INVESTIGATING THE USE OF THE E-MAIL IN THE TEACHING AND LEARNING OF A TECHNICAL SUBJECT AMONG POLYTECHNIC UNGKU OMAR STUDENTS

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Laporan projek ini dikemukakan sebagai memenuhi sebahagian daripada syarat penganugerahan Ijazah Sarjana Pendidikan Teknik dan Vokasional

Fakulti Teknologi Kejuruteraan
Kolej Universiti Teknologi Tun Hussein Onn

SEPTEMBER, 2002

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ACKNOWLEDGEMENTS

I would like to take this opportunity to sincerely thank my supervisor, Encik Berhannudin bin Mohd. Salleh for his attention and guidance during all the time I was doing this project. Without his help, I would not have chosen such an interesting topic and finally finish this project successfully.

Beside that, I would also like to thank all my friends who have helped me and gave lots of ideas and feedback.

Last but not least, my finest thanks to my beloved family who have always supported and loved me.

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ABSTRACT

Through the use of technology in education, effectiveness in the teaching and learning process can be achieved. In this project, the researcher wants to identify whether the usage of the electronic mail in the teaching and learning of a technical subject will benefit the teaching and learning process or not. Other than that, researcher wants to identify problems faced in applying the electronic mail in the teaching and learning of a technical subject among Polytechnic Ungku Omar students. Respondents of the project were one class of Polytechnic Ungku Omar students who were taking Data Communication subject. There were two research approaches used in getting the data which are qualitative approaches and quantitative approach. Qualitative data includes data collected through observations, interview and content analysis. Quantitative data includes data collected through questionnaires. Data collected reveals that participants used the e-mail in different ways which brought them various benefits. E-mail was used as a pedagogy of teaching and learning, medium of communication and tool for different purposes like academic purposes, general query and query for personal development, socializing, complaining and suggesting ideas. The use of e-mail was influenced by factors like gender, personality, experience in using e-mail and the features of the e-mail itself. However, the problem faced by the students such as slow downloading or server problems, limited number of computers for use, limited number of computer labs, many of the computers in the polytechnic were not working properly, crowded computer lab, compact personal time table, lecturer to students ratio was too high, difficult to understand the description, do not have enough money to surf at Cyber Café and no free or confirmed access to Internet in Polytechnic have influenced the use of the electronic mail in the teaching and learning of a technical subject among Polytechnic Ungku Omar students

ABSTRAK

Melalui penggunaan teknologi dalam pendidikan, proses pengajaran dan pembelajaran yang efektif akan dapat dicapai. Dalam projek ini, penyelidik ingin mengenalpasti sama ada penggunaan mel elektronik dalam pengajaran dan pembelajaran subjek teknikal akan membawa faedah ataupun tidak. Di samping itu, penyelidik juga ingin mengenalpasti masalah yang dihadapi dalam mengaplikasikan penggunaan mel elektronik dalam pengajaran dan pembelajaran subjek teknikal di kalangan pelajar Politeknik Ungku Omar. Responden kajian ini merupakan salah sebuah kelas di Politeknik Ungku Omar yang mengambil subjek Komunikasi Data. Terdapat dua jenis pendekatan kajian yang digunakan dalam proses mendapatkan data iaitu pendekatan kualitatif dan pendekatan kuantitatif. Data kualitatif termasuklah data yang dikumpulkan melalui pemerhatian, temu bual dan analisis kandungan. Data kuantitatif pula termasuklah data yang dikumpulkan melalui soal selidik. Data yang dikumpulkan menunjukkan peserta-peserta menggunakan mel elektronik dalam pelbagai cara yang akhirnya mendatangkan pelbagai faedah. Mel elektronik digunakan sebagai pedagogi pengajaran dan pembelajaran, medium komunikasi dan peralatan untuk pelbagai tujuan seperti akademik, pertanyaan, bersosial, mengadu dan memberikan idea. Penggunaan mel elektronik dipengaruhi oleh faktor seperti jantina, personaliti, pengalaman dalam menggunakan mel elektronik dan ciri-ciri mel elektronik. Walau bagaimanapun, masalah yang dihadapi seperti masalah server, kekurangan makmal komputer dan komputer, komputer tidak berfungsi dengan baik, makmal komputer yang sesak, jadual peribadi yang padat, nisbah pensyarah terhadap pelajar terlalu tinggi, susah untuk memahami penerangan, masalah kewangan dan tidak ada akses yang percuma di Politeknik telah mempengaruhi penggunaan mel elektronik dalam pengajaran dan pembelajaran subjek teknikal di Politeknik Ungku Omar.

