

## Chapter Three

### METHODOLOGY

This is a research aimed at identifying and categorising the factors that encourage or hinder the implementation of IT in secondary schools. This chapter highlights the design of the study, the population and sample, the research instrument used to gather the required information and the organisation of data before analysis.

#### *Research Design*

The area chosen for this research were the states of Wilayah Persekutuan and Selangor. It involved all seventy-one secondary schools in Wilayah Persekutuan and thirty selected secondary schools in Selangor that lie within the Klang Valley. The survey method was used to solicit respondents' perceptions regarding various aspects of the study. The same survey instrument was used on all these schools and their responses to the various questions were categorically analysed.

The limitation of schools in Selangor to those situated within the Klang Valley was due to several reasons. Firstly, Selangor is a big state with 131 secondary schools and the sample was manageable for the researcher to keep up with responses. Secondly, schools in the Klang Valley are situated within the Multimedia Super Corridor (MSC). Thus the infrastructure for setting up of IT in

schools within this region is readily available. Thirdly, the schools under study included a range from those that have already implemented IT to those that are still in the planning stage for IT implementation. Hence the problems faced by schools within this area of research pertaining to IT implementation could be used as a guideline to address potential problems of schools in other parts of the country.

The research procedure used can be divided into two stages. The first stage involved the sending out of the survey instrument, i.e. the questionnaire, to respondents via post. The second stage involved conducting formal and informal interviews. Electronic mail correspondences with MIMOS Berhad and MTK were made to obtain further information regarding the outcome of Sistem ComIL. Visits to schools were conducted to gain first hand information about the situation there.

### ***Population and Sample***

The population comprised of 101 secondary schools situated in the Klang Valley.

The respondents chosen for this study were the Principals or Senior Assistants of secondary schools in the state of Wilayah Persekutuan and Selangor and their respective media and library teachers.

Secondary schools of Malaysia have a Principal as the head, an Afternoon Supervisor and two Senior Assistants, designated 1 and 2. The Senior Assistant 1 (*Penolong Kanan 1*) is responsible for all matters pertaining to the curriculum whilst the Senior Assistant 2 (*Penolong Kanan 2*) is responsible for student affairs. The Principal and Senior Assistant 1 are the key decision-makers for curriculum

related activities in their schools. The process of IT implementation is one such activity. Hence, the planning for IT implementation in a school would be steered by a committee chaired by the Principal or Senior Assistant.

The review of related literature indicated the important role played by the school library media centre of the U.S.A. and the school library in the U.K. in the implementation of IT in schools of those countries. Based on this fact, the introduction of IT in a school would appropriately be placed in the SRC under the charge of the media or library teacher. Hence, the process of planning for IT implementation in a school would also involve the media or library teacher or both. Furthermore, the role of media teachers in the implementation of IT is crucial as portrayed in countries such as the United Kingdom and the United States of America who are well advanced in their IT implementation.

This justifies the sample chosen for the survey to include Principals or Senior Assistants and media or library teachers.

### ***Survey Instrument***

The principal research method employed in this study involves the survey technique. A structured questionnaire was used to gauge relevant information in achieving the proposed objectives of the study (**Appendix 1 & 1A**). To ensure reliability of the study, some of the questions were adapted from instruments used in the National survey conducted in Britain, entitled "Building the National Information Infrastructure in K-12 Education" (Pereira, Francis, and Others 1994). For validity of the study, the questionnaire was pre-tested on a group of 25

teachers in one of the respondent schools. The teachers were given personal attention and explanation to answer the questionnaire.

The questionnaire comprised five sections. Section A dealt with the demography of respondents, seeking information pertaining to their profile as an individual and their school's background. Section B sought to establish the current status of equipment as well as utilisation of the various types of technology available in respondent's school. Both these sections gave an insight to the types and numbers of equipment existing in these schools. Section C aimed at obtaining respondent's perceptions of the effects IT and the information superhighway may have on educational reform, student learning, schools communities and teaching. Section D aimed at highlighting the obstacles to the implementation of IT in schools while Section E sought to elicit respondent's perceptions on the requirements and incentives to facilitate the successful implementation of IT in education. Section D and E also had open-ended questions for respondents to list other factors that they felt would impede or enhance IT implementation

The questionnaire was directed to two different groups of people: the Principal or Senior Assistant 1 and the Media/Library teachers in each sample school.

A formal interview was also conducted with the Principal Assistant Director of the State Educational Resource Centre (Ketua Penolong Pengarah Pusat Sumber Pendidikan Negeri, PSPN) of Wilayah Persekutuan and Selangor. The objective of the interview was to gain first-hand information pertaining to the present and future role of the PSPN in IT implementation in schools under their

charge. A set of questions served as a guideline for the interview (See Appendix 2 & 2A).

Electronic mail was used to obtain information from MIMOS Berhad regarding the current status of IT Projects administered in schools that are under their supervision.

The researcher also visited schools that had implemented IT and had informal interviews with the teachers in charge about the way IT was used, the problems they encountered and measures taken to overcome these problems.

The research was carried out from February 1997 right through to November 1997. The questionnaire was sent out in February. Visits to schools were made in the month of March and September. Informal interviews with teachers were conducted during these visits. Formal interviews with the Principal Assistant Director of the State Educational Resource Centre for Wilayah Persekutuan and Selangor were held in March. The analysis of the questionnaire was done in December.

### ***Organisation of Data***

The responses obtained from the questionnaire were categorised according to the two groups of respondents, namely the Principals or Senior Assistants 1, and the media/library teachers before they were analysed according to the various sections.

Information gathered during both formal and informal interviews was duly recorded using a tape-recorder and summarised accordingly.

An analysis of the survey results is presented in the following chapter.