CHAPTER 1

INTRODUCTION

1.1   What is ICT?

Information and Communication Technology (ICT) refers to physical electronic devices and software that link various computers hardware components and transfer data from one physical location to another. Computers and communication equipment can be connected in networks for sharing voice, data, images, sound or even video. All this started in 1980s when the computers were used in communication linkage.

Scott (1993) defines technology as; "The application of knowledge to develop the tools our society requires to run. It is a combination of science, art, engineering, economics and social studies that is brought together with creativity and ingenuity to improve the quality of our lives. Technology is about making it better, faster, easier, more economical or more efficient. It is about making the world a better place to live."

The importance of communication technology in the education system and its rapid advancement require teachers and students to adapt new roles in their day to day teaching and learning process. Teachers will play new roles as facilitators, knowledge navigators, and network managers, whereelse the students have to acquire the basic skills in using computers to access knowledge and to communicate.

1.2   History and Background

In 1996, the Ministry of Education was involved in brainstorming discussions about the "Smart School" - the concept and its implications on the Malaysian Education System. The Malaysian National Philosophy of Education as mentioned below underpins every element of the Smart School Conceptual Model.

"Education in Malaysia is an ongoing effort towards further developing the potential of individuals in a holistic and integrated manner, so as to produce individuals who are intellectually, spiritually, emotionally and physically balanced and harmonious, based on a firm belief in and devotion to God. Such an effort is designed to produce Malaysian citizens who are knowledgeable and competent, who possess high moral standards, and who are responsible and capable of achieving high levels of personal well-being as well as being able to contribute to the harmony and betterment of the family, the society and the Nation at large" (Education in Malaysia, 1993).

The Smart Schools are different from the normal schools in ways that they use technology to support its teaching-learning activities. With the aid of multimedia technology, self-accessed, self-paced and self-directed learning can be practiced. Technology enables students to develop their strength to a level of excellence and breed a generation of inventors and innovators. By late 1996, the Smart School had become one of the seven flagship applications of the Multimedia Super Corridor (MSC) project. The Government aims to capitalise on the presence of leading-edge technologies and the rapid

development of the MSC infrastructure to jump-start deployment of enabling technology to Malaysian schools.

In July 1997, "The Malaysian Smart School - A Conceptual Blueprint" was produced by a project team comprising industry representatives, the Multimedia Development Corporation (MDC) officials and the Ministry of Education. On 28 July 1999, Telekom Smart School Sdn. Bhd. (TSS) was awarded the contract for implementing Smart School solutions at ninety pilot schools nationwide that have achieved the 'Smart School' status. The project was scheduled to be completed by July 2002 (Ministry of Education Malaysia, 1997). These ninety pilot schools will serve as the nucleus for the eventual nationwide roll-out of Smart School teaching concepts and materials, skills and technologies. By the year 2010, all of Malaysia's primary and secondary schools will be upgraded to the Smart School status.

In many countries of the world, education is identified as an essential part of the strategy for the country's economic future. Often this is accompanied by a desire to see an ICT literate community and a belief that ICT will ensure success in the global markets of the future. Many countries now have an ICT strategy for their education systems and national governments are taking a higher interventionist position to make the strategy a reality. Table 1 is a list of some countries which have formulated a policy toward ICT in education (Girling, 1998).

Table 1:   ICT policy in various countries.

Country	ICT Status
Australia	Many ICT in education policy documents published at federal, state and territorial level.
Canada	Have ICT policy and implemented of ICT in education is in process.
France	Have ICT policy and implemented of ICT in education is in process.
Germany	The basic documents for ICT teaching in Germany are publication kutus minister konferenz(conference of education ministry
Ireland	No mention of ICT in her education policy.
Italy	A number of new ICT related projects are being started this year
Japan	The Ministry is planing to reform the curriculum to include ICT amongst other changes
Malaysia	ICT will become a compulsory subject in due course
Netherlands	Have ICT policy and implemented of ICT in education is in process.
Russia	No plan of ICT policy at the national.
Singapore	The government has recently published the Master Plan for ICT in Education'. Implementation has just commenced.
Sweden	The National Computer Policy for School is determined by the National Agency for Education.
UK	ICT is clearly defined as an integral part of the national curricula in all four of the UK's constituent part.
USA	Do not have Federal curriculum but each state has its own ICT policy as guidance for implemented of ICT in education.

