CHAPTER III

RESEARCH METHODOLOGY

This chapter presents research design, followed variable of the study, then population and sample; and research instrument are presented followed validity and reliability testing, methods in data collection and data analysis.

A. Research Design

In this study, a quantitative research approach was employed. This type of research puts more emphasizes in collecting data in the form of numbers (McMillian, 2001). Thus, in this research statistics had an important role as a tool to analyze the data. In a research, it is important to think the design of the research. McMillan and Schumacher (2001) in Hadjar, (1999:102) state that the research design refers to the plan and the structure of investigation that are used to get empiric evidences in answering research question. The design of this research was correlative study which was used to know the correlation between two variables or more. The researcher chose this design to know whether there is any correlation between the students' perceptual learning style preferences and English proficiency at six semester of English Education Program STAIN Tulungagung in academic year 2012/2013.

B. Variable of The Study

A variable is any entity that can take on different values. It means anything that can vary can be considered as a variable. Charles (1995:29) states that variable is "characteristics that tend to differ from individual to individual, though any two or more individuals may have the same variable trait or measure". The term variable(s) refer to elements or characteristic attached in living or non living objects that distinguish them from others (Hatch & Farhady, 1982:12).

Variable divided into two kinds: independent variable (X) and dependent variable (Y). Independent variable is variable which is influence other variable, while dependent variable is variable which influenced by independent variable. "The independent variable precedes in time and exert influence on the dependent variable, which in turn may change as it is a affected by the independent variable (Charles, C.M. 1995:29)". Independent variable is the main variable to be analyzed. It can be changed or manipulated. On the other hand, dependent variable is variable which is examined whether its changes due to the manipulation of the independent variable. Since in this research there was no causal-affect, thus the two variables were considered as Independent variable which was became the main variable to be analyzed. Recording a significant correlation low or high, does not demonstrate that one variable "cause" the other, or that one variable "affect" another. It only establishes a significant correlation – positive or negative – between them (Porte. 2002:110). The variables in this research

were: students' perceptual learning style preferences was as Independent Variable 1 or X_1 and English Proficiency was as independent variable 2 or X_2.

In measuring data, the variable must be in the form of number. Thus, collecting data about variable X_1 or perceptual learning style preference, the researcher used PLSPQ by Reid in the form of Likert scale. Sugiyono (2010: 134) states that "Likert scale is used to measure attitude, opinion, and perception about social phenomenon." This questionnaire scored on a five point ranging from Strongly Disagree (SD) to Strongly Agree (SA). According to the scoring system introduced by Reid (1987), the qualification of each learning style is as follows:

1. Scores 38-50 showed major learning style preference

2. Scores 25-37 showed minor learning style preference

3. Scores 0-24 are categorized as negligible learning styles.

While in measuring variable X_2 or students' English proficiency, the researcher used TOEFL score transcript and used the qualification as follows (carson, et al., 1990):

4. Elementary   : 310 - 420

5. Low intermediate   : 420 - 480

6. High intermediate   : 480 - 520

7. Advanced   : 525 - 677

C. Population, Sample and Sampling

1. Population

Population is the entire element of an area. Ali (1992:5) states as follows:

> If the sample really represent of population, what is known about the sample is our knowledge of the population. The implication is, if the research which used really represent of population, so done generally to the population.

While according to Arikunto, (1998:115-117) states that: "Population is the whole of research subject, where as sample is a part of population". Population as defined in James book's *Research in Education* is "a group of elements or cases, whether individuals, objects, or events, that conform t specific criteria and to which we intend to generalize the results of the research."

130 students of STAIN Tulungagung majoring in English Educational Program in their sixth semester of 2012/2013 academic year were the population. Reasons behind picking this population were they have conducted TOEFL test and due to people's opinion that all students from this major should have good achievement in English proficiency as second language, at least better than ones who are not in this major.

There are four classes of sixth semester in English Education Program 2012/2013 academic year. They are class TBI A consisting 28 students, TBI B consisting 38 students, TBI C consisting 31 students and TBI D consisting 33 students.

2. Sample

Due to the large number of the population, it was ineffective to collect data from all of them. That was why choosing a part (sample) of them was considered operational to represent others. Therefore, sample in this research was initially expected to be 60 students which count approximately 46 percent. The sixty students were chosen randomly in order to make this research as representatively as it can since everyone share similar chance to be sample. As the research proceeds, 60 of samples meet the requirement of valid data. From these 60 samples, data related to the perceptual learning style preferences and TOEFL score were collected.

3. Sampling

Since researcher could not survey an entire population because of the limited time and others, researcher selected sample from population. It was very important to select sample that would provide result similar to those that would have been obtained if the entire population was surveyed. In other word, the sample must be a representative of the population. This study used probably sampling, since it permitted to estimate how far sample results are likely to deviate from population value. Sampling is a way in taking sample. Here, the researcher used probability sampling technique. This technique gives equal opportunity for each member of population to be chosen as sample member (Sugiyono. 2010:120). Since, the homogeneity population in which the

population relatively same, so simple random sampling was applied in selecting sample. Thus, the researcher took sample from the population freely and randomly without giving attention for strata in the population.

