

CHAPTER 3:

METHODOLOGY

3.0 Introduction

Methodology is the groundwork of procedure for conducting a study because it is the overarching term that encompasses diverse principles, procedures and practices related to the conduct of research. Various obstacles were found during the study such as selecting the sample, assigning the condition, manipulating an independent and dependent variable, assessing the effects and analyzing the result with a proper and effective methodology. Research involves a process that moves from an idea, planning and executing an investigation, evaluating the results and communicating the findings.

Methodology encompasses many ways such as distributing questionnaire to the respective respondents, interviewing and conducting observations to evaluate the findings. In my study, communicating (interview) and distributing questionnaire are the main methods to analyze the influence of teachers' creativity, attitude and commitment on students' proficiency of the English language. However, the observation through this title will be connected with few variables such as demographic of respondents like gender, race, age, education status and so on. Otherwise, in this chapter, there are few characteristics that should be taken into consideration such as research design, population, sample, questionnaire, collection data and analysis of data. So, an effective and well-managed methodology should be provided to make sure the study can be completed successfully.

The objectives of this study will be recognized through collection of data by conducting interviews, discussion, questionnaire surveys and through literature review. The data collected will be analyzed and it will be followed by some comments and recommendation. Eventually, the conclusion will be drawn to conclude this study.

3.1 Research method

3.1.1 Data source and Sample

The target population for this study is secondary school teachers at private school. This study includes only English teachers at secondary school. Around 310 respondents were selected to do the survey in Kuala Lumpur area. The selected schools were Sri Murni High School, Sri Suria High School, Tsun Jin High School, Confucian High School and others. The respondents referred to 110 male teachers and 200 female teachers. 310 questionnaires were distributed to Malaysian teachers'. All respondents were able to complete the parts and the items in the questionnaire.

3.1.2 Data Collection Procedure

The questionnaire was the instrument forms of data collection used in this study, where the distribution was done by hand which were selected randomly.

The recipients were asked to read each statement carefully in nine parts of the questionnaire and indicate their agreement or disagreement with the statements using a 5 – point Likert's scales: Section A of the questionnaire represents respondents' general creativity issues; Section B represents respondents' responses towards creative thinking; Section C represents teachers' creative learning; Section D represents teachers' creative teaching; Section E represents teachers' attitudes towards creativity; Section F represents teachers' commitment; Section G represents measurement about students' proficiency to indicate whether it reached its objectives and organizational goals and Section H represents teachers' commitment towards training. In addition, the questionnaire also sought information about the respondents' profile (Section I) in the last part of the questionnaire.

3.1.3 Steps of collecting data

1. Permission letter from University Malaya to do research at private school in Kuala Lumpur and distribute the questionnaire to the respective respondents.
2. Selected few schools such as Sri Murni High School, Sri Suria High School, Tsun Jin High School, Confucian High School and others to distribute the questionnaire.
3. Interview teachers randomly to get information about teachers' creativity, attitude and commitment to increase the students' proficiency of the English language.
4. Distribute the interview questions to the selected teachers to get feedback about students' proficiency.
5. Researcher was distributed the questionnaire according to the date and time.
6. Researcher has taken the questionnaire to analyze the data.

3.1.4 Pilot Study

By conducting a pilot study, the validity and reliability of the constructs of the survey instrument would be checked to get the valid results. The pilot study was conducted by distributing the interview questions to three randomly selected teachers who held high position in their English Department such as Centre Coordinator, Level Head and Assistant Level Head to answer the questions. Simple random sampling was used to conduct the interview section. Every element in the population has a known and equal chance of being selected as a subject (Robert Y. Cavana, Brian L. Delahaye & Uma Sekaran, 2001). The selected teachers were from Tsun Jin High School.

They were asked to answer the questions and gave some comments by looking at their understanding of the needs of the questions. The Cronbach's Alpha measurement

was tested in order to check the reliability of the questionnaire in the pilot study which was 0.90 above. So, the reliability coefficient was above 0.70 (Nunnally, 1978).

