

CHAPTER III

RESEARCH METHODOLOGY



This chapter describes the design and procedure used in this research. Details are discussed in three sections: the pilot studies, the main study, and the statement of hypotheses

The Pilot Study

Two preliminary studies were conducted by the author for the purposes of developing and refining the instrument.

The First Pilot Study

The purposes of the first pilot study were to develop and to refine the questionnaire for measuring Thammasat University freshmen's attitude toward learning English as a foreign language. Items on the questionnaire used by

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Gardner & Lambert,¹ Jakobovits,² and Achara Wangsotorn³ in their previous research studies were selected and translated into Thai. These items were used to measure the respondents' attitudinal intensity and direction. Respondents were asked to indicate their agreement to each statement on six-point Likert-type rating scale (scale positions: 5 - very much, 4 - a lot, 3 - moderately, 2 - a little, 1 - very little, 0 - not at all). There were in all 28 items, of which 15 items were positively phrased, while another 13 were negatively phrased. The 28 items fall into the following categories:

Six 'integrative attitude' items show the desire of the learner to integrate with native speakers of the English language and culture. These items are starred in the English version presented in Appendix I.

¹R.C. Gardner and W.E. Lambert, Attitudes and Motivation in Second-Language Learning, (Rowley, Mass.: Newbury House Publishers, 1972), pp. 146-163.

²Leon A. Jakobovits, Foreign Language Learning: A Psycholinguistic Analysis of the Issues, (Rowley, Mass.: Newbury House Publishers, 1970), pp. 270-317.

³Achara Panichapat Wangsotorn, "Relationships of Attitude and Aptitude to the Achievement in English of Thai First-Year College Students," (Doctoral dissertation, University of Minnesota, 1975), pp. 190-202.

Eight 'instrumental attitude' items show the desire of the learner to utilize the target language as an avenue for pursuing other goals. The double starred items in Appendix I are measures of instrumental attitude.

Fourteen 'desire to learn' items reflect how much the learner enjoys practising English language skills, whether he or she wants to take more advanced English courses, whether he or she thinks English subject is more difficult than other school subjects, etc. The unstarred items in Appendix I are measures of this type.

The translated version of the statements was modified and approved by the author's thesis advisor. The approved questionnaire was then tried with a group of 49 Chulalongkorn University freshmen whose background was similar to that of the subjects in the main study. The reason for this try-out was to ensure that the wording of all statements was clear and conveyed the intended meanings.

Table 1 presents information concerning the subjects who participated in the first pilot study.

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Table 1 Number of subjects in the first pilot study by sex and academic field.

Academic Field \ Sex	Engineer- ing.	Communica- tion Arts	Arts	Commerce & Accounting	Total
Male	11	3	1	3	18
Female	-	4	8	19	31
Total	11	7	9	22	49

A blank sheet of paper accompanied every questionnaire. Subjects were requested to write comments on the clarity of the instructions and of the wording in each item on the provided paper. Also, they were encouraged to identify ambiguous and uncommunicative statements. Based upon the comments given by the subjects in the try-out session, the attitude questionnaire was modified. Ambiguous statements were revised using straight-forward language.

The Second Pilot Study

The revised attitude questionnaire was later administered to a group of 50 first-year Thammasat University

students who were not in the sample of the main study. They were 19 male and 31 female students registered for a fundamental English course. Administration of the questionnaire was carried out under normal classroom conditions. The data obtained from the responses were statistically computed using the Statistical Package for the Social Sciences (SPSS) reliability subprogram (the Cronbach alpha model)¹ available at the Chulalongkorn University Computer Service Institute. Examination of the questionnaire's internal consistency showed fairly high reliability. The reliability coefficient of the total questionnaire was .783. It was speculated that with a larger sample, the higher the reliability coefficient would be. The analysis, therefore, indicated sufficient reliability of the instrument for use with the target sample in the main study.

The Main Study

Subjects One hundred and seventy-five first year Thammasat University students constituted the sample. These subjects were enrolled in three different fundamental

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See the formula in Appendix II.

