Computer Self-Efficacy and Attitude Towards e-learning:
A Study Among Graduate Students in Nursing in an Open University in the Philippines

Queenie Roxas-Ridulme

Assistant Professor, University of the Philippines Open University, Philippines, queenie.ridulme@upou.edu.ph

Abstract

With the advent of computer technologies and Internet, the University of the Philippines Open University (UPOU) has adopted online teaching and learning making education more accessible to students using the Internet. This study investigated the computer self-efficacy and attitudes of Master of Arts in Nursing graduate students towards e-learning. Results showed that the students' computer self-efficacy skills were high in their beginning skills and rated fairly in their advanced skills. The students were also very confident in using their computers and had a positive attitude towards their learning through the Internet. The findings also revealed that there was no significant relationship between the students' computer self-efficacy skills and attitude towards e-learning with a p-value of 0.902. This means that the students' positive attitude towards e-learning does not affect their computer self-efficacy skills. It was concluded that even if the students have beginning skills in using their computers, they still feel positive in their studies.

Keywords: *online teaching and learning, attitudes on e-Learning, computer self-efficacy*

Introduction

Online teaching and learning emerged through the fast growing information and communication technologies nowadays. This allows students to choose from different forms of education such as the conventional form, blended learning, online mode of teaching and others.

The UP Open University is a pioneer in online teaching and learning in the Philippines with a mission to provide wider access to quality higher education through innovative methods of teaching and learning. One of its graduate programs is the Master of Arts in Nursing, which uses the blended form of learning, through its discussion forums, online quizzes and exams, and its face-to-face clinical practicum for clinical courses.

Some students may find online learning difficult and hard to cope with and some students may find it easy, enjoyable and motivating. Thus, students enrolled in this form of education may exhibit different attitudes to e-learning and self-efficacy in using computers and the Internet. According to Compeau & Higgins (1995) as cited by Brown J. H. (2008), "computer self-efficacy (CSE) is a judgment of one's capability to use a computer". Computer self-efficacy has an impact on an individual's expectations towards using computers. Attitude, according to Anastasi (1976) as cited by Bhuvaneswari & Padmanaban, et al (2012), is defined as a tendency to react favourably or unfavourably towards a designated class of stimuli. It is a dispositional readiness to respond to certain situations, persons or objects.

Computer Self-Efficacy and Attitude Towards e-learning:
A Study Among Graduate Students in Nursing in an Open University in the Philippines

53

A study by Khorrami-Arani O. (2001) showed that at the start of the IT course, students have little anxiety towards computers and are quite confident, but are indefinite in terms of liking computers. It also showed a high comfortableness about their ability to use computers (computer self-efficacy) at the start of the course. Moreover, the students' previous computer use and computer experience is also quite high. Overall, students' attitudes towards computers and their degree of confidence in their use of computers are quite high.

In a study by Sam, Othman, and Nordin (2005) on the undergraduates' computer anxiety, computer self-efficacy, and reported use of and attitudes toward the Internet, results showed that the undergraduates had moderate computer anxiousness, medium attitudes toward the Internet, and high computer self-efficacy and used the Internet extensively for educational purposes. It also showed that the undergraduates studying computer related disciplines appeared to have higher self-efficacy towards computers and the Internet. However, higher level of Internet usage does not necessarily correspond to better computer self-efficacy and may not feel more comfortable using the Internet. Other possible factors that could influence CSE and CA are the types of application used, the purpose for using them, and the individual satisfaction gained from using them. Higher usage of the Internet does seem to decrease the levels of computer anxiety among undergraduates, which in turn displayed a more positive attitude toward the Internet.

In a study conducted by Vrana, Zafiropoulos and Drogalas (2005), the results revealed that e-learning for secondary education was both considered important and could be used as an alternative. However, the ability and familiarization for both students and teachers to implement e-learning effectively seemed to be an issue.

Mehra and Omidian (2011) have examined the post graduate students of University of Panjab, India regarding their attitudes towards e-learning. Students attitude towards e-learning were significantly positive. It was explained by variables such as perceived usefulness of e-learning and intention to use.