The reliability coefficient was tested and a few changes were made to the questionnaire for giving more understandable meaning of the questions to the respondents especially when measuring the students' proficiency of the English language.

3.2 Research Design: Variable Measurements and Questionnaire Design

3.2.1 Independent Variable

The independent variable is measured based on five major dimensions which is developed by previous researchers, such as creative thinking, creative learning, creative teaching, teachers' attitude and teachers' commitment being those main constructs in measuring the students' proficiency of the English language are identified as the independent variables in the study.

General creativity issues among teachers are identified as the first independent variable for this study. Creativity issues are identified to make sure the teachers are able to understand the meaning of creativity. This variable consists of 10 items, such as “creativity can be applied to every domain of knowledge and every school subject”; “creativity is a skill that can be applied in every domain of knowledge”; “creativity is a fundamental skill to be developed in school; “creativity can be taught; “creativity can be assessed; “creativity is an inborn talent; “creativity is about finding connection between things that have not been connected before; “creativity is connected with idea sharing and idea support; “creativity is connected with image improvement; and “creativity is connected with effectiveness and efficiency. Responses to these items were measured on a 5 – point Likert scale from 1 = “strongly disagree” to 5 = “strongly agree. **(Source:**

Patricia Wastiau , Caroline Kearney, Wouter Van den Berghe - Creativity and Innovation European Year 2009).

Creative thinking is identified as the second independent variable for this study. If the teachers do not practice thinking creatively they cannot assess the students' performance in the classroom. This variable consists of 5 items, including “do you practice creative thinking in the classroom?”; “do you hesitate to express your opinion in daily teaching?; “do you teach thinking skills to your students?”; “do you carry out thinking lesson in a different way to your students' in daily thinking?; and “do you think that pupils seem to be more active in the classroom and enjoy themselves in the classroom because of the thinking lesson?”. Responses to these items were measured on a 5 – point Likert scale from 1 = “always” to 5 = “very often”. **(Source: Kawasaki. A., 1999).**

For the third independent variable, creative teaching is identified as an important element for teachers in daily lesson. This variable consists of 4 items including “to help students learn effectively is what motivates me to implement creative teaching; “to help students learn happily is what motives me to implement creative teaching; “I accept comments and suggestions about my creative teaching; and “I would do whatever I can to convince parents and supervisors to let me conduct creative teaching”. Responses to these items were measured on a 5 – point Likert scale from 1 = “strongly disagree” to 5 = “strongly agree”. **(Source: Jon-Chao Hong, (1999), Jeou-Shyan Horng (2001), Lih-Juan Lin, Shih-Hui Chang, Hui-Chuan Chu, Chan-Li Lin - The Questionnaire Construction of Creative Teaching Factors).**

Teachers' attitude is identified as the fourth independent variable for this study. There are 4 items in this dimension, which include “everyday objects and happenings often stimulate me to embark on self-learning and exploration of creativity.”; “In the

event of a situation, I often think about how to solve it first to make sure I can teach creatively.”; “I am confident of my own creative teaching and my ability in solving problems.” and “I like new things and would try out new functions and usages”. Responses to these items were measured on a 5 – point Likert scale from 1 = “strongly disagree” to 5 = “strongly agree”. (Source: **Jon-Chao Hong, (1999) Jeou-Shyan Horng (2001), Lih-Juan Lin, Shih-Hui Chang, Hui-Chuan Chu, Chan-Li Lin - The Questionnaire Construction of Creative Teaching Factors**).

For the fifty independent variable, teachers’ commitment is identified as an important element for teachers to improve their teaching method or strategies by involving in training or workshop. This variable consists of 4 items including “With or without moral encouragement (e.g. public commendation)”, I am still committed to the implementation of creative teaching; “With or without material encouragement (e.g. cash rewards), I am still committed to the implementation of creative teaching; “I always think about whether the teaching meets the students’ needs and would seek improvement whenever I can; and “I would tune myself to the best mental and physical conditions for teaching.”. Responses to these items were measured on a 5 – point Likert scale from 1 = “strongly disagree” to 5 = “strongly agree”. (Source: **Jon-Chao Hong, (1999) Jeou-Shyan Horng (2001), Lih-Juan Lin, Shih-Hui Chang, Hui-Chuan Chu, Chan-Li Lin - The Questionnaire Construction of Creative Teaching Factors**).

