

CHAPTER THREE

METHODOLOGY

This chapter presents methodology adopted in this study. For both qualitative and quantitative methods, the recruitment of subjects and the use of instruments are described. Then, the procedures of data collection and data analyses are reported.

Research Design

The study adopts both qualitative and quantitative analyses. The data for qualitative analysis are collected via survey questionnaires, which provide judgments from junior high school teachers to answer research question one about the relationship between BCT items and their instruction, and provide their perceptions of BCT to answer research question three. While the survey method helps the researcher to gain information about teachers' opinion of BCT, the quantitative analysis seeks to investigate the correlation between students' performance on BCT and their academic performance at school, so as to help to provide evidence on research question two.

Qualitative Method

Subjects

One of the methods of data collection used in this study was the survey

conducted from November to December in 2003. The target population was junior high school English teachers in Taiwan. Since the Education Statistics of Taiwan (2003) did not provide a list of the names of all junior high school English teachers, an estimation based upon the total number of classes and average classes a teacher might teach was used to calculate the size of the target population.

According to the source from the Education Statistics of Taiwan (2003), there were 26,816 classes in junior high schools of Taiwan. Each English teacher teaches an average of 4 classes. Therefore, the estimated number of teachers in the target population was 6,704, which was derived by having 26,816 divided by 4.

The estimated average number of English teachers in a junior high school was 9.4, which was derived from having 6,704 (the total number of English teachers) divided by 708 (the total number of schools, sources from the Education Statistics of Taiwan, 2003).

Multistage sampling was adopted in this study. School distribution in four main areas in Taiwan and distribution in urban or rural location are the two principles adopted in sampling. Eleven schools were randomly selected from cities and countries in four main areas in Taiwan, namely northern, central, southern, and eastern areas. In Chen's dissertation about Taiwanese junior high school English teachers' perception (2002), she calculated the sample size of the study from three formulas respectively

by Cochran, Krejcie and Morgan, and Mendenhall, Ott and Scheaffer . The results derived from the three formulas for 95% confidence were 100, 94, and 99 subjects, closing to 100. The number of this study was derived from having the sample size of the study (100 subjects) divided by the average number of English teachers (9.4).

When the final sample was drawn, the total number of the teachers teaching in the eleven selected schools was ninety-eight. All of the English teachers teaching in these eleven schools were requested to respond to the questionnaires. The distribution of the subjects is listed in Table 3.1.

Table 3.1 Distributions of Subjects

Area	City/County	Name of School	Number of Subject	Percentage of Subject
Northern Taiwan	Taipei City	Shing-Yia	9	28.6%
	Taipei City	Jie-shou	11	
	Taipei	Fong-ming	8	
Central Taiwan	Taichung City	Wu-chuan	10	21.4%
	Nantao	Zhu-shan	6	
	Changhua	Chang-sing	5	
Southern Taiwan	Kaohsiung City	Wu-fu	15	48.0%
	Kaohsiung	Yi-chia	4	
	Kaohsiung	Chie-ding	8	
	Pintung	Ming-cheng	20	
Eastern Taiwan	Taitung	Du-lang	2	2.0%
Total		11	98	100%

In this study, analyses are based on the answers to the questionnaires sent out to ninety-eight junior high school English teachers in Taiwan. Ninety-eight teachers of eleven schools randomly selected from cities and countries in four main areas in Taiwan were requested to review the forty-five items of BCT. Twenty-eight teachers (28.6%) were teaching in northern Taiwan, twenty-one (21.4%) were in central Taiwan, and forty-seven (48.0%) were in southern Taiwan. Two teachers from Taitung

County represent those in eastern part of Taiwan (2%). Among these teachers, forty-five (46%) were from urban schools while fifty-three (54%) teach in rural ones. Although the number of responded questionnaires from Ming-cheng Junior High School in Pingtung County was much larger than expected, those questionnaires remain valuable for its representativeness for rural schools.

Instrumentation

Based on the results of the literature review concerning the content validity of CRTs, a survey questionnaire (see Appendix A, Appendix B) was developed to collect teachers' opinions of the overall BCT and teachers' judgments of individual items on BCT. The questionnaire was mainly developed on the basis of the following materials. (1) The first 2003 BCT text. (2) The test domain announced by the BCT Center in 2003. (3) Core Competence Indicators issued by the Ministry of Education. (4) Junior High School Curriculum Standards for English Education, issued by the Ministry of Education in Taiwan in 1994. (5) Interviews of the researcher's colleagues in a junior high school.

Data collected from the teacher questionnaire (Appendix A) involves the following topics: teachers' background information, teachers' approach to instruction, teachers' judgment on the BCT items, and teachers' basic perception of the overall

BCT. The questions associated with teachers' background information range from the location and size of the schools, the teachers' teaching experience, the use of Communicative Approach to experiences in teaching the new- version textbook, which was tested in BCT. Two sets of questions were also designed regarding classroom instruction. The first set is about the use of supplemental material on vocabulary, sentence patterns, cloze tests, reading comprehension, along with the use of sample BCT practice and mock tests. The second set is applied to see whether teachers' teaching of vocabulary, grammar, and reading is congruent with the Curriculum Standards.

Three of the questions are concerned with the BCT coverage of textbook content, classroom instruction, classroom evaluation, and one question with item difficulty of the BCT. They were developed as dichotomy questions. Teachers who agreed about the BCT coverage of the above questions marked a check on the test items while who disagreed did not check. Teachers who approved that BCT items were not difficult for hard-working students checked the test items while whoever disagreed did not check. The four questions above were designed to check the BCT item by item in order to answer research question number one.

