

CHAPTER ONE

Introduction

1.0 Background

The Malaysian education system has undergone changes to keep up with the trends and developments of modern education. The KBSR (Kurikulum Baru Sekolah Rendah) was introduced in 1985 to replace the then existing curriculum. Six years later in 1991 we started the KBSM (Kurikulum Baru Sekolah Menengah). But occasionally new subjects are being introduced to keep abreast with the nation's educational requirement and manpower needs.

The world's global economy of financial transactions, goods and services through modern and high-speed computers and telecommunications have changed the scenario for manpower needs from labour intensive to highly skilled in computers and telecommunications. The demand for a well-educated workforce has driven many countries to rethink their education system. The education system has to be suited to the demands of the technological age so that a competitive edge can be maintained.

Scientist and engineers have used computers to access thousands of rapidly growing databases. They search through these databases countless times every year. The volume of knowledge is growing exponentially. It would be impossible for anyone to read all the publications in a year. This knowledge explosion makes information that is of value today obsolete in just a few months or even weeks! The key to survive in this age is

not to store all the information in one's memory but in having access to this information and knowing how to use it.

The emergence of cognitive science has also changed the way we learn and teach. The traditional learning model puts great emphasis on the teacher as the model, textbooks as the primary source of information and the end result of learning. Cognitive science approaches learning and teaching in a different way. The human being is the information processor. Information can be obtained from various sources or media. The future employees must become information literate and skilful in looking for information. They cannot depend on reproducing facts alone. They have to develop higher order thinking and problem solving skills to analyse, synthesize and evaluate the information.

The aim of modern education is to provide education for all. People have longer lifespan and therefore education does not stop with high school or even university. The future generations may have to change careers two or three times in their lifetime. This will spur them to continue their education even after they have entered their working life. The school is no longer the source of all information. Modern communications through radio, television, computers and Internet have created an information rich society.

Computers are thought by many as the tool that will revolutionise education. In the past two decades various computer-based teaching and learning styles were introduced with the aim of becoming the saviour of education and failing test scores. But

this has never really happened. Teachers with the help of computers and those without have produced students to the desired effect (Hardin & Ziebarth, 1996). The computer is not a miracle tool that can achieve desired learning outcomes without proper teacher planning and input.

Millions of dollars have been spent on hardware and networks. There seems to be the notion that in providing schools with newer machines, the problems of teaching and learning in the classroom had been addressed. The existing computer software learning materials are no better. It may be multimedia with the audio, video and even simulations but it is not interactive and pedagogically unsound. New learning software must be highly interactive to probe students' needs and be able to provide the help needed. The shortage of such materials has hampered the effectiveness of computer based instruction.

Our education system has also realised that to survive in economic terms and compete internationally, we have to embark on the journey of information technology. As such, the first school computer club was set up by La Salle Secondary School, Petaling Jaya in 1981 (Shahdan, 1993). By 1989, the number of computer clubs in schools have risen to 700 (Ng, 1989). Some of the problems faced by the computer clubs include dwindling student enrolment, hardware incompatibility, teachers who lacked motivation to teach and financially sustaining the computer club activities. Clubs in affluent urban areas, with parental support and involvement have greater advantage over clubs in rural areas. This has resulted in some educational disparity between rural and urban schools.

Under the Sixth Malaysian Plan (1991 to 1995), the Education Ministry had planned to equip all schools with a computer laboratory. Initially sixty schools will receive 21 sets of computers. The total cost for the pilot project had been estimated at RM4.8 million. There are more than 1400 schools in the country. The final cost of the whole project would be close to RM 350 million. The Education Ministry and MIMOS (Malaysia Institute of Microelectronic system) had planned to supply the software through a project named ComIL (Computer Integrated Learning system). The software was designed to provide an authoring tool, a database program and a networking application (Shahdan, 1993). The software development was been temporary shelved as better technologies have appeared in the market.

The Education Ministry is now in the process of developing multimedia software in compact disc for all subjects. When completed, the software will be used in smart schools, beginning in the year 1999. There was however a delay in the implementation because the software developed by the private companies did not meet the requirements of the teachers (New Straits Times, 1998). The software had to be revised before it could be utilised in the schools. There was relief all around as the project finally took off in July 1999 (The Star, 1999).

The MMOE is looking at ways the Internet can be used as a teaching-learning resource. The Internet has been in existence for almost three decades and began to extend into schools in the United States of America almost 15 years ago, first to the universities and then to the K-12 schools. The Internet had its origin in the military. By the 1980s, the

US department of defence moved to MILNET, its own exclusive network to avoid congestion. The World Wide Web was set up to cope with the difficulties in locating information with the original service.

In November 1993, the National Centre for Supercomputing Application (NSCA) released Mosaic, the first World Wide Web (WWW) browser for all three computing platforms, as Mosaic allows anyone who has little basic computing knowledge to go into the Web, locate multimedia information and retrieve it. Images, graphics, sound and video can be uploaded into a desktop computer. There are presently three browsers that are used in the web. The Web still needs computer and Internet connections to access it but the Web is not just another tool. The Web represents information. The teacher can choose to ignore the computer but not the Web. The information on the Web will help students in their learning and thus it is imperative that teachers possess the skills to help learners tap this rich information. The Internet culture is unique because historically it has been one of collaboration between academic and research communities. Researchers at universities began using Internet to share their findings, ideas and information. FTP (File Transfer Protocol), basic features of electronic mail and remote log-in (Telnet) were the frequent forms of communication among them.

