

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

This chapter explains the methodology used in the study. It includes the research design, description of the sample, administration of questionnaire, administration of interview, procedures for collecting data, and data analysis. It will be recalled that the purpose of this study was to identify

- i) Whether there is any significant difference between the need for a structured ICT syllabus and that of informal learning of ICT through friends, reading materials, parents, CD-ROM, and interest.
- ii) To gauge the interest shown towards ICT related activities after undergoing structured ICT syllabus.

3.2 Research Design

In order to find the answers to these questions, a survey methodology was used to study the issue. The use of research tools like questionnaires and

interviews are significant, as it will help identify what the respondents think of the importance of ICT and why it should be introduced at the lower secondary level. This in turn would help see the issue from different perspective and create the opportunity to formulate suitable solutions. The survey was carried out on the second week of March 2001. The questionnaires and interview were constructed in Bahasa Malaysia as Bahasa Malaysia is the medium of instruction in Malaysian schools.

Questionnaires were considered appropriate as the data or responses will be easy to tabulate and analyse. Questionnaires require less time to answer if compared to other data collecting instruments. Also, the items in the questionnaire were constructed using simple language so as to help respondents to answer easily as well as keep them to the subject. This is because the language competency of students at ages thirteen, fourteen, and fifteen is not high.

Among the key methodological question in survey research would be focused on finding students' early exposure to ICT, and to what extent external factors influence students interest in ICT. Other aspects of interest includes the number of knowledgeable ICT students compared to others in the same class and preference according to courses (highest & lowest).

For this purpose, proper planning and care was taken in the construction of the questionnaires. Instructions about how to answer were clearly stated in the questions. The questions and items were also checked to avoid any ambiguity, assumption, hypothetical or double question statement. The interview questions were designed to counter-check and reaffirm the questionnaire's response. This was done to avoid questionnaire respondents from giving false information and to establish a valid and quality response. Nevertheless, the main purpose of the interview was to gauge the level of understanding or the lack of understanding of ICT.

3.3 Description of Population and Sample

This study focused on two secondary schools in the Petaling District of Selangor. The two secondary schools are

- i) Sekolah Menengah Bandar Sunway, Petaling Jaya
- ii) Sekolah Menengah Seafield, Subang.

Sekolah Menengah Bandar Sunway is a semi urban school while Sekolah Menengah Seafield is an urban school. According to the principal of Sekolah Menengah Bandar Sunway, the majority of the students come from the lower-middle income group and reside in the nearby villages and squatter area.

On the other hand, many of the students from Sekolah Menengah Seafield come from the upper-middle class category. Also, many of them come from Subang Jaya which is considered a relatively expensive residential area. The school principal emphasized that a majority of the students own computers at home. Besides, the Municipal Council of Subang Jaya has initiated a plan (SJ 2005) to make the Subang Jaya area as an IT hub by the year 2005.

The sample for this study are mainly students from lower secondary schools. A total of 300 students from Form One, Two and Three were asked to participate in the study. A set questionnaire was distributed to 150 lower secondary students from each school. In order to achieve an appropriate degree of representativeness, the researcher equally distributed the 150 questionnaires among the three Forms in both the selected schools. That is 50 each to Form One, Two and Three. For the interview only three respondents from each school were selected. As mentioned earlier, the purpose of the interview was to reaffirm the responses given in the questionnaires, as such, the selection of participant shall be limited to three per school based on the researcher's predetermined criteria.

3.4 Administration of Questionnaire

A set of questionnaire was developed to collect the data required for the study. The researcher personally distributed the questionnaire. The questionnaire was divided into three parts:

Part 1. Personal Information

Part 2. Information of ICT Literacy

Part 3. Information on ICT awareness

About eighty-five percent of the questionnaire items were made of the *closed-form* type. Many items require the respondents to mark *Yes* or *No* or, indicate an item or items from a list of suggested responses. The researcher also provided a space for respondents to give short responses in order to minimize unanticipated responses. The remaining fifteen percent of the items were made of the *open-form* type. This is to give the respondents an opportunity to express their own opinion. Furthermore, it allows the respondents to give reasons for his or her responses.

The English version of the questionnaire was tested for content validity with a panel of experts. They are Mr. Nadaraj, Chief Executive Officer of InfoRam.Net Sdn Bhd and En. Mohd. Shukor bin Jabar of MIMOS.

The Bahasa Malaysia version was pilot tested with a group of form one and form three students in Sekolah Menengah Bandar Sunway. The modifications of the items were based on the comments and suggestions from the students. Among the items that needed clarification or revisions are technical terms which the students were not familiar with, while the researcher also observe the time taken to complete the questionnaire.

3.5 Administration of Interview

The interview was done only with the selected students. Among the interviewee were students who gave fairly good response, average response and poor response. Only three students were picked randomly for the interview from each school. The questions for the interview were open-ended ones.

In order to identify the potential respondent for the interview, certain criteria were adopted. The criteria for "good response" are students who answer all questions satisfactory. The "average response" indicates that the students know how to operate a computer but has never used the communication technology like the Internet etc. Lastly "poor response", are students who indicate that they had no experience using a computer.

The data or response from the interview would be analyzed through written notes. The researcher would look for significant statements and compare with what was said in the questionnaire.

3.6 Data Collection Procedures

Prior to the distribution of questionnaires, a letter was sent to the respective schools to seek permission to conduct the study. This was to facilitate the formality required for data collection. The purpose of study was explained to the respondents to avoid any confusion and misunderstandings. This was important to avoid students from assuming that the questions were meant to test their intelligence and that their responses may lead to further scrutiny by the researcher.

A record was kept when the questionnaires were distributed to the respondents. This record was meant to identify the order of distribution and to locate the potential samples for the interview process later.

All the questionnaire respondents were assured that their identity would remain anonymous. Selected students for the interview were also assured of their confidentiality. Finally, a summary sheet was prepared for all the questions and items so that responses can be entered as they come in. The summary sheet was prepared soon after the questionnaire was constructed.

3.7 Data analysis

The data from each item of the questionnaire were hand tabulated and analyzed to answer the research questions of this study. For this purpose the researcher used the basic descriptive statistics. The results were presented in terms of frequency, numbers, percentage and average. Many of the data were presented in tabular form. The responses from the open-form questions in the questionnaire and the interview were summarized.

The information would be recorded in two separate entries. A summary sheet for the data collected from the questionnaire, while responses from the interview will be grouped into certain codes or words. Data from the *questionnaire* will be analyzed to determine which variable is the dominant one in explaining the importance of ICT classes for lower secondary students.

All data will be sorted, coded, reduced or summarised from its original form into a shape suitable for analysis and reportage. This is possible because the questionnaire and interview items were designed to collect mainly discrete items of information, thus, enabling words to be coded and represented as numbers.