CHAPTER TWO

Review of Literature

2.0 Introduction

Schools are complex organisations. The response to change is slow. The last technologies to have lasting impact on the organisation and practice of schools were the textbook and the blackboard (Hodas, 1999). Therefore schools are highly resistant to the influx of new technologies. The Internet and other telecommunications are the latest entrants in this field.

This chapter seeks to review some literature related to Internet, its problems, and research that has been done in relation to Malaysian teacher's perceptions toward innovations in the school curriculum.

2.1 Teachers Perception Towards Change in the School Curriculum

Teachers, who were surveyed on the implementation of KBSR, indicated that they wanted to be involved in the process of planning with the curriculum planners. Some teachers saw the problem of increase workload and lack of time to prepare materials for the 3R system of KBSR. But most of the teachers aged 40 and above were not happy with KBSR (Nor Azizah, 1984) because they felt that their traditional methods need not change as such methods have proven to be successful in producing prominent figures in the Malaysian society. Teachers are often the passive carriers of curriculum change (Nor Azizah, 1984), and it has not changed over the past decade. Teachers want their opinion to be heard as they are in the forefront of the education system.

2.2   Teacher's Attitude Towards Computers in Education

Teachers' attitude towards the computer has been positive over the years. Studies on teacher attitude in computers (Dobb, 1996) show that teachers on the whole has a positive attitude towards the computer. This attitude may vary from population to population but the overall attitude had been positive. Kaezek (1998) said that teachers' attitude affects students' attitude towards computers. Teachers' positive attitude not only influences their approach towards information technology but also the attitude of their students. Teachers who had been teaching without computers in the classroom and are anxious about computers had the effect spilled over into their classroom. This effect will not go away unless the teacher is given training to alleviate the problem. Training must meet the needs of the teacher.

A study by Gallo (1993) on high school teachers restricting and unrestricting access to the Internet showed that:

(i) teachers experience problems of comprehension related to both the Internet and their computers, technical problems and time related problems; (ii) Internet usage was primarily a function of teacher's schedule, work load, degree of success using Internet application and relevancy of sources discovered; (iii) there was continued Internet use because it provided exciting resources and reduced the feelings of loneliness; and (iv) teachers undergo changes in perception towards education and computers as well as teaching behaviour and classroom dynamics.

2.3 Educational Uses of the Internet

The potential of the Internet for educational use has not been fully explored. Two major uses of the Internet are "direct communication and mining the vast number of databases...." (Robin & William, 1996). In their paper on the Educational Uses of the Internet, it has been noted that many programmes in the primary and secondary schools in America using the Internet had been implemented. Programmes like the KIDSPHERE litservs encourages electronic communication, pen-pals column, contact with researches and updating of trips in progress for elementary school students. The Eagan High School has a new facility designed for the future of learning with infrastructure and frame relay providing capacity for 250 simultaneous Internet accesses. Adult and higher education are also using the Internet for research, interaction and communication (Robin & Williams, 1996).

Robin & Williams (1996) surveyed 30 news groups they had located from the Internet. Questionnaires were sent to the groups and returned via E-mail. The survey contained 16 questions of which 4 were on demographics and 12 were on computer usage. The survey showed that 90 % of the respondents used e-mail and the World Wide Web. The percentage who used news groups, FTP and Telnet was about 60 %. Most indicated that they used Internet for personal research and for working with a colleague, while 70 % used it for library access. Only 34 % of the respondent utilised the Internet for class materials, student researches and class demonstrations. The finding that nearly

90 % of the respondents were 30 years and more and over 25 % were 50 or over, belies the stereotype that it is primarily the young that are adopting the Internet.

Most participants were from higher education, which probably reflect both the academic origins of the Internet and the much greater availability in the higher education. The fact that almost 30 % of the K - 12 users were not connected at all in their work reflected the need to improve access in the primary and secondary schools. Only a third of the participants had taken a class to learn to use Internet and less than a quarter had attended a conference may indicate that these resources were not widely available or participants are self-taught, as many early users has been (Robin & Williams, 1996).

While the use of e-mail may be applicable for a wide range of student ages and abilities, using the Internet for information retrieval is more problematic for the young, low-literate or second language students for whom the literacy demands of Internet may simply be too high (Mike, 1996). Information retrieval skills are more suitable for content areas and therefore has been demonstrated its usefulness in science, geography and global studies. Students who have successfully completed the search and retrieve information seem to have performed higher order cognitive tasks. Firstly, they must construct and refine a search strategy and after recording hits, they must be able to read, evaluate and make judgement of the materials. Selecting the required information and joining them together in logical fashion require the synthesis skill.

The Internet carries with it an additional benefit: the means to disseminate information. Students can generate and share content for an audience on the net. Some examples of such activities include:

(i) collective publication of electronic newsletter or magazines; (ii) generating their own home page (A home page competition was organised among secondary schools in March 1997, MMOE); (iii) conduct interviews on current issues, researchers and sports figures and post to readers to invite response; (iv) students learning a foreign language (in Japanese) in Malaysia can communicate with students in Japan to have practice in the language; (v) collecting data on pH level of rainwater and comparing them with other data collected by students in other regions; (vi) students can compare perspectives of historical events; and (vii) compete in Internet search contest.

According to Mike (1996), Internet in education can promote:

(i) a sense of audience in reading and writing; (ii) literacy for authentic purposes, meaning that the students exploring the Internet are in effect exploring the real world; (iii) literacy within a social context - as students work in groups on a project using Internet helps to promote interaction among students; and (iv) computer skills - the technical and conceptual experience in using the Internet is of increasing value within our society, even as we are hearing much about e-business on the net.

