

CHAPTER III

PROCEDURES AND DATA GATHERING



Preparation of the Study

The author prepared the study as follows :

1. Examined the characteristics of multiple - choice tests in listening and reading comprehension and how to construct such tests from Language Testing Symposium¹ and Testing English as a Second Language.²

2. Examined the standardized test that was authorized by A.U.A. for use in both listening and reading comprehension tests for the first year students of KMIT with changes in some words that seemed to be too difficult for the students.

Subjects

1. The subjects for the pilot study were 160 Thai Mathayomsuksa Five science students, one hundred boys from Suankulab School and sixty girls from Rajinee Bon School, were subjects for pretesting the reading test.

¹Alan Davies, Language Testing Symposium. (Oxford University Press, 1970).

²David P. Harris, Testing English as a Second Language. (McGraw Hill Book Company, 1969).

2. The subjects for the main study were 140 Thai first year students of King Mongkut's Institute of Technology, Thonburi. The subjects were all boys. They were stratified into four groups according to the total scores they got in listening and reading comprehension tests during the first semester. The scores were ranged from the highest to the lowest ones and then the subjects were randomly assigned to four ability levels within each group, 35 subjects each.

Instruments Employed in the Study

The instruments utilized in the main study consisted of 25 short passages and 25 questions with multiple - choice answers (four choices). There were fifteen passages used in both listening and reading, but there were five other passages used only in listening as well as five other passages used only in reading.

A = 15 passages	BA = Listening Comprehension
B = 5 passages	(20 passages)
C = 5 passages	CA = Reading Comprehension
	(20 passages)

In the pilot study, forty passages with multiple -choice reading tests were used for pretesting the M. S. V science students. The total score was forty points. This test was used with the permission of A. U. A. and was re - edited before use in the pilot study. It was administered to 160 students of M S. V in Suankulab School and Rajinee Bon School. The

administration ranged from approximately 40 minutes to one hour and fifteen minutes.

The test was scored and item analysis was computed by computer, utilizing the 27 percent technique to find:

- (a) the level of difficulty of each item,
- (b) the power of discrimination of each item, and (by using the Item Analysis Table of Chung - Teh Fan)³
- (c) the reliability of the test when computed by the Kuder - Richardson Formula 21.⁴

$$r_{KR_{21}} = 1 - \frac{M(K - M)}{KS^2}$$

Where :

$$r_{KR_{21}} = \text{reliability}$$

M = average score of the test

K = number of items

S = standard deviation

³Chung - Teh Fan, Item Analysis Table, (New Jersey : Princeton Education Testing Service, 1952).

⁴J. P. Guildford, Fundamental Statistics in Psychology and Education (New York : McGraw - Hill Book Co., Ltd., 1965), p. 343.

On the basis of this analysis, 25 good passages were selected (levels of difficulty ranged from .42 to .79, and power of discrimination ranged from .31 to .70). All poor items were eliminated. The test had reliabilities of .85. (See Appendix A)

Table I

Level of Difficulty of the Multiple Choice Test
of Reading in the Pilot Study

Level of Difficulty	Number
Very easy (above .75)	9
Criterion (.30 - .75)	33
Very difficult (below .30)	-
Total	40

(See Appendix A)

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Table II

Level of Discrimination Power of Multiple Choice Test
of Reading in the Pilot Study

Power of Discrimination	Number
Low Power (.00 - .20)	-
Median Power (.20 - .40)	18
High Power (above .40)	22
Total	40

(See Appendix A)

