

The Relationship between Lecturers' Attitudes towards e-Learning and Their Computer Mastery

Kamilah Binti Zainuddin^{a.1*}

General Studies Department, Politeknik Kota Bharu, KM 24, Pangkal Kalong, 16450
Kota Bharu, Kelantan

ARTICLE INFO

Article history

Received 13 Sept. 2021

Revised 22 Oct.

Accepted 15 Jan. 2022

Keywords

e-Learning

lecturers' attitudes

computer mastery

ABSTRACT

E-learning is an extremely flexible technology that can be used to apply in different methods for self-paced, interactive, or live learning which can match the students' competency levels. The lecturers should acquire knowledge on modern technologies particularly related to the internet and computer to give an impactful delivery in the e-learning teaching and learning process. This situation can lead to a new environment in the teaching and learning process that is no longer limited within the four walls of the classroom. Measuring the lecturers' attitudes towards computers is very much essential to affect any teaching and learning changes through technology. The objectives of this study are to find out the attitude of lecturers in the General Studies Department of Politeknik Kota Bharu towards e-learning and the association between the basis of computer familiarity and lecturers' attitudes towards e-learning. The findings of this study expose that in general, the lecturers in the General Studies Department of PKB generally have positive attitudes towards e-learning. The lecturers who are at ease with computer and communication technology differ in their attitude towards e-learning when compared to the lecturers who are not familiar with technology and computer literacy. The instruments with 22 numbers of items were analyzed by using IBM Statistics SPSS 26 and went through the Cronbach Alpha reliability test and the result is 0.927.

1. Introduction

If educators want to fully implement technology into the classroom, they must go beyond computer literacy to gain technological competence. Malaysian teachers should be able to adapt to this phenomenon in learning and move forward with the offered facilities, where the Internet and Web should be used as one of the tools for teaching (Ana Haziqah, 2014). While it makes teaching and learning more interactive, it also makes teaching and learning more interactive, which is both simple and entertaining.

Information and communication technologies (ICT) are rapidly emerging and have become a global phenomenon in a variety of industries. One of the areas that have been hit by the ICT waves involves education. Since the 1980s, scholars, students, and philosophers have had varying degrees of success with ICT (Mundy et al., (2012). The presence of the internet and the World Wide Web (WWW) has become global phenomena, putting pressure on the

educational sector. The short history of ICT poses several questions that can be used to consider the future and the paths that ICT could follow in education.

Educational institutes all over the world are rapidly using e-learning to promote and expand their learning and teaching programmes (Dalton, 2016). E-learning environments are becoming increasingly valuable infrastructural features of universities, allowing teachers to provide students with a variety of information representations and enhancing contact between teachers and students, as well as among students themselves.

2. Literature Review

In today's digital world, education will make that significant change by ensuring that students can be educated the way they do, rather than the way they are taught. When embedded into instructional applications and necessary technologies, this pedagogical change will make learning fun and enjoyable while ensuring good learning results in less time. Masnan (2014) stated that, teachers must engage children in active learning activities to make learning more relevant, effective, and pleasant. Activities utilising ICT are recommended to aid the teaching and learning process; get knowledge, interact with resources for self-study and with peers; and enrich the learning experience. Although colleges and universities around the world encourage the use of asynchronous or delayed technology with an educator as the foundation of e-learning, which includes resources such as online discussion boards, downloadable books, online tests and marking, online mentoring, and web-linked, among others.

Many academics believe that pushing technologies would improve education quality; however, K. Kamaruddin et.al (2017) believes that the issue of whether media or technology will ever affect learning is still up for discussion. Only optimistic views toward the media or technologies used will increase the level of learning or teaching, but a well-defensible perspective does not lie in the media or technology used. Understanding users' attitudes toward learning technologies, particularly instructors' and students' attitudes, allows them to improve the effectiveness, performance, and appeal of learning.

According to Singh & Chan (2014), presumed utility is a crucial factor in influencing behavioral intentions among the numerous theoretical models developed to investigate users' intentions to use computer and communication technologies. In the future, technology will have enormous resources to improve the effectiveness and productivity of schooling. Students, faculty, staff, and administrators are now technologically literate and use technology widely in their everyday activities.

The need for e-learning as a useful learning and teaching medium is increasingly gaining popularity in education. Many educators and scholars were optimistic about e-learning, if it would increase access to knowledge and connectivity, resulting in a modern educational movement. Several surveys have been undertaken in the West and other areas of the world to explore attitudes toward e-learning.