Another study conducted by Suri and Sharma (2013) which studied the effect of age to students' attitude to e-learning. The results showed that age did not significantly affect the attitudes to e-learning. Students' view in e-learning depended on two attitudes. Positive affective attitude was observed when e-learning served as useful tool through the design of an e-Learning webpage. On the other hand, negative affective attitude was attributed in the difficulty to cope up (Alhabahba, Ziden, Albdour & Alsayyed, 2012).

The purpose of this study was to describe the computer self-efficacy and attitude towards e-learning of graduate students in nursing in an open university and the correlation between these two variables.

Methodology

Online survey was conducted among Master of Arts in Nursing (MAN) students enrolled to gather information and data needed in the preparation of this paper. A total of 33 MAN students participated in the study.

First, the respondents were requested to answer a consent form which also included some socio-demographic questions about the participants. Then, they were requested to answer both the questionnaire on Computer Self-Efficacy Scale for Adults and Attitude Towards e-Learning, respectively. To measure the computer self-efficacy of students, the questionnaire created by Murphy (1989) was adopted.

Descriptive analysis was used to discuss the socio-demographic profile of the participants. For the results of the used instrument, mean and standard deviation were computed. SPSS was used to determine the relationship of the two variables.

Results and Discussions

Profile of Research Participants

Table 1 shows that 82% of the participants in the study belong to the 21-40 age group while 18% belong to the 41-60 age group. Almost all of the students who participated are female (70%). In terms of civil status, 76% are single while only 24% are married. With regards to location of respondents, it can be seen that 61% are based abroad while 39% are residing in the Philippines.

Table 1. Socio-demographic Profile of Participants

Socio-demographic	n = 33	100 (%)
Age		
21-40	27	82
41-60	6	18
Sex		
Male	10	30
Female	23	70
Civil Status		
Single	25	76
Married	8	24
Location		
Offshore	20	61
Local	13	39

Computer Self-Efficacy Skills of Participants

The computer self-efficacy skills of the participants were interpreted as beginning, advanced and mainframe skills. Table 2 below shows computer self-efficacy skills of the students ranked from highest to lowest based on their mean scores. The highest ten mean scores indicate that the students have beginning skills of computer self-efficacy except for item #8 with a mean score of 5.31 where students have mainframe skill. The lowest five mean scores indicate the students' advanced skills in computer self-efficacy.

Computer Self-Efficacy and Attitude Towards e-learning:
A Study Among Graduate Students in Nursing in an Open University in the Philippines

55

Table 2. Computer Self-Efficacy of Participants, Mean and Standard Deviations

Statements	Mean	Std Dev	Skill
12. I feel confident handling a computer disc or USB correctly	5.53	0.80	B
17. I feel confident using a printer to make a "hard copy" of my work	5.50	0.98	B
21. I feel confident moving the cursor around the monitor screen	5.50	0.98	B
1. I feel confident working on a personal computer	5.47	1.02	B
6 . I feel confident entering and saving numbers or words into a file	5.38	0.71	B
9. I feel confident choosing file to view on a monitor screen	5.38	0.94	B
19. I feel confident copying a file	5.38	0.79	B
20. I feel confident adding and deleting information to and from a file	5.34	0.83	B
8. I feel confident logging off the mainframe computer system	5.31	0.82	M
22. I feel confident using the computer to write a letter or essay	5.29	1.07	B
23. I feel confident describing what computer hardware does (keyboard, monitor, disk drives, processing unit)	5.28	0.92	A
7. I feel confident escaping/exiting from a program	5.28	0.92	B
5. I feel confident using the user's guide when help is needed	5.25	0.76	A
15. I feel confident choosing items from an onscreen menu	5.25	1.02	B
4. I feel confident working on a mainframe computer	5.19	0.93	M
29. I feel confident organizing and managing files	5.19	0.93	B
3. I feel confident logging onto a mainframe computer system	5.16	1.02	M
13. I feel confident learning to use a variety of programs	5.09	0.96	A
2. I feel confident getting the software up and running	5.09	0.93	B
18. I feel confident copying a disk	5.09	0.93	B
27. I feel confident using the computer to organize information	5.09	0.89	A
24. I feel confident understanding the three stages of data processing: input, processing, output	5.06	0.98	A
25. I feel confident getting help for problems in the computer system	5.03	1.14	A
28. I feel confident getting rid of files when they are no longer needed	5.03	0.97	B
11. I feel confident understanding terms/words relating to computer software	4.97	1.03	A