3.2.2 Dependent Variable

Students’ proficiency is identified as the dependent variable in the study. There are 4 items in each component and the total items are 16 which need to be classified into four components including writing, reading, listening and speaking. The component of writing includes “My student can respond to topics of personal interest and give simple formulated opinions about factual (and abstract) information”; “My student makes errors

in everyday vocabulary and grammar, but they do not hinder understanding”; “My student is intelligible in spelling, punctuation, layout and consistent point of view”; and “My student has the ability to support, expand and conclude complex arguments”. Items in reading component includes “My student can scan for facts and details”; “My student can follow lines of argument and identify main conclusions in argumentative texts”; “My student can scan newspapers, articles and reports on a wide range of topics and decide what is relevant for further detailed reading”; and “My student is able to skim for general idea or gist” and followed by listening component that include “My student can process simple conversations”; “My student is able to comprehend straightforward information and pick out main points of message”; “My student is able to understand idioms and colloquial speech”; and “My student can understand standard pronunciation and clear speech”. The last part will be speaking component which include “My student is able to extract or understand the major points from conversations, and presentations”; “My student is generally accurate, no significant errors and speech is fluent and effortless”; “My student can tailor language to be appropriate in a wide range of contexts and situations”; and “My student can vary intonation and stress in order to express shades of meaning”. The responses to these items are measured on a scale from 1 = “strongly disagree” to 5 = “strongly agree”. **(Source: Richard J. Tannenbaum & E. Caroline Wylie, 2005).**

The measurement instruments were adapted from the source below but it was changed and amended because the independent variables and dependent variables in this study were totally different than the original instruments. So, the design and style of the measurement instruments were followed from the previous research study. **(Source of measurement instruments: Hasniza Binti Hamidun, 2003 & July 2009).**

3.3 Data Analysis Techniques

The quantitative study is used in this study because the quantitative analyses results provide the support for anticipated directions of the associations between independent and dependent variables. So, by using SPSS Version 14.0 for Windows software programmes, the central of tendency and the dispersion of the data are checked; the reliability and validity of the measures are tested; and the hypotheses developed for this study are also tested. (Bryman, A. and Cramer, D., 1997).

However, the qualitative method is also used in this survey to make sure the data is accurate. Interview questions for the selected teachers will be distributed and the discussion will be recorded in Chapter 4. Hence, the interview questions will be attached as an appendix. Three techniques are used in analyzing the data for this study such as descriptive statistics, reliability analysis and crosstabulation analysis.

3.3.1 Descriptive Statistics

The descriptive statistics provides frequencies and measures of central tendency of this study. So, frequencies of this analysis can be referred to histograms or bar charts of various subcategories, such as gender, ethnic groups, level of occupations and level of educations. It would also be useful to know how creativity, attitude and commitment dimensions influence the students' proficiency by looking at the mean of the variables, which indicates a measure of central tendency that offers a general picture of the research study.

3.3.2 Reliability Analysis

The reliability analysis is used to test the consistency of respondents that answers all the items of independent and dependent variables in the questionnaire to make sure whether the items are hanged together as a set which they are highly correlated with one

another. Consistency of this study is examined through Cronbach's coefficient Alpha, which is used for multipoint – scaled items (Cronbach, 1946).

3.3.3 Correlation Analysis

The Pearson correlation matrix is used to analyze the relationship between the independent variables (creative thinking, creative learning, creative teaching, teachers' attitude and teachers' commitment), and dependent variable (students' proficiency). This analysis indicates the direction, strength and significance of the bivariate relationships of all the variables in this study. Thus, hypotheses that postulate a significant, positive or negative relationship between the two variables can be tested by examining the correlation between the two variables (independent and dependent variables).

