TTLC 2013

A study on the student's perspective on the effectiveness of using e-learning

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Abstract

The Internet is widely used as a research and educational tool, providing a society with access to global information and instant communication. Access to the Internet can occur anywhere including homes, work, schools, fast-food restaurants, on an airplane and even on a beach. E-Learning is one of the instructional education programmes that can help students in their studies. The purpose of this study was to investigate the effectiveness of using E-learning among secondary school students. Data were collected from 45 students studying at three schools in Shah Alam, Selangor. The data was analyzed using SPSS version 19.0. Results showed that most of the respondents were exposed to E-learning and among the reasons they preferred to learn via e-Learning was it provided them greater flexibility to select either instructor-led or self-study courses and enabled them the flexibility to learn at any place and time. They also agreed that one of the disadvantages of using e-Learning was it would reduce the need for face to face interaction with their friends.

Keywords : E-learning; online learning; secondary schools

1. Introduction

E-learning or electronic learning is used to provide instructional programmes to students who are separated by distance and from the instructors or teachers. It uses the Internet, computers, networking and multimedia

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technologies. There are many definitions of e-learning. According to Garisson and Anderson (2003), as cited in Muhammad Rais and Yusup Hashim (2004), e-learning is a network or online learning that takes place in a formal context and uses a range of multimedia technologies. It is a learning system that is supported by electronic hardware and software either online (synchronous) or offline (asynchronous). Chan *et al*. (2007) highlighted that e-learning includes computer-enhanced learning or training which is usually delivered via a personal computer. Learning is delivered by other communication technologies whose methods of delivery include online lectures, tutorials and learning support systems. Effective e-learning is often a blend of methods.

E-learning also refers to a wide range of applications and processes designed to deliver instruction through electronic devices such as CD-ROM or video-conferencing through satellite transmission. It also includes online learning, web based training and computer based training. This means e-learning is the use of technology to improve classroom interaction via positive environment through the Internet, CD-ROM, interactive multimedia and others. It is a self-study in which students engage in online tutorials to complete a task given to them. Learning through this medium can engage students' interest because it usually comes together with interactive graphics, texts, sounds, videos, collaborative sharing and others. At the same it can be accessed anywhere and anytime as long as we have a computer and an Internet connection.

E-learning may improve access to education and training, the quality of teaching and learning and mark the need for higher institutions to maintain competitive advantage in this changing market place for students. This has led to full exploitation of IT in improving the teaching and learning process, while at the same time, delivering educational programmes to more students at a lower cost (Peled, 2000 in Hafizah and Kamil, 2009). This means e-learning may enhance quality of teaching and learning.

There are numerous advantages and disadvantages of e-learning. Previous research found that e-learning is more cost effective than traditional learning because less time and money is spent by learners on travelling. This means when students embark on e-learning, they can be thrifty. Their spare time could be used to perform other useful activities. Besides, flexibility is another major benefit of e-learning. E-learning provides learners the advantage of taking classes anytime and anywhere. This means e-learning is available at many places twenty-four seven. In addition, e-learning also cater different types variety of learning approaches. This means students are unlikely to get bored during their studies as there is much interactive content they can get access.

2. Research Objectives

The research was conducted to:

- determine the student's level of exposure to e-learning.
- investigate the effectiveness of using e-learning among secondary schools students
- determine the advantages and disadvantages of e-learning

3. Research Design

This quantitative study involved 45 secondary school students studying at Sekolah Menengah Kebangsaan Bandar Baru Sentul, Kuala Lumpur. Copies of a questionnaire consisting of four sections were used as instruments to collect data. Section 1 contains demographic factors of the students. Section 2 was to identify the student's exposure to E-learning. Section 3 was to investigate the effectiveness of using E-learning among the secondary school students. In this part, the students were asked to rate ten statements according to the following scales: 1-strongly disagree, 2- disagree, 3-unsure, 4-agree and 5-strongly agree. The last section of the questionnaire was to determine the advantages and disadvantages of E-learning from the perspectives of the students.

4. Results and Discussion

Table 1 shows the demographic factors of the respondents. A total of 45 students participated in the study. 55.6% were female while 44.4% were male students. 44.4% of the respondents were 17 years old while 22.2% were 16 years old (22.2%). 15.6% were 15 years old.

Table 1. Demographic factors

	Frequency	Percentage (%)
Male	20	44.4
Female	25	55.6
Total	45	100.0
13 years old	4	8.9
14 years old	4	8.9
15 years old	7	15.6
16 years old	10	22.2
17 years old	20	44.4
Total	45	100.0

Table 2 shows the percentages of places where the students got access to computers. The majority or 39.82% of the students accessed their computers at home (39.82%). 10.62% got the access at school. 32.74% of the students got access at their friends' houses while 16.81% got access to computers at cyber cafes. No students got access to computers at the school library.

Table 2. Places of Student's Access to Computer

	Frequency	Percentage (%)
Home	45	39.82
Friends house	37	32.74
Library	0	0.00
Schools	12	10.62
Cyber Cafe	19	16.81
Others	0	0.00
Total	113	

Table 3 shows the percentages of preference types of e-learning that the students always used when they studied. The higher type of e-Learning was the Internet (32.88%) followed by CD-ROM (31.51%), video or audio tape (30.82%), and discussion forums (2.74%). The lowest type of e-learning was using the online course with (2.05%).