The twenty-five questions concerning teachers' basic perception of the overall BCT on English subject are classified into four distinct subgroups, which were to

answer research question three and its four sub-questions on the BCT objectives. The subgroups deal with the overall objectives of Curriculum Standards (question 1-2), specific objectives of Curriculum Standards (question 3-14), test principles issued by the BCT Center (question 15-17), and Core Competence Indicators (questions 18-25). Teachers were to rate how each statement in the questionnaire fit their own views, with level 4 being the highest (strongly agree) and level 0 the lowest rating (strongly disagree). Table 3.2 summarized the categories of the questionnaire.

Table 3.2 Classifications of Questionnaire on Part II and Part IV

Focus	Items Related	Research Questions Related
Coverage of Textbook Content	Question 1 on Part 4	Research Question 1
Classroom Instruction	Question 2 on Part 4	Research Question 1
Classroom Evaluation	Question 3 on Part 4	Research Question 1
Item Difficulty	Question 4 on Part 4	Research Question 1
Overall Objectives of Curriculum Standards	Question 1-2 on Part 2	Research Question 3
Specific Objectives of Curriculum Standards	Question 3-14 on Part 2	Research Question 3
Test Principles	Question 15-17 on Part 2	Research Question 3
Core Competence Indicators	Questions 18-25 on Part 2	Research Question 3

A code was placed on each questionnaire to ensure confidentiality of the personal

information. For teachers' time and effort in responding the questionnaire, a small amount of consolation money was offered.

The survey was conducted from November to December in 2003. First, telephone calls were made to the eleven schools to arrange matters about distributing and collecting questionnaires. Then, ninety-eight questionnaires were sent out. Of the eighty-seven (88.7%) returned questionnaires, eighty-one (82.65%) were complete without any missing data. But fifty-one (62.9%) of the questionnaires were adopted in this study.

From the 81 effective questionnaires fifty-one judges of the BCT content validity were selected (Appendix D). The selection of judges was based on the principle that teachers instruction is congruent with the goal of English language teaching, which is realized in the Curriculum Standards issued by the Ministry of Education. Therefore, teachers who did not adopt Communicative Approach, extra grammar practice, cloze tests, dialogue comprehension practice, or mock tests from the BCT Center in their instructions were rejected. Teachers who disapproved that their vocabulary, grammar, or reading instructions were congruent with the suggestion by the Curriculum Standards were not chosen. Finally, fifty-one of the teachers were qualified as judges because their responses demonstrated that their instruction were congruent with the Curriculum Standards.

Validity and Reliability of the Questionnaire

Content validity and face validity of the questionnaire were investigated. A panel of experts on English teaching reviewed the questionnaire to determine content and face validity of the instrument. Three junior high school English teachers who were studying in master programs of English teaching and a professor specializing in language testing were asked to rephrase any items judged appropriate but unclear and to delete items judged inappropriate. In the course of the modification, it was suggested that some important characteristics of the Curriculum Standards be highlighted. Two items regarding listening ability, which cannot be reflected in BTC, were deleted. In addition, ten teachers from the researcher's school and a school in Taichung helped with the pilot test. The reliability coefficient Cronbach of the ten cases on the pilot test is .9036 (as computed by SPSS).

Quantitative Method

Subjects

The quantitative study that investigated content validity of BCT was conducted from September of 2003 to April of 2004. For the purpose of quantitative study, students graduated from four different junior high schools were selected as participants. The chosen students had to attend the same schools for consecutive three

years to guarantee the consistent and uninterrupted records of their academic performance. In this study, two kinds of scores, namely the academic scores of each participant and his/her BCT raw scores, were calculated to check the correlation between them.

Four junior high schools participated in this study, each representing a main part of Taiwan (Table 3.3). Thirty-eight graduates in School 1, located in eastern Taiwan, took part in BCT. One hundred eighty-seven graduates from southern Taiwan took the test. Five hundred seventy-seven graduates of School 3 in central Taiwan participated in BCT. Four hundred and two graduates came from a school in northern Taiwan. The first three schools are located in the countryside while the fourth is a city school.

Table 3.3 Distributions of Participants on Score Correlation

	Area	City/County	Number of Participants
School 1	Eastern Taiwan	Taitung County	38
School 2	Southern Taiwan	Chiayi County	187
School 3	Central Taiwan	Changhua County	577
School 4	Northern Taiwan	Taipei City	402

Instrumentation

A score-correlation analysis was carried out to obtain quantitative information

about the relationship between BCT scores and academic scores in order to answer research question two. Originally, the raw scores of BCT could not be obtained due to security policy of the BCT Center. Also, to protect students' privacy, students' academic scores were not available from some of the schools involved. Therefore, the researcher signed papers to guarantee complete confidentiality for the subjects and thus was authorized the access to students' scores in this study. Then the researcher delivered data of students' academic scores to the BCT Center and convinced the authority about the significance of the study. After some efforts, the BCT Center was willing to cooperate and calculate for the researcher the correlation coefficient between the two sets of scores of the four participating schools.

Data Analysis

The SPSS computer program package was employed to calculate the rating scores of the questionnaires. Aiken's Validity Index as introduced in Chapter 2 was adopted to estimate content validity for research questions one and three. To calculate a correlation coefficient on research question two, Pearson Product-moment correlation coefficient was utilized.