Today the Web allows asynchronous and synchronous communications. Email, bulletin board and liteserves are examples of asynchronous communications. Messages can be entered and people can respond later. Synchronous communication allows

real-time audio and video conferencing on the desktops. The equipment for such synchronous communication is affordable and within reach of the public. With the availability of such communication formats, collaborative discourses can be arranged between students locally and internationally, between students and teachers through emails, teacher and parents and students and experts. This will help to extend the scope of learning.

Life in general relies on teamwork and collaboration. The traditional classroom setting does not promote real collaboration between teachers and students, students have to collaborate with other students outside the normal timetable and there is hardly any collaboration between teachers and parents. Emerging technologies using the Web as the platform may be able to provide such collaboration.

Already, electronic business on the Web is booming. The Computimes (1998, p.1) estimated that the value of Internet electronic business transaction in Malaysia will reach US\$ 649.9 million by the year 2002. The commercial world saw the potential of the web for business. Therefore, quite a lot of Web-based technologies have emerged, driven by the huge market potential of the Web. Educators will benefit from such technologies, making it important for planning at initial stages for web integration in the classroom.

The digital technology of the Web is expanding rapidly. Java, a new programming language from Sun Microsystems opens up many possibilities before it was thought possible. It is possible now to run simulations on remote or local machines, which is

indeed very useful in teaching chemistry, physics, computational mathematics and other science subjects. These programmes can be executed locally when they arrive at the desktop with existing browsers and software. This will indeed change how teachers and students use the WWW.

Java is also the foundation of a new environment named Habenario (Hardin & Ziebarth, 1996). The Habenario engine includes software that enables any other software to be collaborative by conforming to the interface. This means, users can share anything sent over the web, which is not possible with the current environment. The future workplace in WWW will incorporate an environment of asynchronous communication and collaboration tools, which will allow users to work in the web in a new and revolutionary way. The web is not just a tool. It is a new environment for learning and teaching. Teachers and students will have to use the web to remain competitive in their work and their lives (Hardin & Ziebarth, 1996).

The Internet has also made its presence felt in Malaysia. This is evident with regular publications appearing in the Star InTech magazine and New Straits Times Computimes promoting the use of Internet. The Internet history in Malaysian is very recent. In the education arena, the Education Ministry is encouraging schools to go online. 66 schools have since created homepages to be posted on the web under the MMOE website (MMOE, 1998). The creativity and information available on the website gives insight into the Internet skills and knowledge of our students and teachers who function as advisors.

The Minister of Education, Dato Seri Najib Tun Abdul Razak had announced the setting up of 85 smart schools by the year 1999 (New Straits Times, 1997). The smart schools will use highly interactive multimedia in their learning including the Internet. The potential of the web as the new environment for education is tremendous. Mike (1996) in his article "Internet in schools: A literary perspective" commented, although noting that the Internet is not the cure all of educational problems, has this to say:

"Internet is not the panacea for the problems facing public education. However for a certain kind of teacher in a certain kind of situation, the Internet can be a powerful tool for learning and instruction." (p.11)

In the year 1996, the main focus of Information Technology is on Internet and multimedia products. Six major events were organised in Malaysia, which kicked off with two Internet related conferences cum exhibition held back to back. The first was Internet Asia'96 held in March. The conference touched on topics of regional trends on the Internet, security issues and business opportunities. Meanwhile the Internet World Asia featured the latest hardware and software for the Internet. In April, the Association of the Computer Industry Malaysia (PIKOM) staged PIKOM World of Internet seminar, which carries the theme, The New Market Place. Next was "PC Fare", which had estimated that RM 20 million worth of goods was traded. Multimedia Asia'96 was held in August. It was a significant event as the Prime Minister launched the MultiMedia Super Corridor (MSC). The aim of MSC is to create an environment ideal for the development and growth of multimedia products.

Later in that same year, the Prime Minister led a delegation to the United States of America to meet the prime movers of MSC, among them Microsoft CEO, Bill Gates. They have been identified as people who will act as advisors to the government in the setting up of MSC. Networld'96 was held in August, focusing on networking technology as well as the use and content of high bandwidth lines. The final event was the InfoTech'96 with the Prime Minister delivering the keynote address based on the theme "Towards a Knowledge Society - Creating the Environment for Change" and highlighted the IT agenda for the nation - Plan for Action. The IT agenda for education included the use of Internet as a tool for education.

The number of Internet subscribers (Jaring and TM Net together) had increased from 42,000 in 1995 to 250,000 for the year 1996 (Zoraini, 1996). The concentration of subscribers seems to be in the Klang valley, where it is much easier to access the Internet. Internet is still elusive for many as the cost of installing a computer with a modem for Internet connection is still costly. Users also have to pay for accessing the Internet connection. There are many rural areas still without telephone lines or a local service provider. This will hinder the rural population from accessing the Internet.