Table 3. Types of E-learning the Students Used

	Frequency	Percentage (%)
Online course (Learn direct)	3	2.05
Internet	48	32.88
CD-ROM	46	31.51
Video or audio tape	45	30.82

Using Internet discussion forums	4	2.74
Others	0	0
Total	146	

All of the students had exposure to e-learning because they had basic knowledge in computer and the Internet. According to Shelly & Vermat (2009), computers can be available anywhere such as at work, schools and homes. And at the same time, computers and the Internet are primary means of interaction among local and global communities. It is not surprising that teachers also use computers to assist them with classroom instruction while students use computers to complete assignments

5. The Effectiveness of Using E-learning among Secondary School Students

Based on Table 4, with the highest mean score of 4.49 and Standard Deviation of 0.69, the students admitted that E-learning had provided them with greater flexibilities on either instructor-led or self-study courses. Chan *et al.* (2007) stated that one of the benefits of e-learning to students is that it can cater a wide range of students learning styles. Fioriello (2009) stated that students have an option to choose what they like and e-learning draws them to topics they like and enjoy. From the researcher's point of view, the students had the autonomy to choose the types of e-learning tools they preferred to use. Usually, students choose the Internet as their main e-learning tools and CD-ROM as their second preferred choices. This happens because students nowadays could get easy access to the Internet since they have the connection at home (39.82%). Having the Internet is important since it could provide them current knowledge and practices.

The lowest mean score was seen in the statement 'E-learning helps me understand my lesson effectively compared to the chalk and talk method' (mean: 4.00, SD: 0.640). This is not surprising considering that e-learning contains colorful pictures and interesting videos that can make students enjoy learning. Liam and Huang (2002) as cited in Borstorff and Lowe (2007) found that websites, a diversity of multimedia inputs such as video, audio, photos and online chat rooms, had allowed the learners in their study to seek knowledge that would relate to their prior, personal experiences and engage them in interdisciplinary training. According to Chan *et al.* (2007), previous studies showed that online learning could provide a variety of delivery methods to cater to different types of learners if compared to traditional classrooms. Besides, from the perspective of Bloom's Taxanomy, e-learning is an effective learning tool (Kartha, 2006, Suanpang and Petocz, 2006, Vidakovic *et al.* 2003, in Halawi *et al.* 2009). In my opinion, e-learning could provide interesting learning styles and enhance students' academic performances. Students can be more active because they could learn independently and increase their thinking abilities. Students can have systematic lessons because e-learning provides content and exercises displayed in videos, animations and sounds.

Table 4. The Effectiveness of using e-learning among Students

Statement	Mean	S.D
E-learning provides me with greater flexibility on free to select either instructor-led or self-study courses.	4.49	0.69
E-learning can give more advantages rather than disadvantages to my academic achievement.	4.36	0.67
E-learning gives no time barrier.	4.33	0.73
E-learning can enhances my computer and Internet skills	4.29	0.75
E-learning provides good instructional learning program to me even I far from teacher.	4.27	0.75
E-learning provides complete content in my learning with good exercise.	4.27	0.72

E-learning helps me to make my lesson more organized.	4.11	0.64
E-learning provides me with different learning styles and can make my learning more fun	4.09	0.63
E-learning helps my lesson more effective compare to chalk and talk.	4.00	0.64

Based on Table 5, 23.81% of the students admitted that the main advantage of e-learning is that it 'enables learning at any place'. According to Chan *et al*. (2007), e-learning provides convenience and portability as students can access it anywhere i.e. at home, at work or while in transit. The researchers agree that e-learning provides benefits to students in terms of easy access at any places. Based on Table 2, it was not surprising to see that 39.82% of the students got access to the Internet at home because most houses today have computers and Internet connections. Surprisingly, school is the hardest place for the students to get access to the Internet (10.62%).

Table 5. Advantages of using E-learning

	Frequency	Percentage (%)
Enables learning at any time	36	19.05
Enables learning at any place	45	23.81
Develops students independence	41	21.69
Assists in the development of study skills	40	21.16
Students can use tools that best suit their own learning styles	22	11.64
Others	5	2.65
Total	189	100

Based on Table 6, it was found that the need to buy or go to cyber cafe in order to use a computer, thus, reducing face to face contact with friends was the major disadvantage of e-learning (25.28%). According to Borstorff and Lowe (2007), the lack of face-to-face interaction among the students in their studies was the main objection to e-learning. From the researchers' point of view, collaborative learning among peers provided by e-learning is beneficial for the students since they may exchange ideas and enhance their knowledge. According to Weaver (2002), cited in Borstorff and Lowe (2007), students by nature are 'social learners' who usually prefer to learn in groups and interact with their peers. The lowest percentage in disadvantages of e-learning is 'others' (1.12%). The other responses cited by the students include the tendency to surf social web excessively such as Facebook and Twitter, watch movies on youtube, and download games and others. Fauzi (2011) stated that surfing social web excessively can cause the brain to shrink and the situation may lead to deterioration in concentration. The researchers agree that surfing Facebook, Twitter and other social webs is good to release some tension in the students but excessive use of the webs may be detrimental to the students in the long run.

Table 6. Disadvantages of using e-Learning

	Frequency	Percentage (%)
Expensive to buy the devices	17	9.55
Reduced face to face contact between teachers	43	24.16
Students may be required to buy or go to cyber cafe if they want to use computer	45	25.28
Reduced face to face contact between friends	45	25.28
Technical difficulties may give a barriers to students learning	26	14.61
Others	2	1.12
Total	178	

6. Conclusion

Electronic learning or 'e-learning' has been an influential mode of learning today. Based on this study, it can be concluded that the students were exposed to the e-learning in great deal. This study has also proven that e-learning could provide greater flexibilities on instructor-led or self-study courses among the students. The main advantage of e-learning is it enables learning at any place and time while its disadvantages are the students may be required to buy computers or go to cyber cafes to use computers, thus, reducing the opportunities for face to face contact among friends. In short, e-learning is an integration of technologies in teaching and learning. It enables students to learn effectively but eventually it is the educators who still need to play their roles and perform their tasks in order for learning process to happen.

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