 2016 in 2016/2017 academic years of IAIN Palangka Raya.

C. Population and Sample

    1. **Population**

The larger group about which the generalization is made is called *population.* Population is defined as all members of any well-defined class of people, events, or objects.[6] While in this research, the population is all of the English Department Students who had took Reading Comprehension Course from the students in academic year of 2014/2015 and 2015/2016 of IAIN Palangka Raya which consisted of 134 students.

    2. **Sample**

The small group that is observed is called a *sample.* A sample is a portion of a population.[7] The writer chose the subject based on the cluster sampling criteria which took Reading Comprehension Course. As mention previously, the writer used cluster sampling criteria.

Cluster sampling A probability sampling technique that randomly selects and uses whole naturally occurring groups such as intact classrooms or entire voting precincts as the samples (clusters)[8]

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[6] Donald Ary, Lucy Cheser Jacobs, Chris Sorensen, and Asghar Razavieh, *Introduction to Research in Education*, Canada: Wadsworth, 2010, p.148

[7] Ibid.

[8]Ibid.p.148

The population of this research was the students of English Education Study Program 2014/2015 and 2015/2016 academic years of IAIN Palangka Raya which total of 124 students. Another procedural requirement is that once a cluster is selected, all the members of the cluster must be included in the sample.[9] This research was factually prepared with the sample in a group of classes where the students in it.

D. Data Sources

Sources of datas were the subject where the was found. In this research the writer found and take the data by the students' perceptions towards internet resources as learning media to promote reading comprehension at Study Program of English Education of IAIN Palangka Raya. The information was by students' perception about their reactions to learning and classroom instruction and activities. To collect the information therefore the writer did meetings with the students.

E. Research Instrument

1. Instrument

To get the data accurately, it was important to use the instrument, for it was the tool to get the data on the field. In collecting the data questionnaire and interview were used in this study to answer the problem of the study.

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[9]Ibid.p.154

a. Questionnaire

Brown in Zoltan Dornyei, stated questionnaire is any written instruments that present respondents with a series of questions or statements to which they are to react either by writing out their answers or selecting from among existing answers.[10] Survey questions can take a variety of forms. The one main type of questions is *close-ended questions*.[11]

The close-ended questions was used on this research. This type was suitable with the topic of the research which asks the students' perceptions towards search engine as learning media to promote reading comprehension. By using this type of question, the students' response toward Search Engine as Learning Media to Promote Reading Comprehension can be measured and maximizes people's freedom of response. In compiling the results of the research, the coding was done, because Likert scale was used, and the interval scales also was used to code the question. The questionnaire is constructed in the form of Likert Scale. In research, the writer used interval scale and collected the data by using the questionnaires both of the close-ended and likert types questions. This research was about students' perception which was known as attitudinal information. Often attitude scales on a

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[10]Zoltan Dornyei, *"Questionnaires in Second Language Research Construction, Administration, and Processing"* London: University of Nottingham, Lawrence Erlbaum Associates, Publishers, 2003, p.6.

[11]Sandra Lee Mckey, *Researching Second Language Classroom*, , London: Lawrence Erlbaum Associates, Publishers2006 p. 37.

questionnaire are also treated as interval scales. For example, frequently when Likert-scales was used, each response was given a number (e.g., strongly agree = 1, agree = 2, disagree = 3, and strongly disagree = 4) and these numbers are treated as interval scales.[12] The questionnaire is constructed in the form of Likert Scale which consists of 20 items. By the statement above, the writer chose this kind of questionnaire to make the research took short time in analyzing and low budget.

The situation may be more serious when a questionnaire was administered in languages that the respondents were learning, which the case was often in applied linguistic research. It was therefore understandable that for respondents with literacy problems or with limited L2 proficiency, filling in a questionnaire can appear an intimidating or overwhelming task.[13] Therefore, Bahasa Indonesia was used in questionnaire of this research.

The questionnaires was adopted from the journal entitled The Students' Perception of The Use The Search Engine (ICT) as Teaching Media in Reading Course conducted by Sudiran.

