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Foreword

This is the first time that ESTEEM Academic Journal UiTM Pulau Pinang has come up with 2 publications in a year! Previously, ESTEEM was published once biennially.

For these publications to materialise, I would like to thank Associate Professor Mohd Zaki Abdullah, the Director of UiTM Pulau Pinang for his unflinching support and who always told me, "Go ahead, don't worry about the money!".

Both the Associate Professor Mohd Zaki Abdullah and Dr. Mohamad Abdullah Hemdi, the Deputy Director of Academic Affairs really provided me with a great deal of assistance in ensuring that there are sufficient articles for publishing. Both of them have emphasized the need for lecturers to embark on journal writing. Incidentally this is one of the prerequisites for promotion among the academic staff members of UiTM Pulau Pinang.

I do not think I can run the show alone without the help from the editorial board, reviewers and the cooperation from University Publication Centre (UPENA) of UiTM Malaysia. My special thanks to Mr. Mohd Aminudin Murad for his efficiency in editing articles and to Dr. Khairil Iskandar Othman for speeding up the final stage of printing process.

Since writing is an important criterion in rating a university, I feel it is a great responsibility for me to produce a good journal. Fellow colleagues, let's work closely to put UiTM Pulau Pinang in the final list of Anugerah Kualiti Naib Canselor (AKNC) and Anugerah Kualiti Perdana Menteri (AKPM) by submitting more quality articles to ESTEEM!

Lastly, let me end by thanking all of you for giving your unwavering support to UPENA.

The Chief Editor
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Students' View on Using Web-Based Resources in Learning: Qualitative Study

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ABSTRACT

The widespread acceptance of Web Technology in our tertiary institutions has brought about changes in the style, quantity, and variety of resources that are made available to students. A new learning environment is available for students. However, there are still questions regarding the readiness of students in using the abundant resources made available to them on the Web. This study examines students' readiness in using web-based resources. Variables that were looked into are the level of technology usage, perspective on technology, motivation and attitude, learning styles, and expected support. Thirteen interviews were conducted randomly on diploma and degree engineering students (electrical, mechanical, and civil). Results obtained showed that students take the term web-based resources to be synonymous with the Internet, rating themselves as novices in computer usage, and commented that web-based resources could provide them with the latest and useful extra information. Responses given showed that students are mentally ready but not technically ready.

Keywords: *web-based resources, technology in education, readiness, motivation, attitude*

Introduction

It is widely known how computer usage is important in our life nowadays. Workers are expected to be computer literate to be able to perform their tasks efficiently and effectively. Teachers and students are encouraged to integrate technology in their teaching and learning. A number of research done has proven that technology can help to enhance and improve on the learning process. In a study, Song, Singleton, Hill, and Koh (2004) pointed out the need of studying the learners' perspective of online learning environment in order to build a more effective web-

based instruction. Hence, information technology companies try to come out with new hardware and software that promise better service and usage to the users. Parallel with the increasing usage of information technologies in our life, graduates are expected to be knowledgeable and competent in computer usage.

Knowing the existing scenario, academicians play a role in providing the type of graduates needed. With web-based learning, students are expected to develop the skills in information retrieval and communication, become independent individuals, and competent computer users. These are the results expected from the students, but what are their views when they are introduced to this new learning environment?

Do the students understand the term web-based resources? Do the students know how to access and use web-based resources effectively and efficiently? Do they feel they are provided with enough facilities, training and support from the lecturer or administrator?

In order to determine students' acceptance and readiness in using web-based resources, it is important to know the perception on their level of technology usage, level of computer resources usage and their perspective on technology.

Literature Review

Abundant research has been done to show how technology can help to improve the education system. Research done by Morss and Fleming (1998), and Goldman and McCombs (2002) mentioned how technology provides flexibility in modes of education. Knowledge delivered with the help of technology can be transferred at any time, from anywhere and at any place.

