

## CHAPTER 3

### RESEARCH METHODOLOGY

This chapter describes the research methodology employed in this study. It is composed of four main sections. The first section presents the information about the subjects. The second section describes the data collection procedures. The third section presents the research instrument employed to collect the data. The last section delineates methods of data analysis: analysis of teachers' questions and questioning strategies, students' responses to teachers' questions and questioning strategies, and students' responses to the questionnaire.

#### 3.1 Subjects

The subjects participating in this study comprised four non-native EFL teachers and four classes of their first year students making up a total of 123 students. All of the teachers were female and had at least five years of EFL teaching experience. All taught their regular classes of Foundation English II (FE II) course in the academic year 1999 at the Department of Languages and Linguistics, Faculty of Liberal Arts, Prince of Songkla University, Hat Yai Campus.

The four classes taught by these four teachers were from two faculties: two classes (classes A and B) were from the Faculty of Science and contained 29 and 31 students respectively. The other two classes (classes C and D) were from the Faculty of Management Sciences and consisted of 30 and 33 students respectively. These students had average ability in English as reflected in their FE I scores. The scores taken into account to calculate the arithmetic mean score in this study were the

students' composite scores on the mid-term and the final examinations. The mean of the FE I scores of all the first year students was first calculated. It was 54.38. The mean of the FE I scores of each class was then calculated. As no class had the mean score of 54.38, the four classes (classes A, B, C and D) which had scores ranging from 53 to 55 were taken as the subjects in the study.

### **3.2 Research Instruments**

There were two research instruments in this study.

**1. Materials.** They were two lessons used for regular teaching of Foundation English II classes in the academic year 1999 at the Department of Languages and Linguistics, Faculty of Liberal Arts, Prince of Songkla University, Hat Yai Campus. These two lessons were used to collect data of classroom interaction (See appendix A for teaching materials and teaching procedures of these two lessons).

**2. Questionnaire.** The questionnaire was used to collect information about the reasons why the students in this study did not answer the teachers' questions in the classroom (See appendix B and C).

### **3.3 Development of Questionnaire**

In developing the questionnaire, the researcher first had an informal talk with her students who were not involved in this study to gather preliminary information about reasons why they did not answer her questions in the classroom. On the basis of the obtained preliminary information, the researcher put the reasons why the students were silent after the teachers' questions into three main constructs, and then wrote items of the questionnaire in Thai. This questionnaire consists of two parts. The first part contains three constructs of reasons why the students were silent after the teachers' questions. These constructs are listed below:

Construct 1: The students understand the teacher's questions, but they cannot answer them.

Construct 2: The students understand the teacher's questions and know the answers, but they don't answer them.

Construct 3: The students don't understand the teacher's questions and they cannot answer them.

Under construct 1, five reasons for the students' silence after the teacher's questions were listed for the students to choose from. Under constructs 2 and 3, nine and seven reasons were listed respectively. At the end of each construct, there was one open-ended item eliciting reasons other than given in the list.

As for the second part, it contains one open-ended item inviting the students to freely give comments and suggestions they had about the teachers' questioning and their responding to the teacher's questions.

After the questionnaire was written, it was piloted with the same group of students with whom the researcher had the informal talk to assure the clarity of all items. During the pilot study, the students added more reasons for their silence after the teacher's questions under construct 2. It was also found that some reasons for the students' silence under construct 3 in the first part of the questionnaire were misplaced and some reasons under this construct needed clarification. The questionnaire was then improved and revised accordingly. The revised questionnaire still consists of two main parts as mentioned earlier.

### **3.4 Data Collection Procedures**

The following section presents the data collection procedures of this study. There were five main steps in collecting the data.

Firstly, the lessons taught by each of the four teachers were videotaped. The videotape recording took place over two lessons. Altogether, there were eight

lessons. These lessons were selected because they offered many opportunities for the analysis of verbal interaction in the classroom.

Secondly, the verbal interaction in the eight videotaped lessons was transcribed. The conventions for transcribing the interaction in classroom discourse are presented in the table below:

**Table 3.1 Conventions for Transcribing Interaction in Classroom Discourse**

Symbol	Representation
T	Teacher
S	Identified student speaking
Ss	Unidentified students speaking
{ }	Commentary of any kind provided by the transcriber (e.g., to indicate point in discourse where the teacher writes on the board, speaks with rising intonation or stresses a specific word)
( (	Simultaneous speech by the teacher and students
...	Omitted teacher's utterances
---	Incomplete utterance

Note: A sample transcription of part of a lesson is illustrated in appendix D.