The questionnaire was focused on answering the problem of the study, and found the problems was exist in the directions' clarity of the questionnaire, and which items might be confusing

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[12] Ibid.p. 42.
[13] Zoltan Dornyei,and Tatsuya Taguchi, *"Questionnaires in Second Language Research Construction, Administration, and Processing"* London: University of Nottingham, Lawrence Erlbaum Associates, Publishers, 2003, p.6.

for respondents to answer. Therefore, the pilot study was done. Here were several procedures;

1. Did cluster sampling,

2. Prepared the pilot questionnaire,

3. Gave try out to the respondents,

4. Collected the responses,

5. Calculated the result of the pilot,

6. Analyzed the data obtained to know the instrument validity, instrument reliability, and central tendency.

b. Interview

The interview was used for completing the data that found by the questionnaires. Interview is an oral questioning of a subject.[14] Questions can be designed to find out more about teachers' and learners' *opinions and attitudes* about various aspects of language learning, such as their feelings about the use of particular classroom activities or the content of classroom materials.[15] Interview was done to be useful in order to obtain more information of the students' perceptions towards web based resources as learning media to promote reading comprehension at Study Program of English Education of IAIN Palangka Raya.

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[14] Donald Ary, Lucy Cheser Jacobs, Chris Sorensen, and Asghar Razavieh, *Introduction to Research in Education*, Canada: Wadsworth, 2010, p.644.

[15] Sandra Lee Mckey, *Researching Second Language Classroom*, , London: Lawrence Erlbaum Associates, Publishers2006 p. 51.

Informal conversational interview was used in this study which is done by doing face to face interview with participants. The success of interview was related to the wording of the question. One way to avoid the problems that can arise from students' lack of English proficiency is, if possible, to allow students to be interviewed in their first language.[16] The respondents were students of English Education Study Program from different academic years, the students in academic year 2014/2015 and 2015/2016 at IAIN Palangka Raya. The respondents were 13 respondents who decided by 10% from the sample as the respondents for interview by the sampling.

In this research the writer conducted face to face interviews with participants. The interview was needed to do because, interviews were ways for participants to get involved and talk about their views. In addition, the interviewees were able to discuss their perception and interpretation in regards to a given situation. It was their expression from their point of view.

The informal conversational interviews used for gathering the data by interviewing the respondents. Conversation was not being used here in the general sense of informal interactions that have no particular agenda because these conversations do have a purpose and very unstructured. The success of an interview is

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[16] Ibid.p.53.

related to the wording of the questions. One way to avoid the problems that can arise from students' lack of English proficiency is, if possible, to allow students to be interviewed in their first language.[17] As a consideration, the writer thought that was necessary to put interview in one of the instrument applied. In order to support the questionnaire that was given to the students, teachers' sight was covered in interview where the students were as respondent of study. Depending on the design, this research observed the data by the students of English Educational Program of 2014/2015 and 2015/2016 academic years. The Indonesian language used for avoid the respondents' misunderstanding comprehension of the question.

F. Endorsment of The Data

1. Try Out

Before the instrument was applied to the real sample of the study, trying out an instrument was done. The test instrument was to gain information about the instrument quality that consists of instrument reliability and validity. Procedures of the try out were as follows:

a. Trying out the instruments to some students,

b. Giving score to the students' answer,

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[17] Ibid., p. 53

c. Then analyzing the data obtained to know theValidity and Reliability

The instrument try out or pilot study was applied on September, 8th 2016. The instrument pilot study was given to each students of academic years 2013/2014 who had took reading comprehension course.

2. Validity

Validity is defined as the extent to which scores on a test enable one to make meaningful and appropriate interpretations.[18] Validity is the most important consideration in developing and evaluating measuring instruments.[19] Face Validity is taken to ensure that the questionnaire is valid. Face validity is a term sometimes used in connection with a test's content. Face validity refers to the extent to which examinees believe the instrument is measuring what it is supposed to measure.[20] The questionaire was tested by conducting pilot study to small number of students. Doing pilot study was not only to know the students' difficulties in answering the questionnaire, but also to measure the construct validity of the questionnaire.

6[18] Donald Ary, Lucy Cheser Jacobs, Chris Sorensen, and Asghar Razavieh, *Introduction to Research 7in Education*, Canada: Wadsworth, 2010, p.224.

[19] Ibid.p.225.

[20] Ibid.p.228.

In this research the writer calculated the results of the pilot study using SPSS 20.0 Program. The total item was 20 items in small number of students.

By comparing and analyzing between the pilot study results and the critical values of the Pearson Product Moment Correlation Coefficient. The data were found as follow:

Table 3.1.