Table III

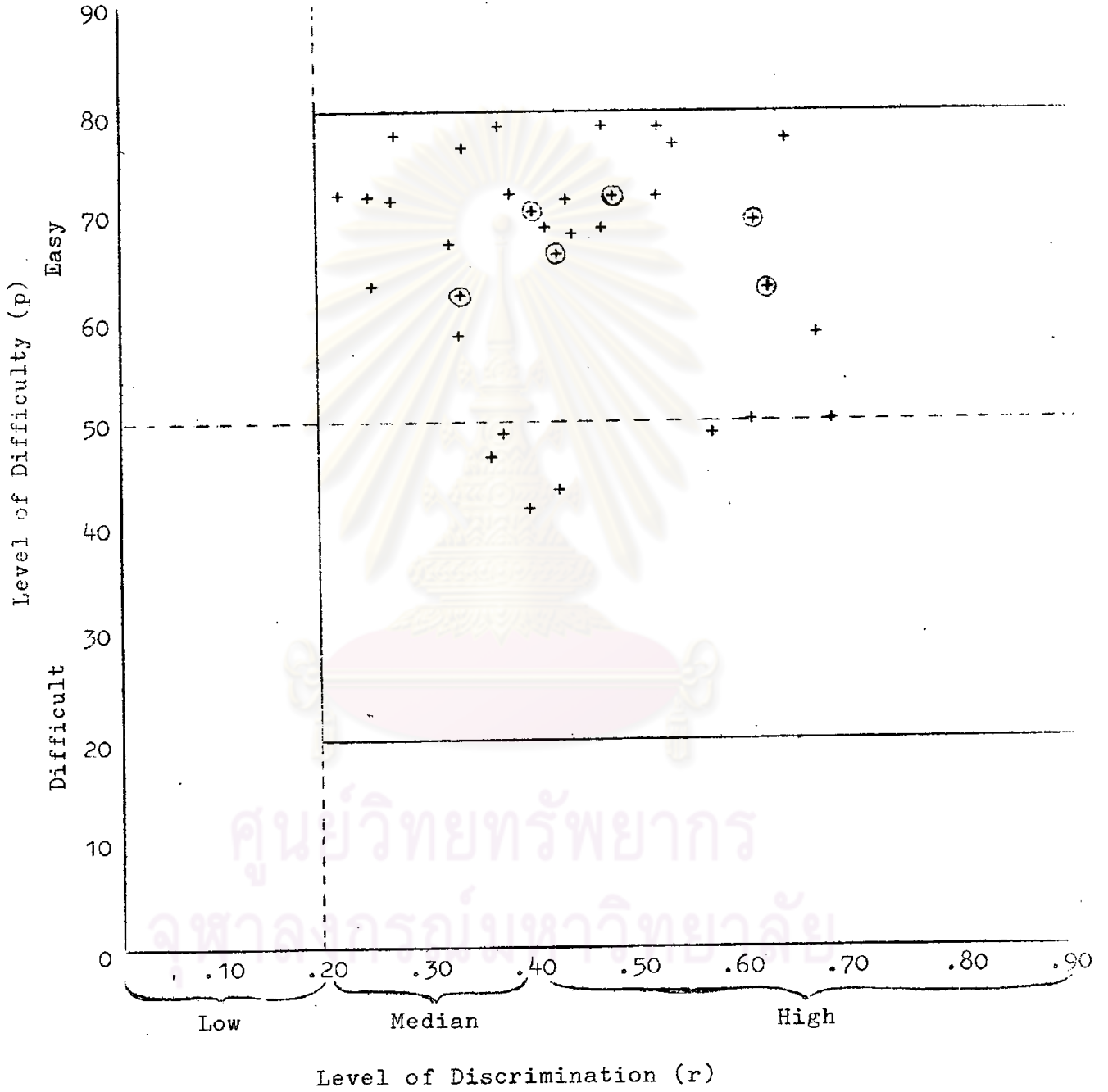
Number of Items According to Level of Difficulty

Level of Difficulty	Number
.35 - .44	2
.45 - .54	5
.55 - .64	9
.65 - .79	26
Total	40

(See Appendix A)

Graph I

Level of Difficulty and Power of Discrimination of the Multiple Choice Items in the Pilot Study



⊕ = 2 passages have the same difficulty and power of discrimination

(See Appendix A)

In the main study, the multiple - choice test consisted of 25 short passages selected from the test in the pilot study. Five pairs of passages that had the same level of difficulty were arranged first. A five passage test was used exclusively for listening and another five were used for reading. The fifteen passages which were used in both listening and reading were re - arranged according to their levels of difficulty (from the easiest to the most difficult).

