International Journal of Engineering & Technology, 7 (3.20) (2018) 275-278

International Journal of Engineering & Technology

Website: www.sciencepubco.com/index.php/IJET

Research paper

Computer Anxiety and Skills amongst Undergraduate Students from Rural Areas

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Abstract

With the rapid growth of technology, nowadays people are using Information Communication Technology (ICT) as a tool in all aspects of life. Malaysia towards Vision 2020 has implemented many initiatives in ICT transformation for community including students from the rural areas. This study is conducted to examine computer level of anxiety and skills amongst undergraduate students from rural areas at selected private higher institutions in Negeri Sembilan. The study was done through distribution of 128 questionnaires to year one students from non-computing programs who are enrolled computer literacy subject at the institutions. The findings of this study show that the level of anxious on using computer amongst undergraduate students is low. The students also show a good level of computer skills but low level of web site development skills. It is recommended that any web site development training for rural areas students should take into consideration for student's enhancement and career. Future study on web site development skills amongst undergraduate students from rural areas at higher institution also is recommended.

Keywords: *Computer Anxiety, Computer Skills, Rural Areas and Undergraduate Students*.

1. Introduction

Nowadays, with the emergence of information and communication technologies (ICT), computers have become an essential tool for the effective implementations of ICT programs in Malaysia education. The Malaysia education system is planned to educate students as the future workforce who are technology - savvy, innovative and conversant in technical know-how [7]. The planning has been highlighted in Eleventh Malaysia Plan (11MP) for ICT development in the rural areas by introducing e-business and broadband services to all community in rural areas (Economic Planning Unit, 2015).

Computer anxiety has influenced on the choice of learning computer [13] and users may avoid using computers because of phobic condition due to a certain changes. It can be defined as an emotional response usually resulting from a fear of using the computer with negative experiences such as damaging the computer components or looking foolish [4]. Ariffin [2] Indicated that computer anxiety has also been identified as a factor in the adoption of new technology and with ICT, it could reach to higher levels of anxiety when using or confronted with the prospect of having to use. According to Hassan, Samah, Shaffril and D'Silva [8], attitude towards ICT are measured by computer anxiety, computer confidence, computer liking and computer usefulness. In addition, Judi, Amin, Zin and Latih [11] have stated that students, who are familiar with ICT, must have good attitudes towards computers.

ICT in learning purpose has become an importance for anyone engaging in education and training in schools, universities or workplace [3]. Hindi, Miller and Wenger [10] highlighted that the Ministry of Education would ensure students in all level of education are expected to gain ICT knowledge effectively in enhancing their learning process. According to Heinssen, Glass and Knight [9], students with limited computer skills would have more challenges with the demands of the industry workplace.

The advent of ICT in higher education has change the teaching and learning environment at higher institution. Therefore, students are expected to have good skills in ICT. To support this purpose, Malaysia government has launched the national online learning portal for higher education, known as Malaysia Education Online (MEdO), in April 2011. The goal of National e-Learning Policy is to have 30% of all higher education courses delivered online by 2015 [12].

However, the acceptance towards computer by the students is become the important factor for the successful integration of ICT in the education system especially for students whom come from rural areas. Therefore, it is necessary to identify the level of students on computer interaction and identify the causes of the use or misuse of computers. Computer anxiety towards computers is one of the concepts that closely related to the computer acceptance [1]. In addition, Aswathi and Mohammed Haneefa, [17] have highlighted that the benefits of ICT to produce knowledge cannot be utilized if the computer literacy amongst students is low.

In 2011, Tech and Lai indicated that the level of competencies on computer amongst pre-university students in Malaysia is still low. However, based on study conducted to students from three community colleges in Malaysia rural areas, Zuhari, Salayang and Rahman [16] revealed that the students have good skills in

information retrieval using the internet. Nevertheless, the students have moderate skills in some internet applications and word processing. The students also have low skills in creating, modifying and maintaining website. This is due to lack of training opportunities for them.

Previously, many studies are conducted on computer anxiety and skills such as study done by [15-16]. However, these studies are conducted at secondary schools and public higher institution, with less attention given on private higher institution. Therefore, this study is conducted to examine the perception of anxiety and skills on ICT amongst undergraduate students at one of the Malaysia private higher institutions in Negeri Sembilan. Focus of this study is on students whom are from the rural areas.