The activities engaged in teaching become more rewarding with the support of technology in education. Suanpang, Petocz, and Kalceff (2004) did a comparison study to determine the effectiveness of a new online course in the subject of "Business Statistics" between two groups of students, one studying using a traditional lecture-based approach, and the other studying using e-learning.

Trying to integrate technology into teaching and learning is not an easy job. Traditional expectation of a student towards a teacher should be shifted. Students should be exposed to the idea that the teacher is no more the so called "expert" in giving explanations and delivering the content. Teachers should be viewed as a facilitator and students should

learn to acquire knowledge themselves by being self-directed learners. A study done by Arif (2001) concluded that in general students favored traditional delivery methods compared to web-based delivery methods.

Research done by Alias and Hussin (2002) reported that students' perceived language learning websites to be helpful if it contained a variety of information, interactive activities and tasks, feedback, an attractive presentation format and on-line discussions compared to one which only offers tutorials or notes.

Student success in using web-based resources in learning depends on their motivation and attitude. This is in line with the statement by Heinstrom (2003). He stated that personality traits are likely to influence attitude and behavior in an information seeking context since personality forms an inclination towards certain characteristic reactions in any given situation. Motivation and interest influence the way information is used and critically evaluated. Hence, design of the course, comfort with online technologies, motivation of the learner and time management of the learner play an important role in creating successful on-line learning environments (Buchanan, Xie, Wolfram, & Brown, 2000; Song et al., 2004; Santhanam & Leach, 2000). All the elements mentioned were in line with the recommendations given by Zariski and Styles (2000). In order to enhance students' learning in an online environment, they recommended deficiencies in online environment to be addressed, acknowledge the affective dimension, streamline online structures, encourage student reflection, provide initial ongoing support, and lastly mix modes should be applied.

Students' predominant learning style cannot be used as a predictor to determine students' engagement in Web coursework (Moan & Dereshiwsky, 2002). On the other hand, according to Ibrahim, Silong, and Abu Samah (2001), successful online learning depends on the presence of self-directed learning because it is the function of the individual learner. As a self-directed learner, students should be able to explore information and construct knowledge on their own. Unfortunately, students involved in their research were reluctant to take control of their own learning. Hence, it is important for the instructors to have adequate information on the students to ensure it can be incorporated into the learning activities.

In a virtual learning environment study, Ashby and Broughan (2002) suggested that suitable support and guidance from tutors should be given to students before they were expected to embrace this new form of learning. Ibrahim et al. (2001) added the importance of adequate

administrative and technical support in helping students to be engaged in self-directed learning. On the other hand, Arbaugh (2000) recommended training should be given to faculty staff too, in order to have successful internet-based courses. Therefore, he recommended institution to provide training in both teaching methods and the most current technology, and provide adequate technical support to faculty staff, so that they can focus on course content and pedagogy rather than technology issues.

Serious consideration should be given to the principles and infrastructures when designing and developing a web site for teaching and learning. Ting et al. (2000) noted the importance of easy navigation, consistent and simple terms, linkage to more detailed content, readability, and interactivity. If the Internet is to be used in education it should be used where its advantages such as access, time, and geographical independence, and interactivity outweigh the extra costs involved in its production (D'Souza & Bunt, 2000). Slow computers, incompatible systems, and software that are difficult to use will not enhance student perception of quality (Arbaugh, 2000).

Research Methods

The purpose of this study is to investigate on students' views regarding web-based resources in learning and conclude on student readiness in using web-based resources. Two main research questions that guided this study are as follows:

1. Are the students ready to accept and able to refer to web-based resources in their learning?
2. Do the students prefer paper-based or web-based resources?

Participants

The study participants were diploma and degree students from engineering schools (civil, electrical and mechanical). Thirteen students agreed to participate in the interview. All students in the study were contacted face to face by the researchers and asked to voluntarily participate in this study. They were interviewed on an individual basis.