English courses labelled EG002, EG141 and EG142. Undergraduate programs at Thammasat University require all students accepted for enrollment to take one foreign language. Those who choose English have to sit for an English placement test. Derived test scores are used in assigning the students to one of the four fundamental English courses, namely, EG001, EG002, EG141, and EG142. These courses are consecutive in this sequence. Students whose placement test scores exceed the set criterion will be exempt from these four courses. EG001 classes are not normally offered in the second semester unless substantial number of students failed in the first semester EG001 class. Selection of sample was made at random on the basis that at least 10 per cent of the whole population were included.

In Thammasat University, a fundamental English course carries 3 semester credit hours. However, the class is conducted four times a week, each time for about 90 minutes. The languages of instruction are Thai and English, but usually Thai is predominant.

The subjects were from 8 academic fields (Law = 47, Commerce and Accounting = 41, Political Science = 22, Economics = 18, Social Work = 9, Liberal Arts = 23, Journalism and Mass Communication = 12, Sociology and Anthropology = 3). Their average age was 18.98 years with a

range from 16 to 21 years and a standard deviation of 0.87. In two cases, age was not reported. Females outnumbered males in the sample (females = 99, males = 76).

Table 2 presents the information concerning the number of subjects in the main study classified by their English courses, academic fields, and sex.



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Table 2 Distribution of subjects by English courses, academic fields, and sex.
(M = Male; F = Female)

English Courses Academic Field	EG002		EG141		EG142		Total
	M	F	M	F	M	F	
	1	3	3	18	11	3	
2	3	1	18	6	4	9	41
3	-	2	9	3	1	7	22
4	-	-	6	9	1	2	18
5	-	1	-	7	1	-	9
6	-	-	4	6	-	13	23
7	1	-	-	7	2	2	12
8	1	-	1	1	-	-	3
Total	8	7	56	50	12	42	175

Academic Field: 1 = Law 2 = Commerce & Accounting
 3 = Political Science 4 = Economics 5 = Social Work
 6 = Liberal Arts 7 = Journalism and Mass Communication
 8 = Sociology and Anthropology

Table 3 displays the numbers of the total population in the three language courses and the numbers and percentages of the sample.

Table 3 Number of Population, Sample, and percentage of sample by English courses.

Course	N of Population	N of Sample	Percentage
EG002	120	15	12.50
EG141	398	106	26.63
EG142	560	54	9.64
Total	1,078	175	16.23

Data Collection

Data were collected from the sample in the main study using the two instruments: the revised attitude questionnaire, and the Thai Language Aptitude Test (TLAT) Form A (used with permission of the Chulalongkorn University Language Institute). In so doing, the following process was executed:

Because of the variations of first year students' educational programs, it was impractical, though very desirable, to carry out the administration of the attitude

questionnaire and the aptitude test to all the 175 students at the same time. As a result, the two research instruments were administered to the subjects in their normal class periods which varied from class to class. In spite of this constraint, the same procedure was followed on each occasion. The regular English instructors helped proctor the administration of the questionnaire and the aptitude test and encouraged the students to appreciate the significance of the study which would hopefully lead to long range improvements in teaching English as a foreign language in Thailand in general and at Thammasat University in particular. As the scores obtained from either the attitude questionnaire or the aptitude test would, by no means, affect their final grades in English, there was no reason for them to cheat in the testing.

All testing rooms were air-conditioned; therefore, distracting noises were minimized. The rooms were also equipped with a high quality reel-to-reel tape recorder and a loudspeaker. Since 2 parts of the aptitude test (Phonetic Association, and Numerical Perception) were on tape, the quality of the sound was tested before the test was given by having a proctor stand at different points in the room and listen to part of the tape.

Administration of the Questionnaire and the Aptitude Test

The attitude questionnaire was administered first. The subjects were also asked to supply demographic information (sex, age) on the questionnaire. After all questionnaires were filled out and collected, which took about 10 minutes, the aptitude test was then administered. The standard testing procedures as suggested in the testing manual¹ were strictly followed.

The testing time for the TLAT Form A was 50 minutes. The time and number of items given in each subpart of the TLAT Form A are shown in Table 4.

