CHAPTER 2

RESEARCH METHODOLOGY AND DATA SOURCES

2.1 INTRODUCTION

Previous studies on education have dealt mainly with the enrolment and

academic performance of students of different levels for the country as a whole.

While some attempts have been made to examine regional differentials, little has

been done on individual institutions. The data used in this study were obtained

from a survey administered to a sample of the students enrolled in various

programmes in a private college. The survey questionnaires were distributed to

620 college students for self-administration from August to October 1998.

2.2 QUESTIONNAIRE DESIGN AND EXPLORATORY SURVEY

This survey collected a wide range of information on socio-demographic

background, study behaviour, academic performance, decision making in the

choice of college and programmes enrolled, motivational factors and

perspectives towards life. This study focuses on the decision making and choice

of programmes among students of the College. The exploratory study was

conducted as part of the practical training for the course on Survey Techniques

and Sampling Designs under the Master of Applied Statistics Programme of the

University of Malaya. The questionnaires were distributed to the students in a

private college for self-administration at the end of the class. This mode of data

collection was chosen because information could be gathered from a large

number of respondents within a short time span at a low cost. Moreover, the students would be able to read and fill up the questionnaires on their own.

The first section of the questionnaire consists of socio-demographic variables on age, gender, ethnicity, place of residence, parents' educational level and occupation. Section two was designed to collect information pertaining to academic background and performance. These include the type of schools, medium of instruction, streams and examination results in the secondary schools, the present course of studies, perceived workload and usefulness of courses, examination results, as well as decisions and reasons for choosing the college and the programme of studies. Section three elicited information on knowledge and utilization of computer. Section four collected information pertaining social activities and attitude towards life.

The exploratory survey collected information from a sample of 200 students in the private college being surveyed. Students were asked to answer the questionnaire immediately after their semester examination. Based on the results of the exploratory survey, the layout of the questionnaire was modified and some of the questions were re-phrased and some were deleted due to specific reasons such as sensitivity and poor response. The final questionnaire for the survey is given in Appendix I.

2.3 STUDY POPULATION AND SAMPLE SELECTION

The population of this study consists of about 2700 students in a private college in 1998. Table 2.1 shows the distribution of students by programme. The pre-university programmes consist of Cambridge 'A' Level programme (CAL), South Australian Matriculation Programme (SAM), Canadian Pre-University Programme (CPU) and College Foundation Programme (TUBF). In all, 2,200 students were enrolled in pre-university courses and 500 students were enrolled in the twining programmes for degree courses. The tertiary programmes included in the survey are the American Degree Programme (ADP) and Australian Degree Programme (UTS).

Table 2.1 : Distribution of students by programme

Programme	Population	No. classes	Percentage
CAL	1100	48	41%
SAM	800	32	30%
CPU	220	8	8%
TUBF	80	4	3%
UTS	250	10	9%
ADP	250	10	9%

Source: Administrative Records of the College under study 1998

A stratified single-stage cluster sampling design was used in the sample selection. Samples were selected from various programmes. Under simple random sampling, the required sample size to achieve a bound of error of 0.04 (assuming the maximum variance scenario of 0.5^2) for the entire sample is about 625 students, and this figure represents a quarter of the student population in the college. Using the proportionate systematic sampling technique, a quarter of the students in each programme was chosen. The classes which form the clusters for each programme were selected based on systematic sampling with probability proportional to size, yielding a self-weighting design. The number of classes selected and estimated sample size for each programme is shown in Table 2.2. The actual number of classes covered in the survey and the number of completed questionnaire are shown in Table 2.3. The discrepancy of the expected and actual sample size was due to the fact that some students did not attend the classes.

