

CHAPTER 1

INTRODUCTION

1.1 Statement of Topic

Literacy in Information and Communication Technology (ICT) is notably important to all students. In Malaysia, the Ministry of Education through its Center of Curriculum Development has initiated an Information Technology syllabus especially for upper secondary students. The Ministry of Education will introduce ICT as a choice subject in Form 4 and Form 5 on a pilot project basis. It will be integrated in the curriculum by the year 2002.

An important aspect that has been overlooked is the fact that the implementation of ICT at upper secondary will create a large vacuum in lower secondary. ICT education should be made available to all students and not focused to a certain group. Exposure to ICT subjects to students at lower secondary is necessary as it is a mean for further progression to higher level ICT education as students will be able to decide their choice of ICT related discipline. With the introduction of ICT to students at lower secondary level, students will grasp the important skills needed to manage information together with problem solving skills.

1.2 Background of the Study

ICT is the study of technology used to handle information and aid communication. The phrase was coined by Dennis Stevenson in his 1997 report to United Kingdom (UK) government and promoted by the new National Curriculum document for the UK in 2000. (<http://www.foldoc.ic.ac.uk>). The development of ICT in Malaysia is seen to be in line with the National Education Policy, which emphasize the need for a balanced and complete development of knowledge for students at all levels. Beginning from the year 2002, ICT will become an optional subject for the Sijil Pelajaran Malaysia (SPM) examination. After this students are encouraged to take up ICT related subjects at Certificate, Diploma, and Degree level.

Even our Prime Minister has expressed the need for educational medium to change with the present needs and for the country's future needs. ICT definitely has become a fast developing field of knowledge. ICT knowledge, skills and understanding gained at lower secondary level will help students continue with ease when they reach upper secondary. Mastery in ICT at lower level will definitely be helpful when they start with new ICT subject at SPM or even at higher level education. Knowledge and skills acquired through ICT will help students with their daily schoolwork and even benefit them in their later careers.

Stevenson in his Independent ICT in School Commission 1996/1997 report highlighted the objective of increasing the use of ICT in schools is to give students the ability to control information and the sense that they have this ability. This is based on the fact that ICT combines and integrates the full range of media like sound, vision, text, and numeric data through which successful learning can take place. He believes the one to one relationship between computer and student can retain student interest and involvement to a degree much harder to sustain in whole class teaching.

Stevenson further stresses that ICT is in no sense a substitute for "traditional" learning and teaching or a substitute for students using their minds and imagination. The role of ICT is to serve education that is helping students to learn more effectively and by helping teachers to do their professional job. (<http://rubble.ultralab.anglia.ac.uk/stevenson/principles.html>)

The United Kingdom (UK) National Curriculum recognizes the importance of ICT as a medium that prepares pupils to participate in a rapidly changing world in which work and other activities are increasingly transformed by access to varied and developing technology. Pupils use ICT tools to find, explore, analyze, exchange and present information responsibly, creatively and with discrimination. They learn how to employ ICT to enable rapid access to ideas and experiences from a wide range of people and communities and cultures.

Increased capability in the use of ICT promotes initiative and independent learning, with pupils being able to make informed judgement about when and where to use ICT to best effect, and to consider its implications for home and work both now and in the future. (http://nc.uk.net/importance/import_ict.html)

The United Kingdom National Grid for Learning also acknowledges the fact that ICT at lower secondary offers opportunity for pupils to:

- i) prepare themselves for participation in a rapidly changing world where activities are increasingly transformed by access to ICT;
- ii) develop initiative and independent learning skills;
- iii) gain rapid access to ideas and experiences from a wide range of people, communities and cultures.

Furthermore, in ICT pupils acquire and apply knowledge and understanding of:

- i) the quality and reliability of information and how to access and combine increasing amounts of information;
- ii) a range of increasingly complex tasks using a variety of ICT tools;
- iii) how ICT can help with their work in other subjects, developing their ability to judge when and how to use ICT and where it has limitations;
- iv) the application and use of ICT in the outside world.

These are acquired through four aspects of ICT study:

- i) finding things out;
- ii) developing ideas and making things happen;
- iii) exchanging and sharing information;
- iv) reviewing, modifying and evaluating work as it progresses.