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LIST OF ACRONYMS

CMC	-	Computer-Mediated Communication
E-mail	-	Electronic Mail

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CHAPTER I

INTRODUCTION

1.1 Introduction

Through the use of technology in education, effectiveness in the teaching and learning process can be achieved. According to the US Department of Education 1995 forum, many advantages can be achieved through the use of technology in the teaching and learning process as in the following statement:

> *"Technology can enhance the achievement of all students, increase families' involvement in their children's schooling, improve teachers' skills and knowledge and improve school administration and management."*

It is because through the use of technology, teacher can learn how to develop teaching material by using web and other interesting teaching material and students will be more motivated with the use of the new teaching material. Through the use of facilities available in Internet such as e-mail, school administrations can communicate with each other easily and this facilitates the management of the

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school. With the use of technology, parent can monitor their children's schooling easily.

How technology can enhance student's achievement can be seen in four aspects. The aspects are basic skills instruction, advanced skills instruction, assessment of student progress and student motivation (US Department of Education forum, 1995). Basic skills instructions include teaching multi-media software to the students and distance learning. Advanced Skills instruction includes students learning about interactive technologies like the Internet and problem solving skills. Assessment of student progress is done with active participation from the student. Student's motivation includes the involvement of family members and the student will like it better.

Electronic mail is one of the Information and Communication Technology (ICT) that can be used in the teaching and learning process (Vilmi, 1995; Baharuddin Aris, *et al.*, 2000; Graham and Scarborough, 1999). The computer is the main medium in applying the electronic mail in the teaching and learning process. The importance of computer can be seen through EPF scheme which enable EPF saver to use a certain amount of the money in buying a computer. According to Datuk Chan Kong Choy, deputy of finance minister, government effort in carrying out the campaign 'one house, one computer' is a good effort in developing more computer literate citizens. (Utusan Melayu, 2001)

According to Carmen de Pablos Heredero, *et al.* (2002), uses of electronic mail eliminate the identity barriers in relationship with time and space. This means that our behavior and thought are affected by the way in which people use the technology. According to Carmen de Pablos Heredero, *et al.* (2002) also, electronic mail is defined as a way to exchange information where messages can be sent from a personal computer or terminal to another via modem and telecommunication systems. The use of electronic mail as a communication tool for academic and personnel relationship started since 1970. It was seven years after the use of

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electronic mail started with ARPANET (as an Internet precursor) in 1963. Electronic mail is an electronic means which enables a fast communication between sender and receiver. Some of advantages identified by Carmen de Pablos Heredero, *et al.* (2002) were stated below:

a) receiving and sending messages are very fast
b) reliability in the reception and sending of messages
c) sender and receiver does not need to be at a specified place
d) messages is easy to store, resend and integrate
e) low cost

Electronic mail is one type of Computer Mediated Communication (CMC). Communication with electronic mail is asynchronous with communication being over an extended period of time. According to Cullimore (1999), the theoretical advantage of CMC tools for teaching is that they widen the community of learners. This means that it can connect many learners in the teaching and learning process. Learners can send and receive messages at their convenience.

Research done by Belisle (2002) showed that by using computers, students can become better problem solvers and better communicators. It is because learners can create, analyze and produce information and ideas more easily and efficiently. This advantage will help the students to handle problem faced in their daily life.

However, the use of electronic mail also has some disadvantages. According to Kenji Kitao and S.Kathleen Kitao (2001), one of the disadvantages of e-mail is that the receiver of the message sent cannot see the sender of the messages and this makes it difficult for the receiver to understand the sender emotions such as anger, sadness and happiness. Thus, it may be difficult to understand what the writer or the sender of the message means.

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The use of electronic mail in the teaching and learning of a technical subject can help learners to prepare for their future. This is because according to Belisle (2002), electronic mail is now becoming the communication tool of choice of many white collar workers in industrialized countries. Electronic mail is taking the place of voice, paper and fax communication. Nowadays, it is one of the employability skill required by the employers.

