CHAPTER III

METHODOLOGY

Introduction

This study is carried out in SRJK(T) Tangkak, a rural primary Tamil school in Muar. A total of 28 students were selected. This study uses the survey method. The survey method according to Barbie (1979) is the administration and organization of a standard questionnaire to the selected subjects from the population determined. The purpose of the survey method is to provide descriptive and exploratory explanation of an issue, especially when the issue is new and no study has been done on it.

The instrument

The Intellectual Achievement Responsibility (IAR) scale has been widely used in studying the orientation of the locus of control on students. Crandall, Katkosky and Preston (1962) invented the IAR (Intellectual Achievement Responsibility) scale. This scale is suitable to study the orientation of the locus of control for students of grade two to grade twelve.

In Malaysia, the IAR scale has been used in the study of both primary pupils (Maznah and Ng, 1985; Maznah, 1988) and secondary pupils (Norbaiti, 1987; Jamalullail, 1990; Bustaman, 1996). The instrument itself was translated into Bahasa

Malaysia and used by Wan Rafaei (1976), Maznah and Ng (1985), Norbaiti (1987), Jamallulail (1990) and Bustaman (1996) to determine the students' locus of control.

The instrument, consisting of 34 pairs of statements, uses the attributional format. Each pair of statement consists of one statement referring to the internal locus of control (I +) and the other referring to the external locus of control (I-). On the whole, seventeen pairs of statements refer to positive experiences and the other seventeen pairs of statements refer to negative experiences (Crandall et al, 1962).

The items referring to positive experiences are those numbered 1, 2, 5, 6, 9, 12, 13, 16, 17, 20, 21, 24, 25, 28, 29, 31 and 32. The items referring to negative experiences are those numbered 3, 4, 7, 8, 10, 11, 14, 15, 18, 19, 22, 23, 26, 27, 30, 33 and 34 (Appendix 1).

The items in the IAR (Intellectual Achievement Responsibility) have been divided into ten types. The table below shows the type of questions and the item numbers on the scale.

Table 2: Types of questions and the item number in the IAR (Intellectual Achievement Responsibility) scale.

Types of questions	Item number
Teacher's role	1, 13, 16, 22, 33, 34
Parents' role	3, 5, 18, 26
Ability to remember	4, 5, 17, 29
Academic achievement	2, 6, 19,23
Problem solving	9, 14, 28, 30
Others' opinion	8, 10, 21, 24
Achievement in games	7, 20
Teaching	27, 32
Understanding	3, 12
Ambition	11, 25

The reliability of an instrument refers to the consistency of the measurement; how far the instrument can give the same score when used on the subject several times (Anasti, 1976; Mehren and Lehmen, 1984). The reliability of the IAR (Intellectual Achievement Responsibility) scale was tested by Crandall et al (1962) on students of grade ten. The reliability of this instrument was found to be 0.44 ($p < 0.001$).

The translated version into Bahasa Malaysia was tested for reliability (Wan Rafaei, 1976). The value of reliability was found to be significant. This value was found

by determining the correlation between the score obtained in English by using the original instrument and the score obtained in Bahasa Malaysia. The value of correlation was found to be 0.42 ($p < 0.1$).

For the purpose of this study, the items in this instrument were translated into the Tamil language. An experienced Tamil language teacher who is also proficient in the English language did this. The translation of the items was then checked by two other teachers for accuracy in translation.

Subject of the study

The subject consists of 28 year six students from a primary Tamil school in, Tangkak, Johor. This is a rural school where the students' parents are mostly estate workers and factory operators.

Students in this school are not streamed according to ability. The students in each class are of mixed ability. There are two classes of year six students where the students in each class are of mixed ability. One class of thirty students was chosen as the sample.

Thirteen pupils are boys and the other seventeen students are girls. The age of the students is between eleven and twelve years. The students academic achievement in science is based on the grades obtained in the 1997 final year examination.

Procedure

Before the research was carried out, permission was obtained from the school concerned. Then, the class teacher was briefed on the study. The task of briefing the students was left to the class teacher, as she was more familiar with the students and more proficient in the Tamil language.

Students in this school were not streamed and therefore were of mixed ability. The subject consisted of all students from one class. The students from this class were first given a short briefing by the class teacher to assure them that this was not a test and that they should answer the questions as honestly as possible.

The questionnaire distributed had two sections; Section A and Section B. Students were given an hour to answer both sections. When the allotted time was over or the students had answered all the items in the questionnaire, the questionnaires were collected.

Data collection

Data collection was done in two sections; Section A and Section B.

Section A

This section involves the collection of information on the students' background. The students' background is on sex, age, parents' occupation and their achievement in science in the year five final year examinations.

The purpose of these data collection is to obtain the number of boys and girls, range of age and their respective achievement in science. For their achievement in science, students are given marks according to the grade obtained.

The marks are as follows: grade A = 1, grade B =2, grade C = 3, grade D = 4 and grade E = 5. Allocation of grades follows the standard grades obtained in the UPSR (Ujian Penilaian Sekolah Rendah). Students who obtained grades A, B, C and D are considered to have passed and those who obtained grade E are the failures.

Section B

This section determines the students' locus of control. For each of the 34 pairs of statements, students are requested to choose one statement from each pair. No marks are allotted if any other answers are given.

The subjects obtain one mark (I+) if the answer is based on a positive response. No marks are obtained if the answer is based on a negative response (I-) or any other answer is given. A total of 34 marks can be obtained by an individual, which indicates that the individual has internal locus of control. Subjects obtaining 17 marks and above

are considered to be internals. A total of 0 indicates that the individual is externally oriented.

Analysis of data

Marks from the questionnaires are computed. Descriptive statistics and analysis of inferential statistics is used to interpret the data computed. T-test is done using SPSS/PC+.

Descriptive statistics is used to study the overall score obtained in the IAR (Intellectual Achievement Responsibility) scale and the subjects' achievement in science in year 5.

Chi square analysis was done to test the following hypotheses:

Hypotheses 1: There is no significant correlation between the locus of control and the achievement in science of year six pupils.

Hypotheses 2: There is no significant correlation between the orientation of the locus of control and the gender of the year six pupils.

T test was used to test if there is any difference in the mean of the IAR score between two groups of subjects. It is used to test the following hypotheses:

Hypotheses 3: There is no significant difference in the orientation of the locus of control between boys and girls of year six.

Hypotheses 4: There is no significant difference in the achievement in science between the boys and girls of year six.

A significant level of 0.05 was used as a criterion to reject the null hypotheses.