(<http://www.standards.dfee.gov.uk>)

In Malaysia, many quarters especially the National Union of Teaching Profession has urged the implementation of ICT in schools and the proper ICT training for teachers. Its Secretary General, Siva Subramaniam described "The government, especially the Education Ministry must look into this matter seriously because teachers who are ICT-savvy can it turn make the children ICT-savvy. We don't want teachers to be left out behind the ICT race". (The Star, October 8, 2000)

1.3 Aims of Research

The aim of this research is to justify the importance of ICT at lower secondary schools. Exposure to ICT at this stage will provide an easy

progression to higher level ICT education. Schools would be able to identify students who are really interested and have the necessary skills in ICT to be absorbed into ICT classes when they move to Form 4. Students would be able to equip themselves with all the necessary information. There is a possibility of inculcating early interest in ICT when students are in Form 1 rather than starting at Form 4. With this time and energy can be saved if systematic ICT education is started from Form 1. Another aspect of interest will be the training of the teachers who will later carry out this task continuously later as all schools are earmarked for being "Smart schools" in 2003.

At present, the students are sent for computers classes at schools or at computer centres. Here they are taught the basic skills of computer literacy such as hardware recognition, software applications, and keyboarding skills. There is no standardized syllabus and lesson plans formulated for teaching these 13, 14, and 15 year old students. Another problem is the fact that many of them just use computer for games and other entertainment purposes. This will only damage the students' understanding of actual ICT.

About one third of our population is below 14 years old. If 50 percent of these students are asked to participate in this project, the nation will be able to produce a pool of interested ICT professional in time to come. Basically young students are curious and inquisitive and proving quality syllabus, the interest can

be cultured and this will make the students become more interested in ICT later. Francisco Cabal, a 13 year old American student said "Computer is no longer a cool thing to have. It is a must now... The best jobs in the future will belong to those who master the computer". (The Straits Times, *Big Apple*, October 8, 2000).

Interestingly, Cabal has created an imaginary stock portfolio in seven companies listed on the New York Stock Exchange in his laptop. He tracks performance of these shares everyday, draws up charts, makes forecasts and calculates his imaginary stock earning at the end of every month.

All effort to educate students with ICT is in line with government aspiration to have 100,000 ICT literate workforce in the near future. Furthermore, it is every citizen's right to be ICT literate in a society gearing towards K-economy. If 50 percent of the students, whether in the towns or rural areas, were to be equipped with this K-competency component, we are sure Vision 2020 will be a reality. Dato Chua Jui Ming , Chairman of the K-Economy conference said "there should be a paradigm shift towards enhancing the capabilities of curious minded students...there must be holistic approach towards creating K-competent individuals". (The New Straits Times, October 8, 2000)

Thus, the main objective of this study is 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.

1.4 Scope of Research

The research would be focused mainly on Petaling District area. The reasons are that it is one of the sectors that has many different type of schools, populous, and located in the state of Selangor which is deemed to have many high-tech areas like the MSC (Cyberjaya, and Putrajaya). A survey research would be employed to find the answers for this study.

The samples would come from two schools selected from this sector. They are selected students from Form One, Two and, Three of Sekolah Menengah Bandar Sunway, Petaling Jaya and Sekolah Menengah Seafield, Subang. The total respondent involved in this study is about 300 students. With

Petaling District being the most exposed sector to ICT than any other region in the state, this study would enable the researcher to assess whether formal or informal understanding of ICT determine the preference to take up ICT subject among lower secondary students.

1.5 Significance of the Study

This study is important to exemplify the fact that ICT is indeed developing fast and the education system must realize the significance of ICT. The government has initiated a 'Master Plan' for Multimedia Super Corridor" which illustrates how our interaction with government agencies, private and personal would be done via computers. It is an undeniable fact that all educational institutions are directed to equip students with the necessary ICT knowledge. The findings in this research would help formulate remedial measures to redress the issue. It would also be able to point out the benefits of ICT classes for lower secondary students.

It is expected that many lower secondary students will benefit from this programme. With the introduction of ICT in the lower secondary, it is also hoped that many students will be prepared to take up Form 4 ICT subject. There will be three pronged strategy adopted in the ICT programme:

- i) there will be higher ICT literacy among the lower secondary schools students.
- ii) there will be greater awareness among the community regarding the use of ICT.
- iii) the government will be able to have a team of ICT professional in five years' time.

1.6 Limitations of Research

This study was designed to explain the need for ICT literacy among lower secondary students. In order to achieve this purpose, certain restriction or boundaries were imposed.

- i) Study was focused upon the introduction of ICT at lower secondary level, that is Form 1, Form 2, and Form 3.
- ii) The participants in the study involved only lower secondary students that is Form One, Two and Three.
- iii) The selected secondary schools must be public schools in the Petaling District.

The other implications that the researcher foresee in this research are the lack of participation among the samples, the tendency to give inaccurate response and time consuming fieldwork that would interrupt data analyzing. Gaining interview appointments and interruption during the session is also anticipated.