Thirdly, after the verbal interaction in the eight videotaped lessons was transcribed, questions and questioning strategies were classified based on the adaptation of Long and Sato's (1983) classification of question functions as well as of Wu's (1993) classification of questioning strategies (Refer to 3.5.1 and 3.5.2 for the adaptation of Long and Sato's classification of questions and of Wu's classification of questioning strategies respectively).

Fourthly, after the teachers' questions and questioning strategies were categorized, the transcription was then reanalyzed to identify questions which failed to elicit responses from the students.

Fifthly, one week after the videotape recording of all eight lessons and after all the questions which failed to elicit responses from the students were identified, the questionnaire was administered in Thai to find the reasons why the students were silent after the teachers' questions. In responding to the questionnaire, the students were asked to view only the parts of the videotaped lessons where there were no responses to the teachers' questions. The researcher paused the video player to allow the students to recall why they did not answer the teachers' questions so that they could choose reasons that best described their silence after the teachers' questions. The students could choose more than one reason for each silence.

### **3.5 Data Analysis**

The data in this study consisted of the information obtained from the lesson transcriptions and the questionnaire. The data were analyzed qualitatively and quantitatively. Qualitative analysis was employed to categorize questions and questioning strategies, and to analyze the students' responses to teachers' questions and questioning strategies as well as their responses to the second part of the questionnaire. Quantitative analysis was used to summarize the number of questions and questioning strategies used by the teachers, the number of students' responses to the teachers' questions and questioning strategies as well as the number of students' responses to the first part of the questionnaire in frequencies and percentages. Quantitative analysis also involved calculating the mean length of the students' responses to teachers' questions and questioning strategies. A description of how each type of data was analyzed is presented below:

### **3.5.1 Analysis of Teachers' Questions**

Long and Sato's (1983) classification of question functions was adapted and used for the analysis of the teachers' questions in this study. In their classification, Long and Sato classified question functions into seven categories: referential questions, display questions, rhetorical questions, expressive questions, comprehension checks, clarification requests and confirmation checks. However, in this study, rhetorical and expressive questions, the questions to which no answer is expected or required, were not taken into consideration due to the fact that the intent of these question types is not to elicit responses and thus they do not serve the purpose of this study. Therefore, only five types of questions were included in this study: display questions, referential questions, confirmation checks, comprehension checks and clarification requests.

After the teachers' questions were categorized into types, they were tallied for frequency and summarized in percentages.

### **3.5.2 Analysis of Teachers' Questioning Strategies**

Wu's (1993) classification of questioning strategies was adapted and used for the analysis of the teachers' questioning strategies in this study. In his classification, Wu classified questioning strategies into five types: rephrasing, simplification, repetition, decomposition and probing. However, probing was not taken into account in the analysis of the teachers' questioning strategies in this study because it is a questioning strategy which is used to follow up students' responses and to solicit more information from them and thus does not serve the functional definition of questioning strategies adopted in this study. Therefore, in this study, four types of questioning strategies, namely repetition, rephrasing, decomposition and simplification were used in the analysis.

After the teachers' questioning strategies were classified for their types, they were tallied for frequency and summarized in percentages.

### **3.5.3 Analysis of Students' Responses to Teachers' Questions and Questioning Strategies**

The students' responses to the teachers' questions and questioning strategies were analyzed by counting the number of words in the responses. Contractions in responses were counted as in the full form, e.g., "don't" was counted as two words. Repetition in responses was not counted because the students did not produce new information. In addition, country names such as United States of America was counted as one word. After the number of words in the students' responses was counted, the mean length (in words) of the students' responses to each type of question and questioning strategy was calculated for comparison as to which type of question and questioning strategy elicited the greatest number of words per response.

The mean length in words of the students' responses to each type of question and questioning strategy was calculated using the formula below:

Mean length of students' responses to each type of teachers' question =  $\frac{\text{Total number of words in responses to all questions of the same type}}{\text{Total number of questions of the same type}}$

Mean length of students' responses to each type of teachers' questioning strategy =  $\frac{\text{Total number of words in responses to all questioning strategies of the same type}}{\text{Total number of questioning strategies of the same type}}$

### **3.5.4 Analysis of Students' Responses to Questionnaire**

The students' responses to the questionnaire were analyzed into two parts as follows. The data obtained from the first part of the questionnaire were concerned with the reasons for the students' silence after the teachers' questions. The

reasons for the students' silence under each construct were tallied for frequency and summarized in percentages. Then, they were ranked on the basis of their frequency of occurrence.

The data obtained from the second part of the questionnaire were concerned with the students' comments about problems they had with the teachers' questioning and their responding to the teachers' questions. The comments were grouped on the basis of the commonality in content and then ranked on the basis of their frequency of occurrence.