3.3.4 Factor Analysis

Factor analysis is a collection of methods that used to examine how underlying constructs influence with the responses on a number of measured variables. Factor analyses are performed by examining the pattern of correlations (or covariance) between the observed measures. Measures that are highly correlated (either positively or negatively) are likely influenced by the same factors, while those that are relatively uncorrelated are likely influenced by different factors. (DeCoster, J., 1998). According to

Field (2005), each question was a statement that followed by a five – point Likert scale which ranging from 'strongly disagree' through 'moderately disagree or agree' to 'strongly agree'. Kaiser (1974) recommends the accepting value greater than 0.5 as acceptable (value below this should lead you to either collect more date or rethink which variable s to include). Other than that, values between 0.5 and 0.7 are mediocre, values between 0.7 and 0.8 are good, while values between 0.8 and 0.9 are great and values above 0.9 are superb (Hutcheson and Sofroniou, 1999, pp.224-225) for more

details.(Source: Field, 2005. Discovering Statistics using SPSS (2nd edition). London: Sage).

3.3.5 Regression Analysis

Simple Regression Analysis

Simple regression analysis is used to find the equation that best represents the linear relationship between independent variables (creative thinking, creative learning, creative teaching, teachers' attitude and teachers' commitment) and dependent variable (students' proficiency). This analysis is also used to determine the strength of this relationship whether each of independent variables is positively influences the dependent variable.

3.3.6 Multiple Simultaneous Regression Analysis

Multi Simultaneous Regression Analysis is used when dependent variable (students' proficiency) was predicted from several independent variables (creative thinking, creative learning, creative teaching, teachers' attitude and teachers' commitment) simultaneously. Multicollinearity is also analyzed in this analysis because the independent variables (creative thinking, creative learning, creative teaching, teachers' attitude and teachers' commitment) are highly correlated with the dependent variable (students' proficiency). It was difficult to identify the unique contribution of each independent variables in prediction of the dependent variables. The highly correlated variables were predicting the same variance in the dependent variable, so the overall p – value may significant but the p – value for each predictor may not significant.

The variance inflation factor (VIF) and tolerance are two closely related statistics for analyze the collinearity in multiple simultaneous regression analysis (Hasniza Binti Hamidun, 2003 & July 2009). So, they are based on the R – squared value, which accomplish by regressing independent variables (creative thinking, creative learning,

creative teaching, teachers' attitude towards creativity and teachers' commitment) on all of the other independent variables (creative thinking, creative learning, creative teaching, teachers' attitude and teachers' commitment) in the analysis.

3.4 Chapter summary

This chapter explains the two types of variables which are independent and dependent variable that are used in this study in reflection of logical reasoning in the theoretical framework mentioned in the previous chapter. So, teachers' creativity such as creative thinking, creative learning, creative teaching, teachers' attitude and teachers' commitment are categorized as independent variables. Therefore, students' proficiency is categorized as dependent variable for this study.

This chapter also discusses the influences between independent variables (creative thinking, creative learning, creative teaching, teachers' attitude and teachers' commitment) and dependent variable (students' proficiency of the English language). Teachers' commitment towards training is also being analyzed as abstract items and they are included as independent variable to test whether teachers' commitment towards training can influence the students' proficiency. So, five hypotheses are developed in order to test whether these relationships and influences are able to give some clues to solve the problem arise in the school.

In addition, this chapter also explained that questionnaire is used for data collection, where the data is analyzed by using SPSS Version 14.0 for Windows software program. The data analysis techniques that are used in this study are descriptive statistics, reliability analysis, correlation analysis, factor analysis, simple regression analysis and multiple simultaneous regression analysis. So, in the next chapter, the results from the data analysis will be tested according to the hypotheses that are generated to discuss and to find the solution to the research questions constructed for the purpose of this study.