14. I feel confident learning advanced skills within a specific program	4.94	1.05	A
16. I feel confident using the computer to analyze number data	4.84	0.99	A
10. I feel confident understanding terms/words relating to computer hardware	4.81	0.97	A
26. I feel confident explaining why a computer program does not work on a computer	4.50	1.08	A
30. I feel confident troubleshooting computer problems	4.19	1.31	A

Note: B = Beginning   A =   M
                                     Advanced   = Mainframe

The results illustrated that the students' computer self-efficacy skills were high in their beginning skills and rated fairly in their advanced skills in computer self-efficacy. According to Brown J. H. (2008), computer self-efficacy is a judgment of one's capability to use a computer. The results suggest that the students are not fully confident in using their computers or are not fully familiar with the intricacies of using their computers. Considering that the students are studying via distance education and the computer as well as the Internet is their only means of communication with their virtual classmates and teacher, the results have great implications to the way the courses are held and approached.

The results also indicate that the students are not utilizing the Internet extensively for educational purposes. This may not be surprising since according to the study done by Sam, et al (2005), undergraduates studying computer related disciplines appeared to have higher self-efficacy towards computers and the Internet compared to non-computer related disciplines. This suggests that MAN students need to spend more time exploring the Internet for educational purposes, such as utilizing the data bases for research and other assignments.

Attitude towards e-Learning of Participants

Table 3 presents the students' attitude towards e-learning. Based on the results of the study, the total mean score is 4.01. This indicates that the students have a positive attitude towards e-learning.

Table 3. Attitude towards e-Learning of Participants, Means and Standard Deviations

	Statements	Mean	Std Dev
1.	Is very demanding and it will be hard for the students to manage	3.32	1.30
2.	Is a fashion, which will diminish shortly	1.71	0.90
3.	Is to access course material electronically	4.23	0.80
4.	Is very demanding and it will be hard for the teachers to manage	3.55	1.31
5.	Gives the same opportunity for participation to both shy and extrovert students	4.32	0.83
6.	Supports group work and collaboration among students	3.74	1.06
7.	Is useful for the improvement of continuing education	4.77	0.76

8.	Saves time and effort for the students	4.30	1.02
9.	Makes students to be more consistent regarding course obligations	4.19	0.87
10.	Is an efficient supplement of the traditional classroom educational process	4.39	0.80
11.	Facilitates communication with the teachers	3.97	0.80
12.	Improves the quality of student participation in the educational process because students have all the time to think and get prepared before they answer	4.32	0.83
13.	Affects positively the quality of education and the performance of the students	4.19	0.83
14.	Broadens the number of references in other educational material sources through Internet	4.42	0.81
15.	Offers flexibility since it delivers educational material anyplace, anytime	4.58	0.81
16.	Demands significant technological infrastructure (Computers, Internet, etc)	2.55	1.59
17.	Facilitates communication with other students	4.03	0.80
18.	Thrills me with the idea of participating in e-classes	4.32	0.70
19.	Performs self-evaluation exercises regarding educational material	4.23	0.62
20.	Withinits context everybody is equal and social inequality is reduced	4.13	0.88
21.	Sends my assignments electronically (on-line) and receive teachers' comments electronically	4.45	0.85
22.	Educators are well prepared for educational approach	4.42	0.81
TOTAL		4.01	0.91

The results also indicate that the students are very confident in using their computers although this does not suggest that they are using their computers and Internet extensively to aid them in their online studies. The results are also similar to the done by Mehra and Omidian (2011), who have examined the post graduate students of University of Panjab, India regarding their attitudes towards e-learning. Students attitude towards e-learning were significantly positive.

