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Student Awareness Towards E-Learning In Education

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Abstract

This paper examines the awareness of e-learning that involves student from TATI University College in Malaysia as a respondents. The students have being exposed to the e-learning studies in campus as approach to gather more information in their studies. 200 students participated in the study. Multiple regression analysis was performed on the students' perceptions in relation to gender, year of study, faculty, technology usage and the awareness of e-learning implementation. The methods being used is questionnaire. The result shows that males and female have a significant awareness towards e-learning in education at TATIUC.

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1. Introduction

E-learning comprises all forms of electronically supported learning and teaching. The information and communication systems, whether networked or not, serve as specific media to implement the learning process (Tavangarian D., Leypold M., Nölting K., Röser M., 2004). The term will still most likely be

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utilized to reference out-of-classroom and in-classroom educational experiences via technology, even as advances continue in regard to devices and curriculum. E-learning is essentially the computer and network-enabled transfer of skills and knowledge. E-learning applications and processes include Webbased learning, computer-based learning, virtual classroom opportunities and digital collaboration. Content is delivered via the Internet, intranet/extranet, audio or video tape, satellite TV, and CDROM. It can be self-paced or instructor-led and includes media in the form of text, image, animation, streaming video and audio. Abbreviations like CBT (*Computer-Based Training*), IBT (*Internet-Based Training*) or WBT (*Web-Based Training*) have been used as synonyms to e-learning. Today one can still find these terms being used, along with variations of e-learning such as e-learning, E-learning, and e-Learning. The terms will be utilized throughout this article to indicate their validity under the broader terminology of E-learning.

The Internet has facilitated the establishment of electronic learning (e-learning) education systems. The arising popularity of e-learning is attributed to its ability to enable students to study without the constraints of time and space and to reduce internal training costs for some organizations. Given this rising popularity, the perception of students in the implementation of e-learning at the institution such as TATIUC (TATI University College) environment has become a top priority for their educational. TATIUC is formally known as Terengganu Advanced Technical Institute (TATI) wholly owned by Terengganu State Government of Malaysia. TATIUC offer academic programs that focus on engineering, utilizing teaching and learning concepts and laboratory practical. An e-learning system will become meaningful when it's being applied in order to make them easier to access, well-designed, learned-centered, affordable and efficient, flexible and has a facilitated learning environment. Rosenberg (2000) states that, e-learning refers to the use of internet technologies to deliver a broad array of solutions that enhance knowledge and performance. It is networked, delivered to end user through standard Internet technology, and focuses on the broadest view of learning. Vicky O'Leary (2005) study, highlighted that e-learning could help the company or organization as medium to allow the learner to access material such document database and assignment that required by the learner. TATIUC have taken one step ahead to improve their facilities of e-learning in order to ensure that this institution could deliver better information and education. Due to that, this paper will discuss on the infrastructure contribution towards e-learning and the awareness of e-learning implementation process. This research will also help the students in a process of upgrading their knowledge to the world class mind set.

2. Literature Review

E-learning seems to be on the verge of becoming the new learning paradigm. Besides, E-learning is often defined in terms of technology. For example Welsh et al. (2003, p. 246) define e-learning as the "use of computer network technology, primarily over or through the Internet, to deliver information and instruction to individuals." Rosenberg (2001) shares a similar definition referring to e-learning as using internet technologies to deliver various solutions to learners. Holmes and Gardner (2006) simply state that e-learning provides us with access to resources that promote learning on anyplace and anytime basis. While the definitions of e-learning may vary, they all focus on a set of basic concepts which include learning, technology and access. Students' perceptions of e-learning in university education may be influenced by specific individual variables. Junior students may have experienced using e-learning in secondary schools.

On the other hand, senior students may for the first time have met computers for educational purposes at university. Irrespective of age, men are supposed to be more used to computers than women. Women typically display lower computer aptitude and higher levels of computer anxiety. Research has indicated that men's technology usage decisions are more strongly influenced by perceptions of usefulness. In

contrast, women are more influenced by perceptions of ease of use. Men and women focus on different aspects of using computers (Venkatesh & Morris, 2000). Hence, it could be hypothesized that young male students are more prone to adapt to e-learning than not so young female students. In identifying the students perception towards e-learning at TATIUC there were three hypotheses which has been putting under consideration that are *technology usage* and *the awareness of e-learning implementation*.