Medel [18] said that students these days are more connected, and they are laying a new set of social usages for technology in the classroom. He conducted a study to find out what the role of social media in the classroom was, and what their usage for academic purposes could be. The result revealed that the students are always connected, regardless of the social situation. A large majority of the surveyed individuals (81%) admitted checking social media during class time, whether browsing Twitter, sending a video on Snapchat or messaging friends through Facebook. What used to be a traditionally quiet environment of attention and concentration on the lecture has turned into a good moment to interact with friends over social media. The improvements in technology have clearly facilitated it, and have redefined our previous concept of classroom management.

This paper will provide an understanding on the use of social media technology among students in Universiti Malaysia Perlis (UniMAP), as to find out the effectiveness of its usage in teaching and learning in the university.

2. Methodology

This study employed a survey research design to investigate undergraduates' computer anxiety and computer skill toward the computer amongst year one students in a private higher institution in Negeri Sembilan, Malaysia whom are from rural areas. The subjects for this study were 128 students from non-computing programs that enrolled for computer literacy subject at this institution on the first year of academic. The information used for this study was gathered through a questionnaire, which comprises of three different sections: the first section was designed to capture the respondents' demographic information which comprised gender, age, race, address, state, program, computer experience, duration of using computer and computer literacy level. The second section was designed to measure perception on anxiety of using computer amongst undergraduate students from the rural areas. The evaluation of computer anxiety in this study was done using Computer Anxiety Rating Scale (CARS) adopted from Heinssen, Glass and Knight [9] which evaluated using five ranges of anxiety (very anxious, anxious, relaxed, generally relax and very relaxed). The last section was designed to evaluate the computing skills amongst students using Computer Related 'Can You' questions adopted from Son, Robb and Charismiadji [14]. The data collected for this study was analyzed using descriptive statistical methods. The analysis was done by the IBM Statistical Package for Social Science (SPSS) version 22.

3. Results

A. *Respondents' Demographic Profile*

Respondent's demographic profiles are presented in Table 1

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Table 1. Respondent's Demographic Profile (N=128)

Gender	Male	57.8%
	Female	41.4%
Age	19-24	75.0%
	25-30	18.0%
	31 and above	7.0%
Race	Malay	61.9%
	Chinese	16.7%
	Indian	19.8%
	Others	1.6%
Computer experience	Yes	79.7%
	No	20.3%
Duration of using computers	1-5 years	27.2%
	6-10 years	49.5%
	11-15 years	16.3%
	16-20 years	5%
	21-25 years	1.7%
Mean Duration of using computer	8.57 years	
Level of computer literacy	Poor	1.6%
	Adequate	18.1%
	Good	71.7%
	Excellent	8.7%

B. *Respondents' Computer Anxiety*

The respondents' perceptions on computer anxiety are evaluated based on the fifteen CARS items as shown in Table 2.

Table 2. Respondent's Computer Anxiety (N=128)

Num.	CARS Items	Range of Anxiety				
		Very Anxious	Anxious	Relaxed	Generally Relax	Very Relaxed
1	Hesitate to use a computer for fear of making mistakes that I cannot correct.	11.8%	7.1%	32.3%	39.4%	9.4%
2	Feel apprehensive about using computers.	8.6%	7.0%	33.6%	40.6%	10.2%
3	Feel insecure about the ability to interpret a computer printout.	9.4%	9.4%	35.9%	32.8%	12.5%
4	I have avoided computers because unfamiliar and somewhat intimidating to me.	14.2	10.2%	28.3%	37.8%	9.4%
5	Think about destroying a large amount of information by hitting the wrong key.	11.7%	10.9%	32.8%	34.4%	10.2%
6	Difficulty in understanding the technical aspects of computers.	7.9%	14.2%	25.2%	42.5%	10.2%
7	Need to be a genius to understand all the special keys contained on most computer terminals.	10.9%	7.0%	34.3%	29.7%	18.0%
8	Not interested working with machines that are smarter than I am.	11.2%	14.4%	28.0%	32.0%	14.4%