Data Collection

The study adopted qualitative (interview) data collection methods. A set of semi-structured open-ended questions was prepared and used as an instrument when conducting the face-to-face interview among the students. This instrument was used as a guideline and respondents were allowed and encouraged to discuss about the given issues in detail. In-depth interviews with semi-structured questions were conducted to obtain information on students' views regarding web-based resources. All participants agreed to the use of audio taped interviews.

The following questions were used as a guideline during the interview sessions:

1. What do you understand about web-based resources?
2. How would you rate your current expertise as a computer user? Have you used web-based resources before?
3. In your opinion, can web-based resources help you in your studies? In what way do you think it will help you?
4. Do you prefer to have a lecturer referring to web-based resources while lecturing in class? Why? Have you come across any lecturer using it? To what extent did he/she used it?
5. In your opinion do we have enough computers to be used by our student on campus? Why?
6. For your course materials, do you prefer to it paper-based or web-based? Why? Please name the materials you prefer to have in web-based.
7. If you are given enough facilities and training, do you think you would enjoy learning using web-based resources. Can you name the facilities and training needed by you?
8. In your opinion, are the students ready to accept and able to refer to web-based resources in their studies? Why?

Data Analysis

Qualitative data analysis consisted of coding the interview transcripts. Indicators from the interview protocol were identified to assist with coding. Once the interview was completed, it was transcribed, coded, categorized, analyzed, and translated for reporting.

Results

The interviewees were picked at random among diploma and degree students. The qualitative data collected supported the quantitative finding, which was reported in another paper. The following are examples of comments made by students in response to the questions given during the structured interview.

Technology in Education

Students were asked on what they understand about web-based resources. The responses obtained showed that the students take the term to be synonym with Internet. Below are some excerpts from the students' comments.

> "For me I think the web-based resources can help the students to find something what she or he wants … information in the Internet." – Male, Diploma

> "I think basically we find information from Internet … technologically from something in the Internet." – Female, Diploma

> "Just like Internet, a place to get the latest information … fast … lots of information." – Female, Degree

Students' Perspective on Technology

Students were asked to rate their current expertise as a computer user. The answers gathered showed that most of the interviewed students rated themselves as "basic", "not a pro but just basic", and "doesn't know much – just know how to use Microsoft Word". These responses confirmed with the quantitative findings, which showed 61.4% of the engineering students rated themselves as "novices".

Students were asked for their opinions regarding how web-based resources help them in their studies. Most students responded positively towards web-based resources and they consider it to be an additional means to get a lot of information easily. The students comments are as follows:

"No … can't see people when using the Internet for studies … not linked directly to lecturer … this is a bit difficult." – Male, Diploma

"I think yes … to find the information … for assignments … ways to search for information." – Male, Diploma

"Probably … not all materials can be used … can get materials from books probably … web-based … quite helpful to us." – Female, Diploma

"Yes … if need the information quickly … with books will be a bit difficult." – Female, Degree

Motivation and Attitude

Students were asked if they prefer their lecturer to refer to web-based resources while lecturing in class, and the responses gathered were mixed. Students who disagreed with the idea, mentioned about the difficulties faced by them. Some of the comments are as follows:

"Disagree … difficult to serve Internet … I have gone thru it." – Male, Diploma

"I don't think so because … hard for us … need connection to find the information … because most prefer paper-based." – Female, Diploma

Other students felt that the lecturer can provide extra and in depth explanations by referring to the web-based resources since they will be able to get the updated and latest information in the education world. Their comments are stated as follows:

"I think it's okay because now many people … using the Internet is important now … if don't use then left behind … helpful in our studies." – Male, Diploma

"I prefer lecturers to use the Internet cause can give information … the information in the internet can be explain by lecturer." – Female, Diploma

"Yes … because it can provide more information … for better understanding." – Female, Degree

Academic Preparedness and Learning Styles

Students were asked on their preference for course materials. Students who stated a preference for paper-based materials only, believe that it is easier, and link directly to what is being lectured in class. The comments below are the reasons for their preferences for paper-based materials.