In Malaysia, the national government has launched various programmes to support schools in developing ICT confidence and competence in all its pupils and staff. This will result in major changes in schools in Malaysia. One such new departure, the smart school concept, was intended to pave the way for an ICT revolution in our schools.

1.3   Purpose

In 1997, the Telekom Smart School produces the first ever blue print of Information Communication Technology implementation in schools especially the "Smart Schools". This study will attempt to review the scope set by the Malaysian Government in the implementation of ICT in schools. This will include the following areas:

    a) Schools ICT infrastructure, particularly use of networks.

    b) Internet access and its usage in day to day operation of the schools

    c) ICT planing and funding in schools

    d) The action taken by the principals to improve the ICT usage in the school.

    e) Professional development for teachers in general.

    f) Development of formal policies for recycled computers in schools.

    g) The computer literacy programme in schools.

    h) The ICT competency and awareness amongst selected school students.

1.4   Statement of Problem

Introducing technology is expensive and it is an ongoing process due to constant upgrading and advancement, which make yesterday's innovation or skills, obsolete. This

study is a survey conducted on randomly chosen secondary schools to identify the level of information and communication technology used in secondary schools in the Petaling Jaya area.

1.5   *Aim and Objectives*

The main aim of this study is to find the extent of awareness by teachers and management of schools on the existing information communication technology for schools. Further more, this study should also able to determine the availability of technology resources and the competency of the teachers and management in using information and communication technology in their every day work.

The objectives of this study are:

a). to determine the level of awareness among teachers and the school management on information communication technology.

b). to determine the level of competency among teachers and school management.

c). to determine the availability of technology for teachers and the school management.

d). to determine the level of information communication technology used by the teachers and school management.

1.6 Research questions

Three research questions emerged for the two different groups of respondents identified for this study.

a). What is the level of literacy and competency among teachers and management about information communication technology?

b). What facilities are available and accessible?

c). How much of the technology is used in daily work?

1.7 Significance of Study

The Malaysian Government has launched a numerous of new initiatives to create a awareness on the usage of technology in teaching and also making it part of the national agenda believing, that using ICT as one of the core activities of the future curriculum will enhance achievement for all pupils, future manpower and economy. However, although there are clear benefits deriving from the use of ICT, questions have to be asked as to just how effective these schemes have been and how much of the ICT implementation has been achieved in schools. This study would also be basis of measurement of achievements and development baseline data for comparison by future studies on ICT usage in schools.

1.8 Assumptions

This study assumes that the data collected are accurate and valid based on survey forms. The eight schools involve in the study are assume to having equal opportunity in staff development as they are located in the same district. All eight schools are located in same

urban environment, the students and staffs are assumed to have similar social and economics environment.

1.9   Limitations

This study limits its scope to eight schools in an urban setting. As such, the findings only represent the computer literacy and usage among these schools. The findings cannot be postulated to represent the national situation. Data collected will not involve student interviews and validation of their work to determine the level of word processing and spreadsheet or presentation tool usage. This study will not be able to determine whether the schools have sufficient curriculum to implement ICT. This study will not be able to determine the level of ICT usage in different subjects, whether it is the same or different and in which subject it is easier and in which subject it is difficult to implement ICT. Other limitations of this study are that it will not take into account the gender of teachers or principal involved in ICT implementation in the schools and the academic performance of the schools.

1.10   Summary

This chapter outlines questions that were posed to schools chosen in the Petaling Jaya area. The answer to these questions enabled me to determine how much of ICT usage in secondary schools has taken place and also enabled me to determine the level of ICT implementation by teachers and school management in day to day running of the schools.