1.2 Statement of Problems

In the era of globalization, the development of information technology is increasing. Malaysia which is developing in the field of information technology will require more students who are computer literate. The requirement is necessary in order to ensure the success of vision 2020 (Dublin Unting cited from Utusan Sarawak, 1999). Although educational technology has been developed, there are still many lecturers using the traditional system only (Harun Arrasyid, 1977; Rohaty Mohd Majzub, *et al.*, 1990). Although there are many advantages of using educational technology but there are factors that prevent the use of technology in the teaching and learning process (Mohd Sarif Abd Manap & Ahmad Jaffni H.M. Hassan, 1996). From an interview conducted with the ex-students of polytechnics in Malaysia who are now studying in Kolej Universiti Teknologi Tun Hussein Onn, below were the problems that they faced during their studies at the polytechnic (Former polytechnic students, 2002):

1. Feel shy to express their opinions during class session
2. Some of the students feel that traditional chalk and talk method is not sufficient but it depends on the subject taught
3. Traditional ways of teaching consume time
4. Internet facilities are not enough
5. Use a lot of money in printing and binding the assignments

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6. Having problem in finding extra reading materials because not enough reference books from the library, can borrow the books for a certain time period only and most of the books are old books.

In this research, I want to identify whether the usage of electronic mail in the teaching and learning of a technical subject will benefit the teaching and learning process as well as the problems faced in applying the electronic mail in the teaching and learning of a technical subject among polytechnic Ungku Omar students.

1.3 Objectives

The objectives of the research are:

1. To identify whether the usage of electronic mail will benefit the students in the teaching and learning of a technical subject or not

2. To investigate how students would use the electronic mail in their daily communication on a technical subject

3. To identify problems faced in using electronic mail in the teaching and learning of a technical subject

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1.4 Research Questions

The research questions of the research are:

1. What are the benefits that can be gained by applying electronic mail in the teaching and learning of a technical subject?

2. How would students use the electronic mail in their daily communication on a technical subject?

3. What are the problems faced in applying electronic mail in the teaching and learning of a technical subject?

4. What are the perceptions of polytechnic Ungku Omar students towards the use of e-mail in the teaching and learning of a technical subject?

1.5 Importance of the Research

This research is being done to expose and to arouse administrations people regarding the importance of using e-mail in helping lecturer and student of polytechnic in the teaching and learning process. The importance brought about by this technology can be seen from students' side, lecturers' side as well as polytechnic's side.

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1.5.1 Students' Side

The usage of e-mail is hoped to be able in increasing the understandings of the students towards the teaching materials. Learning process is hoped to be more effective and efficient through the usage of e-mail in the teaching and learning process. With this, students will be more motivated in their studies and will achieve good result. Research done by Belisle (2002) showed that by using computers, students can become better problem solvers and better communicators.

1.5.2 Lecturers' Side

This research is hoped to help the lecturers realize about the importance of e-mail in the teaching and learning process. Other than that, lecturers can prepare themselves to face the challenge of information technology in increasing the quality of teaching. If through the research, it is proven that the usage of e-mail will bring benefit for the students, then lecturers can apply the same method in their teaching. In order to use the technology effectively, lecturers needs to read a lot about the current technologies and their advantages as well as ways in implementing the technology in the teaching and learning of technical subjects. According to Kunde (1998, cited from Shelton and Lane, 2001), "many colleges and universities are now eagerly working to prepare experts who can facilitate use of the Web and extend employment horizons for students."

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1.5.3 Polytechnic's Side

This research is hoped to help identify the problem faced by the students regarding the facilities provided while using the e-mail in learning a technical subject. With this information, the administration of polytechnic can try to solve the problem for the sake of the students. For example, if the computer with internet facilities is not enough, maybe the polytechnic can provide more computers with internet facilities. In another words, we can say that the research will help the polytechnic in the future planning. According to Shelton and Lane (2001), three important things that should be considered when implementing CMC into the classrooms which are access for all students while remaining cost effective, judicious use and pay attention to potential consequences.

1.6 Limitations of the Research

Population of the research is one class of students at Politeknik Ungku Omar (PUO) who are taking Diploma in Information Technology. Exposure to online learning will be carried out with the students in order to achieve the objectives of the research. The research is limited to the technical subject only. Due to the limitation of time, the research will be carried out with the students for four weeks only.

1.7 Definition of Terms

Below is the definition of terms that will be used throughout the report.

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