"Paper-based … easier … common and easy to use." – Male, Diploma

"Paper-based … need to search for web-based materials … if paper-based, given by lecturer … web-based materials search by students won't get results as expected." – Male, Diploma

"Paper-based … can take home … not much time spent to surf Internet … need to go to cyber café … have to spend money and time." – Female, Diploma

On the other hand, there are students who prefer to have their course materials in both forms, paper-based and web-based. They commented that web-based could provide them with the latest and extra information. The comments are as follows:

"Both … paper-based not updated but correct … web-based updated but not all information are correct." – Male, Diploma
"Both … paper-based is clearer … if Internet it can be viewed in general only… not in depth." – Female, Diploma

"Both … paper-based easier to understand … web-based could increase knowledge … lecturer can't provide all." – Female, Degree

Students were asked for their opinions regarding students' readiness, acceptance and ability in using web-based resources to support their learning. Responses given showed that the students are mentally ready but not technically ready. These were based on the comments given below.

"Ready … there are lecturers who refer to website and didn't follow textbooks directly … give training first … mentally ready but some of them don't have the technical … not many students know that they can surf Internet in the computer lab."– Male, Diploma

"Depends on the students … if they are computer literate, may be web-based is better for them … but the students who are the bookworm type better use paper based." – Female, Diploma

"Both … paper-based easier to understand … web-based could increase knowledge … lecturer can't provide all." – Female, Degree

"I don't think that students are ready to use the web-based resources because many students do not know how to use the technology yet." – Male, Diploma

"Both … paper-based easier to understand … web-based could increase knowledge … lecturer can't provide all." – Female, Degree

Support

Students were asked if there are enough computers for students on campus. Comments obtained showed that students felt that there are not enough computers for their use. The comments are as stated below.

"No … have experienced using computer on campus … first come, first serve … really not enough." – Male, Diploma

"Not enough yet, because … during peak hours most students do not have computers." – Female, Diploma

"No … if want to use computers, have to take turn … can't enter computer lab except during class hours … so difficult for students without own computers … looks like there are not enough facilities." – Female, Degree

Students were asked for their opinions regarding using web-based resources to support their learning if they are provided with enough facilities and training. The following are some of the responses given by the students interviewed.

"I will enjoy … can't visualize if learning doesn't come with training … won't be able to apply for future use … after graduation if there is no practical then it will be difficult to apply … training that is related to job requirement. Related training in technology such as PIC." – Male, Diploma

"Probably I will enjoy … but I am not a computer person … so, don't really care about it … training on designing software." – Female, Diploma

"Yes … training such as programming which needed in courses taken." – Female, Degree

Discussion

The result of this study indicates that in general engineering students are still not comfortable with their current expertise in using computers in their studies. Students should be given the assistance to build their confidence and to enhance their ability in using computers.

Students' attitude towards technology does give a significant effect on students' readiness in using web-based resources in their learning (Ibrahim et al., 2001). This study reveals that most of the engineering students responded positively towards web-based resources and they consider it to be an additional means to get a lot of information easily. They also suggested that they should be provided with appropriate training on computing knowledge and skills.

Hence, it can be summarized that the engineering students believed that they are mentally ready to use web-based resources to support their learning but they are not technically ready.

Recommendations for Further Research

This study has presented students' views on using web-based resources in learning. From the results, it can be concluded that students believe they are ready to use web-based resources in their learning but before the Internet can be incorporated into learning activities it is important for instructors to have adequate information about the students' profile to ensure students' readiness.

For further research, psychological factors in information seeking behavior should be considered as one of the determining factor since Heinstrom (2003) listed cognitive processes, motivation and interest, and

cognitive styles to be aspects that influence information behavior. In order to be able to refer to web-based resources effectively and efficiently, students should have the right attitudes toward information seeking behavior.

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