2.1. Technology Usage

Technology are important in ensure that with e-learning designed around computer-mediated communication and heavily dependent upon the technology, reliability becomes even more important (Sandholtz et al., 1992) as empirically illustrated in previous work on distributed learning (Webster and Hackley, 1997): Technology being used at this institution will become a measures in classifying the perception given by students. Technology is important tools in applying and ensuring the successful of e-learning. As being define that e-learning means having people talking, writing, teaching and learning with each other online or in other words, using computer-based systems. E-learning is found usually with a suitable software tools. E-learning encompasses any communication available to participants from any e-mail, discussion board, blogs, face book, twitter and other related technology that support e-learning. Adding towards the increments of mobile technology and new tablets of technology such as iPod and iPhone could contribute the easiest ways of implementing e-learning. The technologies also contribute effectiveness at teaching in the class and encourage the exploration of knowledge in various ways. Previous research has showed that without appropriate equipment and easy access, it is quite hard, if not possible, to implement any e-learning (Oliver & Towers, 2000). Contrast with Broadbent (2001) states, e-learning does not required a huge infrastructure. He mentioned that a well working internet connection and supplying enough computer for end users would be sufficient for an effective e-learning project. This contribution will help in increasing the knowledge in using the technology available at the institution which will make the studies more interesting and efficient in their studies.

2.2. The Awareness of E-learning Implementation

In implementing e-learning, Anderson (2002), Bean (2003), Chapnick (2000), Clark and Mayer (2003), Gold et al. (2001) warn managers to be careful in the process of adopting e-learning for their organizations. There are three categories of e-learning implementation being evaluated, that are *usefulness*, *ease-of-use* and *self-efficiency*.

2.2.1. Usefulness

They mentioned that without careful planning the company would spend more money, unappealing products and failure. Similar cases with other innovation e-learning are required considerable up-front analysis, development time, money, technological infrastructure and leadership support to be successful. In e-Learning readiness assessment helps an organization to design e-learning strategies comprehensively and to implement its ICT goals effectively (Kaur & Abas, 2004). Borotis & Poulymenakou (2004) stated that e-learning readiness can be defined an organization who intends to adopt e-learning as "*the mental or physical preparedness of an organization for some e-learning experience or action*". As more and more organizations decide to join and expand e-learning interventions, it becomes more critical to assess their readiness to utilize technology in order to implement successfully (Carr and Miller, 2001), and adjust their

learning strategies with their e- Learning efforts. Moreover, past failures of e-Learning interventions lead us to enforce a comprehensive readiness assessment in order to decrease the risk (Hill, 2000).

2.2.2. *Ease-of-Use*

The implementation of e-learning could help the students in doing their assessment more efficient and effective. The affectionless of the technology will ensure that the implementation of e-learning would be success. Moreover, the technology tools being used to implement e-learning should be able to deliver the knowledge as required. Students having access to an e-learning system can now interact with instructional materials in various formats (text, pictures, sound, video on demand, and so on) anywhere and at any time, as long as they can log on to the internet. Furthermore, given the functionality of message boards, instant message exchanges and video conferencing, they can even interact with teachers and classmates both individually and on a simultaneous basis. They can also engage in self-paced learning, taking control over both the process and the content of their learning (Trombley and Lee, 2002; Zhang and Zhou, 2003).

2.2.3. *Self-Efficacy*

One of the important factors in education is learner. In e-learning students are required to do self study, due to this, they required to have knowledge in using the technology. Self-efficiency has been identified factor for assessing the readiness for e-learning. The diffusion of innovation shows that the institution that openly seek for individual development and information about innovation to improve themselves and have higher self-efficiency beliefs for the achievement can adopt innovation earlier than others (Rogers, 2003). The questions designed seek for self efficiency which involved the attitudes of the students in using e-learning tools that will adopt innovations to the success of e-learning implementation.

3. Methodology

This study involves all degree students from TATIUC. A set of questionnaire has been distributed to obtain the demographic information and examine the level of awareness of the e-learning system. The question is divided into three sections consisting of *demographic profile, technology usage and e-learning implementation*. The first section of contains the question on the background information such as gender, year of studies and faculty being studied. This data represent the demographic profile of the respondents. In this section also contains the questions regarding the technology usage which asked the respondent regarding the background of technology. The second section contains question regarding on e-learning implementation that obtain the information regarding the usefulness, ease of use and self-efficacy.