D. Research Instrument

1. The Learning Styles Inventory

Various learning styles instruments for native speakers of English have been developed including the Learning Style Inventory (Dunn et al., 1975, 1989), and Kolb's (1976, 1985) Learning Styles Inventory. For non-native speakers of English, Reid's (1984) Perceptual Learning Style Preference Questionnaire (PLSPQ), O_Brien's (1990) Learning Channel Preference Checklist, and Oxford's (1993) Style Analysis Survey are the better-known learning styles instruments in the ESL/EFL field. The earliest and most widely used of these instruments is Reid's PLSPQ, which is based on the concept of six learning style preferences: visual, auditory, kinesthetic, tactile, group learning and individual learning. To measure the students' perceptual learning style preferences of English Education Program, the researcher used PLSPQ (Perceptual Learning Style Preferences Questionnaire). The PLSPQ is a 30 item comprehensive questionnaire, which measures an individual's learning preference. This questionnaire was use to identify participants' major, minor, or negligible perceptual learning style preferences. The Perceptual Learning Style

Preference Questionnaire developed by Reid (1987) was administered to explore the ways in groups specify their preferred modality for learning.

It is important to note that the initial response of the individual is scored on a five point Likert scale ranging from Strongly Disagree (SD) to Strongly Agree (SA). Thus, it is imperative that the individual be encouraged to give immediate reaction response to each question on the LSI. Likert Scale, a commonly used attitude scale in educational research, discovers attitudes by asking individuals to respond to a series of statements of preference. If individuals agree with statement, it is inferred that these students have a positive attitude toward such a statement. On some items, 5 (strongly agree) will indicate a positive attitude, and be scored 5. On other items, a 1 (strongly disagree) will indicate a negative attitude and be scored 1 (Fraenkel &Wallen, 2003). The outcome is collection of numbers.

The questionnaire, which was designed and validated for non-native speakers, consists of five statements on each of the six learning style preferences to be measured: visual, auditory, kinesthetic, tactile, group learning, and individual learning. Since, the researcher focused on three learning style thus the researcher just chose 15 questions. The instrument was chosen because it is the only one of its kind created specifically for perceptual learning style and for non-native speakers of English. PLSPQ was chosen because the findings generated through the uses of this particular instrument made sense to language teachers as they were very

practical in nature (Zou, 2006) and because it had been used in many learning styles' studies (Peacock, 2001). In terms of the reliability of the instrument, a study by Selime (2003) reported a Cronbach Alpha of .82 for the questionnaire.

2. TOEFL Score Transcript

The students' proficiency in English was known from their TOEFL (Test of English as a Foreign Language score). TOEFL is a test of English proficiency. It is a test of an individual's ability to use and understand English in an academic setting designed and administered by Educational Testing Service. It was developed to address the problem on ensuring English language proficiency for non-native speakers.

E. Validity and Reliability

Reid's PLSPQ has been normed on non-native speakers of English, with reliability and validity established on intermediate or advanced ESL classes (Reid, 1987). For this reason, the researchers selected the PLSPQ as learning styles instrument and also opted to use it in the original language, English, and not in translation or blind back-translation. Eliason (1995) argues that Inclan (1986) and Melton (1990) found no significant differences in how students responded to a questionnaire based on the language of the questionnaire, whether Spanish and English or Chinese and English, respectively.

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F. Data Collecting Method

Data collecting method is the technique used by the researcher to obtain data. This data gathering took place in Tulungagung, particularly in STAIN Tulungagung May, 1 - 17 2013. Data is collected by:

1. Step and technique to collect data

a. Distributing Questionnaire

Questionnaire is one way of gathering data regarding learning style. Making use of questionnaires in a research study is one of the most commonly used techniques to collect data since they "can be objectively scored and analyzed" (Oxford, 1990, p. 199). In distributing questionnaire, the researcher shared it to the all classes in two weeks. The questionnaires were completed during class time. First, the students

were asked to fill the Perceptual Learning Style Preference Questionnaire. The students were required to respond to the questions freely without limited time. To increase the credibility of the responses the language instructors were informed to remind students that they should be sincere in their answers and they shouldn't spend too much time on any of the items. The students were also asked to give an immediate response and that they shouldn't hesitate and change their answers. The questionnaires were collected and the responses were entered into the computer for data analyses.

Table 3.1

Distribution of PLSPQ Question Number According to Dimension

No	Perceptual Learning Style	Related Number
1	Visual learning style	3,7,8,13,15
2	Auditory learning style	1,4,6,10,12
3	Kinesthetic learning style	2,5,9,11,14

b. Documentation

Documentation is a way to gain information through served documents. In order to knowing the students' English proficiency, the researcher need document as a data. So the researcher obtained the lists of the students' name of the whole sixth semester and their TOEFL test score transcript.