Internet craze had created a business niche for some people. Internet stations or Cybercafes are mushrooming not only in cities but also in the smaller towns. Internet has gone past the point where it could be seen as just a pastime. The Internet is clearly here to stay. The radio and telephone have not made much impact on education but Internet

can offer communication and information retrieval functions which will involved the whole world (Mike, 1996).

In relation to the above, it is important to explore the teachers perception towards the use of Internet for teaching and learning in the classroom. There are only two studies related to teacher attitude towards computer undertaken by Master of Education students at the University of Malaya between 1988 and 1997. Salmah (1994) in her survey of teachers in two states in Peninsular Malaysia found that teachers with computer experience show a more positive attitude towards computer than those who do not have it. Later, Khoo (1997) also obtained similar findings. Teacher's attitude however is not affected by location of schools, teaching experience, subjects taught, availability or ownership of computers. Teachers in the age group of 41-50 years however were positive towards computer. Khoo (1997) in her studies found that there was no difference between male or female teachers in their attitude towards the computer. Generally teachers surveyed were very positive towards the computer.

Thus far the perception of teachers towards the use of Internet in the classroom has not been identified. The perception of teachers towards the Internet is important. If education policy makers are considering to make Internet a medium for instruction in schools, they need to understand the perception of teachers towards the Internet as a new environment for teaching and learning.

1.1 Rationale

There are reasons to support the current study. Firstly, the Internet has definitely made an impact in our society in the last few years. The Internet is the new environment for information, news, communications and most importantly, business. The huge market potential of the web has resulted in a rapid rise of web-based technologies to support this endeavour. The enhancement of the web capabilities has made the web a necessary and required environment for present teaching and learning.

Secondly, educators are constantly looking for new ways and methods in delivering material, accessing information and new sources of information to motivate and raise the level of their student's achievement (Corbett, 1997). Teachers will want to integrate the web into classroom activities although they may not be clear how Internet will make an impact on the students' learning.

1.2 Purpose

The Ministry of Education in Malaysia hopes to implement the smart school concept for all its schools in the country by the year 2002 (New Straits Times, 1999). The teacher's positive perception towards the new technology and the recommended teaching approaches by curriculum planners are the primary indicators that the smart school project can be successfully implemented.

The failure in the implementation of education programmes may be due to the negative attitudes of teachers, parents and students. If the teachers' perception is positive,

the change would be successful. Internet is the new technology of our times. The use of Internet as a tool for instruction is increasing. Therefore it is important to assess the perception of the teachers in the Malaysian context which will provide valuable information to the MMOE prior to the full-scale implementation of smart schools and the use of Internet for instruction across the curriculum.

1.3 Research Questions

This is a study to obtain and analyse information on the perception of teachers towards Internet as a new environment for teaching and learning. The study is expected to answer the following questions:

- (a) What are some Internet skills teachers have acquired?
- (b) What is the perception of teachers towards using the Internet in teaching and learning?
- (c) What is the perception of teachers towards Internet's negative effects in teaching and learning?

1.4 Significance

- (a) This study will provide information regarding basic Internet skills among a group of teachers. The information may be used as a starting point to help the Ministry to plan different Internet related training skills for teachers. It will also provide valuable information to the Ministry of Education regarding teachers perception towards using the Internet for enhancement of the teaching and learning process.

- (b) The findings will contribute to a pool of knowledge concerning teachers perception towards the Internet as a teaching and learning medium and can be the basis for further research on Internet for instructional purposes.

1.5 Limitations of the Study

This study will have the following limitations.

- (a) The survey will be limited to secondary school teachers.
- (b) This study will involve 40 teachers teaching various subjects.

1.6 Definition of Terms

Perception: A belief or opinion, often held by many people and based on appearances (Cambridge International Dictionary of English, 1995).

Attitude: This refers to affect for or against, evaluation of, like or dislike of, or positiveness or negativeness towards a psychological object (Muller, 1986). The object referred to in this study is the Internet.

Internet: This refers to the world-wide network that links millions of computers at homes, offices, institutions and organisations. It involves long distance computing, electronic mail, file transfers and discussion groups.

Web: This refers to the Internet. Use interchangeably with the word Internet.

Server: This refers to the computers in which content of the Internet pages are stored.

HTML: This refers to the programming language used in creating web pages. HTML is the abbreviation of Hyper Text Mark Up Language.

Information literacy: Information literacy involves the ability to know when there is a need for information, to identify the information needed, locate it, evaluate it, organise the information and use it to address the need or problem (Rakes, 1996)

1.7 Conclusion

This study aims to determine the basic Internet skills existing among teachers and to assess their perception towards Internet as the new environment for teaching and learning. The study may provide some information, which may help the MMOE implement technology into schools in ways to motivate the teachers and to encourage them to use it in their classroom. They can also plan relevant courses for teachers with different capabilities. Teachers who are given the training and confidence will play an important role in the IT era. They will be able to help students achieve information literacy.