2.4   Using HTML to Create Lesson Plans

Internet may give access to a vast amount of information. But not all information is structured to meet the needs of a particular class or group of students. Teachers who are instructing these students will have to put the necessary materials relevant to the class on the web. The lessons for instructional purposes to be posted on the Internet however must be written in the language or design of the Internet. HTML is the language used to create web-based lessons. Generally, teachers will resign at the thought of learning programming as they consider the task too great for them, time consuming and probably, difficult. It is also a challenge to adapt familiar curricula and pedagogical style to new media. This integration of new technology may cause anxiety and great uneasiness among teachers (Deal, 1998). It is true that not all teachers will like to learn and do this painstaking task. But learning HTML and using it may not be so difficult after all. Teachers need to be given training and assurance that HTML is not beyond their capabilities and the reward will be satisfying.

2.5   Negative Effects of the Internet Environment

The Internet is a good place to locate information, news and communication. There are however some negative effects of using the Internet. The students who use the Internet are exposed to a lot of information on the Internet. This can be a distraction and if not properly guided, the student may not be able to concentrate on his learning. Although there is a small percentage of ponorgraphic material found the web, it is not

difficult for any student who uses the web frequently to locate it. Students also are exposed to unhealthy literature, gossip, slander, lies and abusive language.

Students who spend much time online can be isolating themselves from other students and their family members. The social and psychological well being of people who use Internet might resemble those of television if the people use it for entertainment and information. But research has shown that interpersonal communication is the dominant use of the Internet. The study also shows that greater use of the Internet was associated with decline in the sizes of their social circle, and increases in their depression and loneliness (Kraut, Mukopadhyay, Szczypula, Kiesler & Scherlis, 1998). In comparison, a study of social participation by Internet users and non-users shows that Internet is creating a nation richer in friendship and social relationships (Katz & Aspen, 1997). So there is a need for further studies to determine the social effects of the Internet.

2.6   Cyberphobia

If the words Internet, virtual reality or surfing causes uneasiness, or full-blown intimidation, it is quite likely the person is suffering from "cyberphobia". If we want to find a cure for this problem, we must create an environment that's is going to be like turning on the TV or radio. There is no sense of fear or anxiety. Andrew Denka (May 1995) offers those afflicted by the problem the following suggestions:

(i) don't assume you have to learn Internet in one sitting, take it a step at a time; (ii) allow yourself to make mistakes-no one has a perfect golf swing the first day; (iii) learn the basics first and discover the potential by using them; (iv) seek out learning

opportunities - books, magazines, seminars, a good book etc; and (v) find a computer guru to give you guidance.

2.7   Internet Based Assessment

Presently most students are assessed using the traditional approach of pen and paper. But can students be assessed online by testing them over the Internet? The advantage of the Internet approach to testing seems obvious – immediate results, aggregation, immediate analysis of data, and reduced costs. The real potential however must be identified and quantified (Slivinski, Hardwicke & Kapes, 1998). The findings of their study on Internet testing using multiple-choice questions have revealed a number of significant findings. Internet-based delivery of a test:

(i) does not affect student performance. Students who sat for the Internet-delivered and paper-and-pencil version were shown to be equivalent in the test-retest design. Internet delivery of tests introduced no bias relative to gender and special education; (ii) was preferred by students to paper-and-pencil versions by a margin 3-to-1. Students with computer experience prefer Internet testing to students who have less experience; and

(iii) required less preparation time, effort and class time, as well as substantially less effort in data analysis according to test administrators.

There were however some operational problems such as initial cost, lack of training for teachers which can cause problems in Internet testing, classrooms must be

wired with multiple Internet workstations and talent to address technical problems such as software, LAN, and Internet services.

2.8   Factors in Unsuccessful Internet Implementation

According to Sheingold (1991), a number of reasons why development or professional development activities have not been successful in enticing teachers into the Information Highway were:

(i) implementation strategies failed to realise that schools are complex organisations that have evolved along a particular path and therefore highly resistant to change; (ii) there is insufficient technical support provided for training teachers to incorporate new technologies into classrooms; (iii) insufficient time and money is invested in the process; (iv) insufficient training and lack of know how to incorporate the technology into the curriculum; (v) training is often given to the wrong group of people; and (vi) teachers get little hands on experience, little practice and no direction about how to integrate the new technology into practice.

2.9   Training

It has been noted by Mike (1996), that teachers are often left to learn new technologies by themselves. The failure in implementation of new technologies has been attributed to lack of training for teachers. Training must be provided to overcome this lack of skill and knowledge (Khoo, 1982). It is wrong to assume that teachers will have

free time during school hours to practise usage of Internet. Successful training models like outcome based staff development, which focuses the learning on meaningful outcomes instead of only learning skills. Small groups of teachers who have been trained are expected to share or teach other teachers what they have learned (Fryatt, 1995).

2.10   Conclusion

There have been little or no studies about the perception of teachers towards Internet as a tool for education done in Malaysia. Kang's (1995) case study about ten students in her own school on the effect of Internet sessions on students perception towards Internet found that students have a more positive perception after they have undergone ten lessons about the Internet.

Technologies like the computers and communication networks will change how and where education occurs. As the learning environment changes, teachers will have to take on new roles to accommodate the changes. Initially, most teachers will be quite reluctant to change but if there is sufficient exposure and training, the teachers will develop a more positive perception towards innovation.