Table 2.2: Number of classes selected and the estimated sample size by programme

Programme	Expected sample size	No. of classes to be selected
CAL	275	10
SAM	200	7
CPU	55	2
ADP	62	3
UTS	62	3
TUBF	20	1
Total	674	26

Table 2.3: Number of classes and the actual number of respondents by programme

Programme	No. of classes	No. of students who responded	Percentage distribution
CAL	10	270	44%
SAM	7	170	27%
CPU	1	30	5%
ADP	3	75	12%
UTS	2	55	8%
TUBF	1	20	4%
TOTAL	24	620	100%

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2.4 THE SURVEY

The survey was conducted by distributing the questionnaires to all students in the selected classes by the lecturers. Each class consisted on average 30 students. Students were briefed on the objectives of the survey and were given some explanations on various items before completing the questionnaire. The survey was conducted in three stages as some of the programmes were having their semester breaks.

2.5 PROBLEMS ENCOUNTERED IN THE SURVEY

There were some minor problems in conducting the survey. Some students were not cooperative and refused to provide any information regarding personal and academic background and performance. The non-response rate for CPU students was quite high, as the questionnaires were distributed on the last day of the semester. Some students were absent and a few of them left the college immediately after the lesson. Only a handful of students from the CPU programme completed the questionnaires. Since this group of senior students would be graduating in the following semester, it would be difficult to trace them for a follow through survey.

2.6 DATA PROCESSING

The 620 copies of questionnaires from the students were collected and screened through for incomplete information. Questionnaires that were incomplete were excluded from the study. From the 620 questionnaires that were returned, about 85% were found to be useable. The data from the survey were coded and entered into the computer for processing and analysis using SPSS (Statistical Package for Social Science). The useable questionnaires according to the various programmes are shown in Table 2.4. An inspection of the data shows that there are no missing values and outliers. In Chapters 3 and 4, the analyses will be confined to students from the pre-university programmes, and this further reduced the sample size for analysis to 396 (see Table 2.5). While the survey had collected a large amount of information on various aspects, this study will utilize only those information that are relevant to the choice of courses and college.

Table 2.4 : Sample size for further analyses on decision making by programme

Programme	Sample Size	Percentage
CAL	244	48%
SAM	125	25%
CPU	13	3%
TUBF	14	3%
ADP	66	13%
UTS	42	8%
TOTAL	504	100%

Table 2.5 : Sample size for analysis of the choice of courses by programme

Programme	Sample Size	Percentage
CAL	244	61%
SAM	125	32%
CPU	13	3%
TUBF	14	4%
TOTAL	396	100%

2.7 DEPENDENT AND INDEPENDENT VARIABLES

This study is aimed at investigating factors that are associated with the decision on the choice of college and programme. The dependent variables in this study are

◇ The programmes in which the students have enrolled

◇ Decision making in choosing the programme and college.

For purpose of analyses, these programmes are regrouped into the CAL programme, SAM programme and the other internally assessed programmes that include CPU and TUBF. The variables that are likely to affect the choice of programme and college are: gender, ethnicity, place of origin, Arts or Science stream, type of previous school attended, parent's education, parent's occupation, places intended to pursue one's further studies, and the SPM or 'O' Level results.

2.8 FOCUS GROUP DISCUSSIONS

Three focus group discussions (FGD) were conducted for this study. Table 2.6 shows the distribution of students in each discussion.

Table 2.6: Distribution of students in each focus group

Discussion Group	CAL	SAM	OTHERS	TOTAL
1	5	5	1	11
2	7	6	0	13
3	8	6	5	19

The focus group discussions were conducted in the first quarter of 2000. The students were randomly chosen to participate in the discussions. Out of 20 students invited to the first FGD, only 11 students participated. The second discussion was conducted with the intention to make a comparison between the CAL and SAM programmes. The last discussion was conducted in late March 2000. The discussion was conducted in a seminar room under a friendly atmosphere. A note taker was engaged to record the responses from the participants. This method of choosing the participants has minimized the cost and it was effective as responses other than those in the questionnaire could be obtained. In the focus group discussions, the participants were encouraged to bring out issues related to the choice of college and courses. They were also

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encouraged to comment on the factors that might affect the student's decision to join a college and the courses offered by the college. Some of the details related to the participant's background history were also recorded during the discussions. An outline of the topics discussed is attached as Appendix II.