4. Results and Discussions

The reliability and validity of the questionnaire was assessed and found to be a valid based on the examination done towards demographic data, technology usage and awareness on e-learning implementation. The concentration of this paper are on the technology and the awareness of students towards e-learning. All degree students were participate as respondents. There are about 366 questionnaire has been circulate. Only about 200 respondent have given their feedback.

The result for demographic profile by the respondent comprises that 59.8% are male and 40.2% are female. The study that being examined considered from year 1 to year 4. The result shows that, 22% are from year 1, 42% from year 2, 19.5% from year 3 and 16.6% from year 4. They were also being evaluate base on the faculties that they studied. The faculties are, FKMT (*Faculty Computer Media &*

Technology), FTKEA (*Faculty Electronic Engineering Technology & Automation*), FTKK (*Faculty Polymer Engineering Technology*) and FTKP (*Faculty Manufacturing Engineering Technology*). The result shows that, 33.5% are from FKMT, 28.5% respondent from FTKEA, 16.5% from FTKK and 21.0% are from FTKP. All of the students used e-learning during lecturing and during their study. Tables 1 illustrate the percentage of demographic profile based on gender, year of studies and the faculty.

Table 1. Summary of demographic profile

Item	Category	Frequency	Percent	Cumulative Percent
Gender	Male	119	59.8	59.8
	Female	80	40.2	40.2
Total		200	100.0	100.0
Year of Study (1 – 4)	Year 1	44	22.0	22.0
	Year 2	84	42.0	64.0
	Year 3	39	19.5	83.5
	Year 4	33	16.5	100.0
Total		200	100.0	100
Faculty	FKMT	67	33.5	33.7
	FTKEA	57	28.5	28.6
	FTKK	33	16.5	16.6
	FTKP	42	21.0	21.1
Total		200	100.0	100.0

Based on the technology usage, overall perception shows that the awareness of students towards technology usage is 99.5%. There is only 0.5% unaware with the technology usage. While in identifying students perception towards e-learning table 2, shows the overall perception result of elearning that referring to the arrangement of scale ranging from 1-5 (strongly disagree to strongly agree).

Table 2. Summary of overall question on e-learning

Questions	Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
1. Overall, e-learning system is useful in my study.	2.60%	3.10%	15.3%	46.90%	32.10%
2. Overall, the quality in using e-learning is easy to use	1.00%	4.60%	15.80%	52.00%	26.50%
3. Overall, the e-learning affects my self efficiency	2.10%	2.60%	19.60%	46.90%	28.90%

The result from the awareness of implementation e-learning shows that, e-learning system is useful in their study where the percentage of agree shows 46.90% and strongly agree 32.10%. Meanwhile, only 2.60% strongly disagree and 3.10% disagree. Not sure 15.30%. These show that, the students aware about the implementation of e-learning and prefer to use the technology in their study. Due to the usefulness of e-learning, the quality also should put under consideration. The result for the question on overall the quality in using e-learning is easy to use shows that 52.00% agree, 26.50% strongly agree. Disagree shows

4.60%, strongly disagree 1.00% and not sure 15.30%. There also questions related to self-efficacy in the questionnaire. The result for question overall, the e-learning affects my self-efficacy shows that 46.90% agree, 28.90% strongly agree. While disagree 2.60%, strongly disagree 2.10% and not sure 19.60%. The implementation of e-learning has make the students relies the important of e-learning in their study. Meanwhile, for the student that still do not aware or understand about e-learning should be expose more during lecturing and communicating. This is important since e-learning could benefit them more in searching for information and upgrade their knowledge and skills.

In order to differentiate the data, Spearman correlation measure were used to measure the data. Table 3 shows the P-value measure between gander with technology usage, usefulness of e-learning, quality in using e-learning and affect to self-efficiency. The correlation being done is to test the hypotheses which were studied in this paper.