9	I am afraid that if I begin to use computers I will become dependent upon them and lose some of my reasoning skills.	11.0%	13.4%	29.1%	32.3%	14.2%
10	The challenge of learning about computers is exciting.	3.1%	6.3%	29.9%	37.0%	23.6%
11	I am confident that I can learn computer skills.	0.8%	3.9%	28.9%	38.3%	28.2%
12	I look forward to using a computer on my job.	3.2%	4.8%	31.7%	42.1%	18.3%
13	Learning to operate computers is like learning any new skill, the more you practice, the better you become.	3.1%	6.3%	27.3%	42.2%	21.1%
14	If given the opportunity, I would like to learn about and use computers.	2.3%	5.5%	28.1%	44.5%	19.5%
15	I am sure that with time and practice I will be as comfortable working with computers as I am in working with a typewriter.	3.1%	3.9%	31.3%	43.8%	18.0%
16	Anyone can learn to use a computer if they are patient and motivated.	3.1%	5.5%	29.7%	38.3%	23.4%
17	I feel computers are necessary tools in both educational and work settings.	3.1%	7.8%	28.1%	35.9%	25.0%
18	I feel that I will be able to keep up with the advances happening in the computer file.	4.7%	3.1%	29.7%	41.4%	21.1%

From the results, more than 10 percent of the respondents feel very relaxed in handling their anxiety when they are using the computer. Most of respondents are found generally relaxed when using the computer, understanding the technical aspects of the computer, and willing to learn about and use the computer if they were given an opportunity. The respondents also feel convenience working with the computer and having a
positive mind to keep up with the advances happening in the computer files. In addition, more than 30 percent of respondents feel relaxed and generally relaxed in certain situations, such as making mistakes that they could not correct, interpreting computer printout, receiving unexpected action when they hit a wrong key, understanding all the special keys contained on most computer terminals, looking forward to use computers in their career and being comfortable working with computers.

The results also reveal that more than 25 percent of respondents feel relaxed with something unfamiliar and intimidating them, understanding the technical aspect of computer, working with smart machine, dependent on the computer, take challenge of learning computer, confident to learn computer skills, learning to operate and use computer, able to learn computer if they are patient and motivated, and they also feel that computer is a necessary tool in learning and work settings. Finally, less than 20 percent of respondents feel anxious and very anxious to use computer in their study.

C. Computer Skills

Table 3 presents the perception of the respondents on computer skills based on 'Can You' questions.

Table 3. Respondent's Computer Skills (N=128)

Num.	Computer Related Knowledge/ Skill	Yes	No
1	Turn on and shut down a computer properly	98.4%	1.6%
2	Start and exit a computer program	98.4%	1.6%
3	Change monitor brightness and contrast	94.5%	5.5%
4	Minimize, maximize and move windows on the desktop	96.1%	3.9%
5	Perform file management including deleting and renaming files, etc.	96.1%	3.9%
6	Use a 'search' command to locate a file	92.9%	7.1%
7	Install a software program	87.5%	12.5%
8	Scan disks for viruses	88.9%	11.1%
9	Move a file from a hard drive to a USB drive	93.7%	6.3%
10	Write files onto a CD	83.5%	16.5%
11	Resize a photograph	89.9%	10.2%
12	Record and edit sounds	85.8%	14.2%
13	Print a document using a printer	92.9%	7.1%
14	Create a basic Word document	91.3%	8.7%
15	Copy, cut and paste text in a document	94.4%	5.6%
16	Change font style and size in a document	92.1%	7.9%
17	Create a basic Excel spreadsheet	86.5%	13.5%
18	Create a simple database using Access	82.5%	17.5%
19	Create a simple presentation using PowerPoint	93.7%	6.3%
20	Create a simple Web page	67.5%	32.5%
21	Send and receive attachments through e-mail messages	85.0%	15.0%
22	Search for information online using a Web search engine	89.9%	10.2%
23	Download and save files from the Web (e.g., text, graphic, PDF files)	90.5%	9.5%
24	Use a video conferencing tool on the Web	80.2%	19.8%

There are altogether 24 items in a component that are evaluated using "Yes" or "No". For this component, over 80 percent of respondents indicated that they are able to do various computer-related tasks, while less than 20 percent of respondents indicated that

they are not able to do various computer-related tasks. Other than that, 32.5 percent of respondents indicated that they are not able to create a simple Web page. It shows that students have limited experience in web development and further initiatives are supported for student's benefits.

4. Conclusion

This study has shown that the student's awareness on ICT transformations for improvement of their education, career and life is at high level degree of awareness. The study shows that most of the students have low level anxiety when they use a computer, and they are able to demonstrate their skills when using computer for their learning process. These findings also lead the researchers to conclude that the undergraduate students from the rural areas at the selected private higher institutions in Negeri Sembilan, Malaysia, have considerably good computer skills. The results also show that the students have moderate level of skills in web site development. It is recommended to introduce additional trainings related to web site development to the students as an elective course at higher level education. Future study on the web site developme/nts skills amongst students from rural areas at higher level education also is recommended.

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