The Validity of the Research Using SPSS 20.0 Program

Results of Face Validity

No.	Item	Value	Critical Value	Validity
1.	Item 1	1,000	,444	Valid
2	Item 2	,645	,444	Valid
3	Item 3	,650	,444	Valid
4	Item 4	,316	,444	Invalid
5	Item 5	,519	,444	Valid
6	Item 6	1,000	,444	Valid
7	Item 7	,519	,444	Valid
8	Item 8	,650	,444	Valid
9	Item 9	,730	,444	Valid
10	Item 10	,645	,444	Valid
11	Item 11	,439	,444	Invalid
12	Item 12	,519	,444	Valid
13	Item 13	,300	,444	Invalid
14	Item 14	,194	,444	Invalid
15	Item 15	,730	,444	Valid
16	Item 16	,300	,444	Invalid
17	Item 17	,247	,444	Invalid
18	Item 18	,055	,444	Invalid
19	Item 19	,440	,444	Invalid
20	Item 20	,055	,444	Invalid

From the above table it can be explained that there were from 20 items, there were 9 items was not valid and 11 items were valid. The wiriter chose the items were not valid and repaired the items. The items were important was choosen and dropped out the items were not important. Therefore, there were 16 items was used in questionnaires items, and there were 4 items was deleted.

The second was construct validity, the writer assessed construct validity by having some colleagues such as advisor and some lecturers who have credibility to judge the questionnaire. Afterwards, the questionnaires were distributed to 124 students.

3. Reliability

The reliability of a measuring instrument is the degree of consistency with which it measures whatever it is measuring. On a theoretical level, reliability is concerned with the effect or error on the consistency of scores.[21] In designing a survey, as in all research, it is essential for researchers to strive for reliability. In order to assure the reliability of a survey, several measures can be used. *First,* the same survey can be given on two occasions to the same individuals. Then the researcher can check to see how consistently the respondents gave the same response to the same item. *The second* way of assuring reliability is to have two forms of a survey and have individuals take both forms. The consistency of response on these two forms could

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[21] Donald Ary, Lucy Cheser Jacobs, Chris Sorensen, and Asghar Razavieh, *Introduction to Research in Education*, Canada: Wadsworth, 2010, p.237.

again be checked. *The final* way to achieve reliability is to check the internal consistency of responses in a survey. In this case, if a survey contains several items that ask similar questions but in different forms, then the researcher can check to see how consistently the respondents have answered these questions.[22]

It was using SPSS 20.0 program in finding the reliability. The degree of alpha's cronbach alpha is higher than r table (0.444). The result of reliability above as follows:

Table 3.2

Table of Reliability

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,915	,914	20

In this research, the writer found the consistent responses by the students when the writer did pilot study either in questionnaire or in interview. These all have significant similarities in the observation which has been done by the writer.

To support the validity and the reliability of the data, the writer did the triangulation of the data. The writer used method triangulation as the supporting method in collecting the data. As stated above, the writer used interview for completing the data that found by the questionnaires.

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[22] Sandra Lee Mckey, *Researching Second Language Classroom*, , London: Lawrence Erlbaum Associates, Publishers2006 p. 41.

4. Content Analysis

In this study, the writer used Content or Document Analysis design. Ary states that,

> *"content or document analysis is a research method applied to written or visual materials for the purpose of identifying specified characteristic of the material. The materials analyzed can be textbooks, news paper, web pages, speeches, television programs, advertisement, musical composition, or any of a host of other types of documents. Content analysis is widely used in education.[23]*

The writer used this research design because the writer analyzed the students' responses product. And it was formed in a questionnaire.

G. Data Collecting Procedure

Validity is defined as the extent to which scores on a test enable one to make meaningful and appropriate interpretations.[24] Validity is the most important consideration in developing and evaluating measuring instruments.[25] Face Validity is taken to ensure that the questionnaire is valid. Face validity is a term sometimes used in connection with a test's content. Face validity refers to the extent to which examinees believe the instrument is measuring what it is supposed to measure.[26] Doing pilot study was not only to know the students' difficulties in answering the questionnaire, but also to measure the construct validity of the questionnaire.

To collect the objective data, this research had several steps as follows:

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[23] Ibid.p.457

6[24] Donald Ary, Lucy Cheser Jacobs, Chris Sorensen, and Asghar Razavieh, *Introduction to Research 7in Education*, Canada: Wadsworth, 2010, p.224.

[25] 8Ibid.p.225.

[26] I9bid.p.228.

1. Prepared the questionnaire.

2. Try out validity and reliability

3. Gave the questionnaire to the respondents.

4. Collected the responses.

5. Calculated the result of responses.

6. *Analyzed the data obtained using SPSS Version 20.*

7. *Did interview*

8. Concluded the students' perceptions towards seacrh engine as learning media to promote reading comprehension at Study Program of English Education at IAIN Palangka Raya.