Table 3. Table of P-value

Comparison	P-Value
1. Gender and technology usage	0.412
2. Gender and usefulness	0.591
3. Gender and quality of easy to use	0.185
4. Gender and self-efficacy	0.698

4.1.1. Gender and Technology Usage

Table 4. Symmetric Measures for Gender and Technology usage

	Value	Asump. Std. Error ³	Approx. T ^b	Approx. Sig.
Interval by Pearson's R Interval	.059	.029	.823	.412 ^c
Ordinal by Spearman Ordinal Correlation	.059	.029	.823	.412 ^c
N of Valid Cases	198			

- a. Not assuming the null hypothesis.
- b. Using the asymptotic standard error assuming the null hypothesis
- c. Based on normal approximation

H0 = There is no actual correlation between gender and usage of technology in learning the learning process.

H1 = There is correlation between gender and usage of technology in learning the learning process

As a conclusion, at the significance level $\alpha = 0.05$ since the p-value = $0.412 \geq 0.05$, we shall not reject the null hypothesis and conclude that there is no actual correlation between gender and usage of technology in learning the learning process.

4.2. Gender and Usefulness of e-Learning

Table 5. Symmetric Measures for Gender and Technology usage

	Value	Asymp. Std. Error ^a	Approx. T ^b	Approx. Sig.
Interval by Pearson's R Interval	-.046	.072	-.641	.522 ^c
Ordinal by Spearman Ordinal Correlation	-.039	.071	-.538	.591 ^c
N of Valid Cases	195			

- a. Not assuming the null hypothesis.
- b. Using the asymptotic standard error assuming the null hypothesis
- c. Based on normal approximation

H0 = There is no actual correlation between gender and usefulness of e-learning system in the student study.

H1 = There is correlation between gender and the usefulness of e-learning system in the student study.

4.3. Gender and Quality on Easy to Use

Table 6. Symmetric Measures for Gender and quality on easy to use

	Value	Asymp. Std. Error ^a	Approx. T ^b	Approx. Sig.
Interval by Pearson's R Interval	-.092	.069	-1.288	.199 ^c
Ordinal by Spearman Ordinal Correlation	-.095	.069	-1.331	.185 ^c
N of Valid Cases	195			

- a. Not assuming the null hypothesis.
- b. Using the asymptotic standard error assuming the null hypothesis
- c. Based on normal approximation

H0 = There is no actual correlation between gender and the quality in using e-learning.

H1 = There is correlation between gender and the quality in using e-learning.

As a conclusion, at the significance level $\alpha = 0.05$ since the p-value = $0.185 \geq 0.05$, we shall not reject the null hypothesis and conclude that there is no actual correlation between gender and the quality in using e-learning.

4.4. Gender and Affect to Self-Efficacy

Table 7. Symmetric Measures for Gender and affect to self-efficacy

	Value	Asymp. Std. Error ^a	Approx. T ^b	Approx. Sig.
Interval by Pearson's R Interval	-.029	.072	-3.95	.693 ^c

Ordinal by Spearman Correlation	Ordinal	-0.28	.071	-3.88	.698 ^c
N of Valid Cases		193			

- a. Not assuming the null hypothesis.
- b. Using the asymptotic standard error assuming the null hypothesis
- c. Based on normal approximation

H0 = There is no actual correlation between gender and the quality in using e-learning.

H1 = There is correlation between gender and the quality in using e-learning.

As a conclusion, at the significance level $\alpha = 0.05$ since the p-value = $0.698 \geq 0.05$, we shall not reject the null hypothesis and conclude that there is no actual correlation between gender and the e-learning affects my self-efficacy.

This study has shown that students' e-learning system plays an important role in influencing the students. In this study, student has been examined by identifying their awareness towards technology usage. The result shows that there is no different between male and female student which each of them are aware with the e-learning system in their study life.

5. Conclusions

The result of the study shows that the strategy of implementing e-learning will be the best way for students to be aware of new technology and willing to study in various concepts. The used of new technology will make them interested in searching and upgrading their knowledge. The management should maintain the technology in campus in order to ensure e-learning could be useful to the students. This are because most of the students are still teenagers and they interested in interactive concepts of learning. Moreover, the interactive concept that can be used in e-learning will make the study more interesting. Nowadays, the concepts of e-learning should be more wider since the technology today provide many opportunities to the academicians and students in gather their knowledge. By using elearning student also confess that this concept is very useful for them in their study. Related to this result showing that e-learning affect their self-efficacy especially in upgrading their knowledge and skills.

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