Relationship between the Participants' Computer Self-Efficacy and Attitude towards e-Learning

Based on the results of the study, there is no significant relationship between the students' computer self-efficacy skills and attitude towards e-learning with a p-value of 0.902. This means that the students' positive attitude towards e-learning does not affect their computer self-efficacy skills. This indicates that even if the students have beginning skills in using their computers, they still feel positive in their studies.

Conclusion and Recommendations

The study revealed that the MAN students have a high level of beginning skills of computer self-efficacy and moderate advanced computer skills. It also showed that they have a high level of attitude towards e-learning. This means that the students have good self-efficacy and confidence in their computer skills and feel positive towards e-learning. However, it is still recommended that students be supported by encouraging them to use the Internet and databases extensively for their studies. E-counselling may be put up in the program for students having difficulty with their studies.

Computer Self-Efficacy and Attitude Towards e-learning:
A Study Among Graduate Students in Nursing in an Open University in the Philippines

59

References

Alhabahba, M. M. , Ziden, A.A., Albdour, A. A., & Alsayyed, B. T. (2012). E-learning: The new paradigm of education: factorial analysis. *International Journal of Humanities and Social Science,* 2(4). Retrieved from http://www.ijhssnet.com/journals/Vol_2_No_4_Special_Issue_February_2012/14.pdf

Bhuvaneswari, A.S., & Padmanaban, T. (2012). Attitude of senior secondary students towards e-learning. *Elixir International Journal.* Retrieved from http://www.elixirpublishers.com/articles/1351503622_51%20(2012)%2010886-10888.pdf

Brown, J. H. (2008). Developing and using a computer self-efficacy scale for adults. *24th Annual Conference on Distance Teaching & Learning.* Retrieved from http://csc-studentweb.lr.edu/swp/Berg/.../CSE%20measures%20Brown.pdf

Khorrami-Arani, O. (2001). Researching computer self-efficacy. *International Education Journal,* 2(4). Retrieved from http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.94.1197&rep=rep1&type=pdf

Mehra, V. & Omidian, F. (2011). Examining students' attitudes towards e-learning: A case from india. *Malaysian Journal of Educational Technology,* 11(2). Retrieved from http://www.mjet-meta.com/resources/V11N2%20-%202%20-%20MJET%20-%20Vandana%20-%20eLearning%20India%20-%20ONLINE.pdf

Murphy, C.A., Coover, D. &Owen, S.D. (1989). Development and Validation of the Computer Self-Efficacy Scale. *Journal of Computer Based Instruction,* 20(1).

Sam, H. K., Othman, A. E. A. & Nordin, Z. S. (2005). Computer self-efficacy, computer anxiety and attitudes toward the Internet: A study among undergraduates in UNIMAS. *Educational Technology & Society,* 8(4). Retrieved from www.ifets.info/journals/8_4/19.pdf

Suri, G. & Sharma, S. (2013). Impact of age on student's attitude towards e-learning: A study on panjab university, India. *Gian Jyoti E-Journal,* 3(2). Retrieved from http://www.gjimt.ac.in/wp-content/uploads/2013/04/8_Dr.-Gunmala-Suri-and-Sneha-Sharma_Impact-of-Age-on-student%E2%80%99s-attitude-towards-e-learning_A-study-on-Panjab-University-India.pdf

Vrana, V., Zafiropoulos, C., & Dorgalas, G. (2005). Analyzing students' attitudes towards the adoption of e-learning: The case of technical vocational schools. *International Conference on Education and Economic Development*. Retrieved from http://www.drogalas.gr/uploads/publications/ANALYZING_STUDENTS_ATTITUDES_TOWARDS_THE_ADOPTION_OF_E-LEARNING_THE_CASE_OF_TECHNICAL_VOCATIONAL_SCHOOLS.pdf