¹Chulalongkorn University, Language Institute, Manual for Administrators, Supervisors, and Counselors: Thai Language Aptitude Test, Forms A & B. (Bangkok: Chulalongkorn University Language Institute, 1979), pp. 8-13.

Table 4 Time given and number of items in subparts.
of the TLAT Form A

Subpart	Time given	N of items
Part I Vocabulary Form	5 minutes	10
Part II Structural Function	9 minutes	15
Part III Language Analysis	14 minutes	15
Part IV Phonetic Association	8 minutes	10
Part V Numerical Perception	14 minutes	10
Total	50 minutes	60

During the testing process the subjects were warned not to go back to preceding subparts nor ahead of the subpart being administered during a particular time interval.

Scoring of the TLAT

All answer sheets were hand-scored by the author. A correct answer is worth 1 point, and there is no penalty for guessing. The maximum possible score for Form A is 60

English Achievement Scores

English raw scores for the mid-term and final examination of each subject in the main study were released by the university's department of English. The total scores were categorized into 4 subparts: Structure, Vocabulary, Reading, and Writing. Scores for class attendance were excluded from the analysis. These 4 subparts and total scores were used as criterion measures. As the three fundamental English courses used their own teacher-made tests to assess the students' achievement, for comparison across different groups of students, raw scores from each group of students in different English courses were transformed into standard z - scores by applying the following formula:¹

$$z = \frac{X - \bar{X}}{SD}$$

where z = standard score

X = obtained raw score

\bar{X} = mean of the raw scores obtained by group

SD = Standard deviation of the raw scores in the group.

¹J.P. Guilford and Benjamin Fruchter, Fundamental Statistics in Psychology and Education. 6th ed. (Tokyo: McGraw-Hill Kogakusha, 1978), p. 109.

Grade Point Average (GPA)

The GPAs for all courses attempted in the first semester of the academic year 1981-82 for all the subjects in the main study were obtained from the university's Office of Records and Educational Measurement. These GPAs served as an independent variable which reflected the students' past academic achievement including other factors such as perseverance, ability to understand instructions, knowledge of the world, interaction with instructor, etc.

Some students, mostly those majoring in law, had taken courses offered by the Faculty of Law, where their achievement was normally measured on the basis of a percentage system. To transform the percentage grading system into letter grades, the same criteria as is used by the university's Office of Records and Educational Measurement was employed. Table 5 shows the equivalences of the percentage system and the four point letter grade system.

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Table 5 Range of percentage, equivalent letter grade and grade point value

Range of percentage	Equivalent letter grade	Grade point value
85 and above	A	4.0
75 - 84	B+	3.5
70 - 74	B	3.0
65 - 69	C+	2.5
60 - 64	C	2.0
50 - 59	D+	1.5
40 - 49	D	1.0
39 and below	F	0

Data Analysis

All obtained data were then coded on Fortran Coding Form, keypunched, and processed by Statistical Packages for the Social Sciences (SPSS) at the Chulalongkorn University Computer Service Institute.

Statistical Techniques

The following statistical techniques were used in computation. The formulae for the analysis are listed in Appendix II.

1. Pearson's product-moment correlation

Pearson's product-moment correlation coefficients were calculated to determine relationships between interval scale data such as student English achievement and language aptitude, attitude, and GPA.

2. Multiple-regression analysis

Multiple regression analysis was applied to provide answers to questions concerning the predictive power of the selected independent variables in single and in combination on the English achievement represented by English examination scores. Also, the relationship between a set of independent or predictor variables and a dependent or criterion variable is examined.

Statement of Hypotheses

Based on the hypothesis stated in Chapter I of this thesis, the following hypotheses are formulated. These hypotheses will be tested with the results obtained from the data analysis.

1. There is a significant relationship between aptitudinal variables and English achievement.

2. There is a significant relationship between the attitudinal variable and English achievement.

3. There is a significant relationship between the student GPA and English achievement.

4. There are significant interrelationships among aptitudinal, attitudinal variables, GPA and achievement in English.



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