Table IV

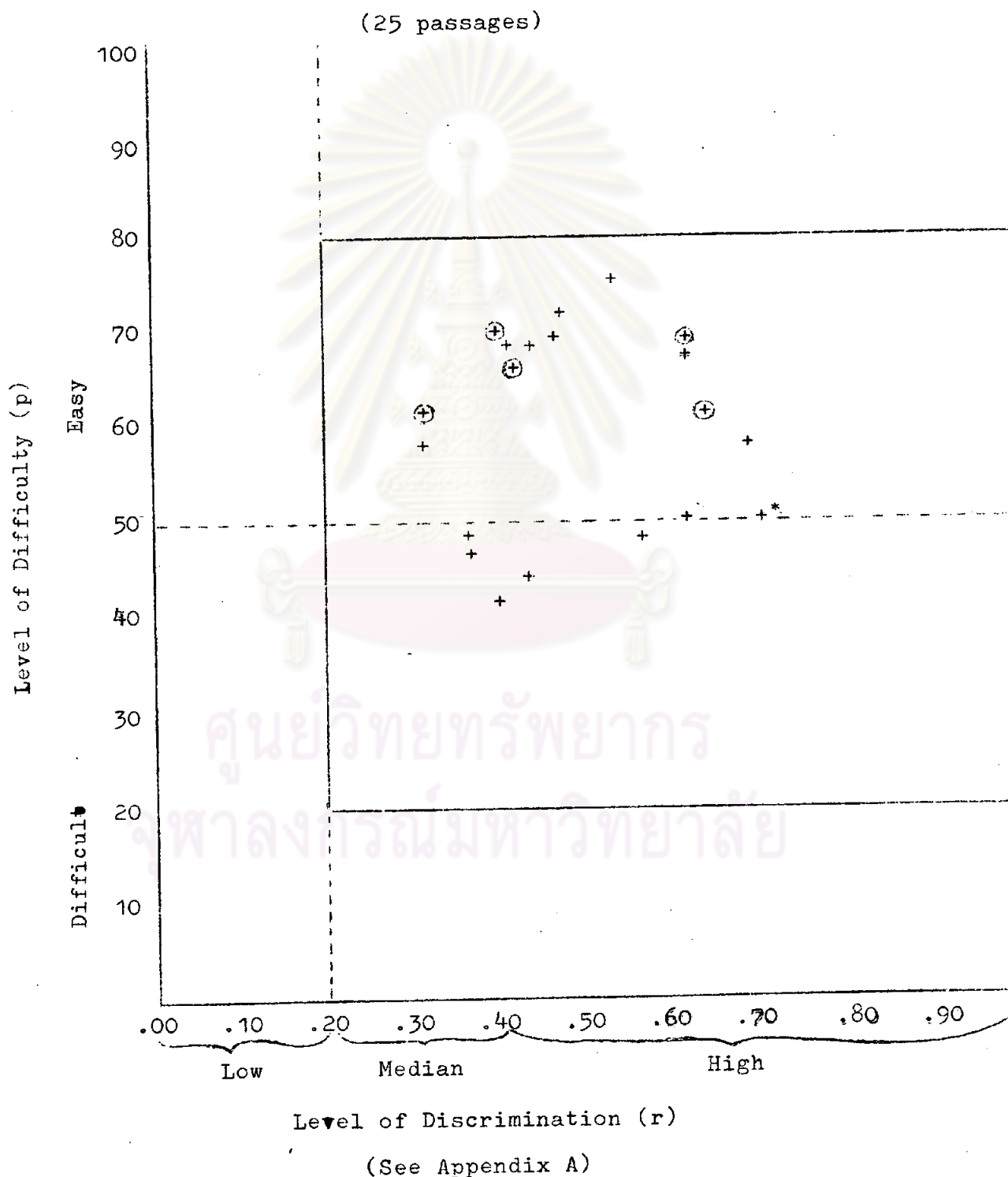
Number of Items According to Level of Difficulty

Level of Difficulty	Number
.35 - .44	2
.45 - .54	5
.55 - .64	6
.65 - .75	12
Total	25

(See Appendix A)

Graph II

Level of Difficulty and Power of Discrimination of
the Multiple - Choice Items in the Main Study



The timing for the reading test (20 passages), or the listening test (20 passages) was thirty minutes. But if the subjects had to take both kinds of test (Group I and Group III), either listening before reading or reading before listening, the timing lasted one hour.

Administration of the Test

As mentioned, the subjects were divided into four groups; each group consisted of 35 students.

Group I : Took the listening test first and the reading test second (one hour)

Group II : Took only the reading test (30 minutes)

Group III : Took the reading test first and the listening test second (one hour)

Group IV : Took only the listening test (30 minutes)

Data Gathering Procedures

Both the listening and reading tests were scored by hand by giving one credit for only the correct alternative in each item. The full marks of each test were twenty.