2. **Data Qualification**

   Data is the result of the researcher's record in the form of fact or numbers. There are two kinds of data: primary data and secondary data. Primary data is data that directly gotten from first source in the field. In this study all data was as primary data since it taken from the sample directly. In this research the first primary data were the result of questionnaire about students' perceptual learning style. Questionnaire is a list of questions which systematically arrange and then filled by the respondent. The questionnaire applied in this research is Perceptual Learning Style Preferences Questionnaire (PLSPQ) by Reid. This questionnaire was included in closed-ended questionnaire since it is designed to record needed data by the respondent, then all alternative answers have been stated in the questionnaire. By using this questionnaire, the researcher could know the students' perceptual learning style Preferences. This questionnaire consist of 30 questions for six learning style, but the researcher focused on three learning style with 15 questions. The other primary data were lists of the students' name of the whole sixth semester and their TOEFL test score transcript.

3. **Schedule of the Data Collecting**

   In this study, the researcher needed a month to collecting the data. In this study the researcher present the schedule of collecting data as follows:

   a. 1-10 May 2013   : spread the questionnaire

It needed around two week for researcher to spread the questionnaire to all classes of Students who majoring in English Education Program.

    b. 13-17 may 2013   : gained TOEFL test score

To get TOEFL test score transcript, the researcher needed one week. The TOEFL score transcript is gotten from UPB (Language Center Unit) who manage the TOEFL test in STAIN Tulungagung.

G. Method of Data Analysis

In this research statistics played an important role as a mean analyze the data. Besides, to express the relationships between data variables this thesis used statistical package for the social science (SPSS version 19.0 for windows). Trying to find the correlation between students' perceptual learning style preferences and English proficiency, the researcher at first measured the learning style preferences of the respondents. Next, the researcher correlated them with average score on the English proficiency based on copies of TOEFL score transcript belong to sample students/ respondent. The researcher used TOEFL score transcript and classify it into categories (carson, et al., 1990):

1. Elementary   : 310 - 420

2. Low intermediate   : 420 - 480

3. High intermediate   : 480 - 520

4. Advanced   : 525 - 677

In this study, all data gained from questionnaire and TOEFL score are in the form of number. All data therefore analyzed quantitatively. Since researcher wants to know the correlation between two variables, the researcher applied bivariate correlation analysis by using Pearson Product Moment Technique. As Arikunto said "product moment correlation used to decide correlation between two interval phenomenons (2006:225)"

From the Pearson Product Moment technique, it could be taken the correlation coefficient value (r) of the two variables. Those variables were variable X_1 was students' perceptual learning style preference, and variable X_2 was students' English Proficiency. Then the researcher gave simple interpretation the index correlation number obtained by consulted it with significance table value of r product moment. The significant coefficient correlation tested as the level of significant.

The final result show us how the two variables do go together positively or negatively based on r raw scores by Pearson product moment correlation which is analyzed by using SPSS 19. The Pearson Product Moment table of significance shown bellow:

Table 3.2

The interpretation table of coefficient correlation level

r	Interpretation
0.00 – 0.20	The correlation is very low
0.20 – 0.40	The correlation is low
0.40 – 0.70	The correlation is moderate
0.70 – 0.90	The correlation is high
0.90 – 1.00	The correlation is very high

All related to data analysis is explained more in chapter IV. Following is brief description of them.

1. Editing

    Editing process is done after the researcher finishes collected data from the field. This process started with giving identity to the questionnaire and TOEFL score transcript and then checking the instrument, pointing and answering one by one.

2. Coding

    Instead of reading all questionnaires and looking at scores of Samples' TOEFL test, coding system of data was very useful. It made data readable in more efficient way and time. Coding system for each variable will be displayed in Chapter IV together with analysis.

3. Tabulating

    In tabulating, the researcher entered the data in the tables to describe the data so the researcher was easier in understanding the structure of the data.

4. Analyzing data using SPSS

    After each variable was coded and put into tables, then the data were analyzed using SPSS 19.0 (Statistical Package for Social Science). Using Pearson product-moment correlation method, this thesis's outcome was analyzed after calculating all variables.

5. Presenting or displaying data

    From result of analyzing by using SPSS, the researcher can interpret it in this section. Interpretation was about how the two variables (X_1 and X_2) are correlated or not. The hypothesis which is supported by result of 'r' (The Pearson Product Moment Correlation coefficient) was also added. Hypothesis testing is a scientific process of testing whether or not the hypothesis is plausible.

    –   If r-count > r-table, or ρ -value in column sig. (2-tailed) < level of significant (α), then Ha is accepted.

    –   If r-count < r-table, or ρ -value in column sig. (2-tailed) > level of significant (α), then Ho is accepted.