H. Data Analysis Procedure

After the all data had been collected, the next step was analysed the data. To analyse the data obtained from the field, several techniques were conducted, namely data reduction, and data displaying.

1. Data Reduction

In this research, interval scale was used and collecting the data by using the questionnaires both of the close- ended and Likert type questions. This research was about students' perception which is known as attitudinal information. Often attitude scales on a questionnaire are also treated as interval scales.

There were three steps to analyse the data; they are item scores, the distribution of frequency, and then central tendency. To analyse the data, below were the steps applied:

a. Collecting the main data (item score/responses);

b. Arranging the collected score into the distribution of frequency of score table.

c. Calculating Mean using formula, Median, and Modus.

1) Mean

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

Where:

$\overline{X}$ = Mean value

Σ = Sum of

X = raw score

N = Number of case. [27]

2) Median

The median is defined as that point in a distribution of measure which 50 percents of the cases lay[28]. Example:

18   20   22   25   25   30

Median: any point from 22.5 to 24.5 fits definition of the median. In this case, 22.5 + 24.5 = 23.5

3) Modus/Mode

The mode is the value in a distribution that occurs most frequently[29]. Example:

14   16   16   17   18   19   19   21   22

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[27] *Ibid,* Donald Ary, et al, *Introduction to Research…*, p.109.
[28] *Ibid*, p.110
[29] *Ibid,* Donald Ary, et al, *Introduction to Research…*, p.109.

The mode of this distribution is 19 because it is the most frequent score.

d. Calculating the deviation score and standard deviation using the formula:

1) Deviation Score

$$x = X - \overline{X}$$

x = Deviation Score

X = raw score

$\overline{X}$ = Mean

2) Standard Deviation

$$S^2 = \frac{\Sigma x^2}{N-1}$$

$$s = \sqrt{\frac{\Sigma x^2}{N-1}}$$

$$s = \sqrt{\frac{\Sigma x^2 - \frac{(\Sigma X)^2}{N}}{N-1}}$$

Where =

Σx^2 = sum of the squares of each score (i.e., each score is first squared, and then these squares are summed)

$(\Sigma X)^2$ = sum of the score squared (the scores are first summes, and then this total is squared)

N = Number of cases

e. Interpreting the analysis result.

f. Giving conclusion.

2. Data Displaying

A numerical code is assigned to the data; the data needs to be recorded in some fashion. The best way to do this is in some type of a table in which a researcher identifies the respondents in the left-hand column and uses the rows in the table to list the participant's response to each item.[30]

Once the information is compiled in a table, it needs to be displayed in some ways. There are several possible alternatives.

a) One is to simply report the *frequency* of each response. Hence, in the example of having students rank the importance of each skill, one could simply describe how many students ranked writing as one, and how many ranked listening as one, and so on.

b) A second alternative is to describe the results in *percentages*. If researchers choose to describe the results in terms of frequency or percentages they could also display these results in a figure using a bar graph or pie chart. Visually displaying results in this way often makes it easier to highlight the results of the survey.

c) Finally, with interval scales one could describe the data in terms of *central tendency*. As mentioned earlier, attitude scales are often treated as interval scales so that the central tendency of Likert-scale questions is sometimes calculated. The most common types of central tendency are the mean, mode, and median. The *mean* or

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[30] *Ibid,* Sandra Lee Mc.Kay, *Researching Second….,* p.42

average is calculated by adding up the scores and dividing by the number of participants. The *median* is the number in a set of numbers that represents the point at which 50% of the items are above and 50% are below. The *mode* is simply the most common number. [31]

The writer adopted the Fukuda's way to display her data results. The writer used questionnaire with the close ended questions and likert type scale (strongly agree, agree, strongly disagree, disagree) as the instrument for collecting the data. In addition, the table also includes the percentage of respondents for each response and finally the mean for the question. The table also included the percentage of respondents for each response and finally the mean for the question. In this research, questionnaire was used with close-ended question and Likert type scale to collect the data. Therefore, the table on this research included the percentage of respondents for each response and finally the mean for the question.

3. Data Transformation

The data was taken in interval scale in the questionnaires both of the close-ended and likert types questions was transformed into number. By doing this data transformation, the writer could analyze the students' perception.[32]

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[31] Ibid.p.42.
[32] Ibid.p.45