3. Research Methodology

3.1 Problem Statement

To stay updated with the latest e-learning movement, all lecturers in Politeknik Kota Bharu's General Studies Department must arm themselves with as much expertise as possible to deliver

highly effective teaching and learning processes. Teachers and students at Politeknik Malaysia were exposed to the CIDOS 3.5 Learning Management System (LMS). However, according to previous studies by Norhafizah et.al, (2014) using this application, teachers find it difficult to implement innovative techniques in the classroom.

The interaction between lecturers' attitudes toward e-learning and their computer mastery must be investigated because lecturers' attitudes toward e-learning and computers will decide when CIDOS 3.5 is used. If lecturers are incapable or unable to use the application, the government, and ministry's attempts to implement it would be less effective. Lecturers will continue to use both traditional and contemporary methods to deliver their lectures.

On the other hand, it's crucial to look at the lecturers' attitudes and computer mastery skills because this can influence their willingness to use, agree to, and appreciate online teaching. If lecturers are unhappy, they would almost certainly fail to use computers and other applications in their classes. Students who choose to use technologies in their learning have fewer options because of this. If a pupil is motivated to study but does not get guidance from the lecturers, it is a major obstacle.

3.2 Aim of the Study

The study was motivated by the following research questions:

Question 1: What are the attitudes of lecturers in Politeknik Kota Bharu's General Studies Department towards e-learning?

Question 2: Is there an association between the basis of computer mastery and the attitudes of lecturers toward e-learning?

3.3 Respondents

The participants in this study are 23 out of 40 lecturers from Politeknik Kota Bharu's General Studies Department who were selected based on the convenience sampling and have been coping with 100% online teaching and learning for a period of 14 weeks due to Covid-19 outbreaks. Most of them had been exposed to Curriculum Information Development and System (CIDOS) version 3.5, a Learning Management System (LMS). Digital or online learning has been widely used by students and lecturers at both Polytechnics and Community Colleges. The respondents were chosen based on their attendance at an e-learning improvement course. The respondents come from two separate departments: English Language and Islamic Religious Studies. In this report, the respondents are lecturers who assist in the teaching and learning process for students in the Engineering and Commerce Departments at PKB.

3.4 Research Instruments and materials

The questionnaire's instruments were adapted from Ana Haziqah (2014) and Siti Rashidah (2013). The questionnaire was created using a five-point Likert-Type scale with degrees of agreement ranging from 1-strongly disagree, 2-disagree, 3-neutral, 4-agree, and 5-strongly agree. Following the completion of the e-learning enhancement course, the questionnaire was distributed to the respondents through a Google form. IBM SPSS 26 Cronbach Alpha Reliability was used to assess the 22-item instruments. According to research (Arindam Basu,2021), the magnitude of measurement can be defined using Cronbach Alpha, the scores

range between 0-1, where 0.70-0.95 are considered acceptable scores. The scale resulted in a score of 0.927, which was outstanding. As a result, it can be inferred that the 22-item questionnaire that was distributed is accurate and can be used as instruments for any assessment. This study also refers to score mean score. The mean score interpretation was derived from Kamaruddin, Che Abdullah, and Idris (2016) to describe the level of ICT integration as high ($M = 3.67 - 5.00$), moderate ($M = 2.34 - 3.66$), and low ($M = 1.00 - 2.33$).

3.5 Data Collection Procedure

The questionnaire responses were chosen from an online questionnaire distributed through Google Form. Statistical Package for the Social Sciences IBM SPSS 26 was used to interpret the results, which included the validity of the instruments and descriptive analysis.

4. Findings

4.1 Lecturers' Demographic Characteristics

The information was gathered from 23 lecturers. Table 1 shows the results of the data collection for lecturers' demographic characteristics. Males accounted for only $n=3$ (13%) of the 23 lecturers polled, while females accounted for $n=20$ (87%). According to the data on teaching experience, there were $n=3$ (13%) lecturers with fewer than 10 years of experience and $n=14$ (60.9%) lecturers with 10 to 20 years of experience. Furthermore, $n=6$ (26.1%) of the teachers had 20 to 28 years of experience in the classroom. The study of the respondent's demographic profile is seen in Table 1.

Table 1: Basic Characteristics of the lecturers

Characteristics	Category	Frequency		Frequency & percentage within Category			
		N	%	Female	%	Male	%
Gender	Female	20	87	20	100	3	100
	Male	3	13				
Teaching Experience	<10 years	3	13	2	10	1	33
	10-20 years	14	60.9	12	60	2	67
	20-28 years	6	26.1	6	30	0	0

According to data (refer to table 2 below) on the most frequently used applications by lecturers for online teaching, $n=21$ (91.3 %) of teachers had used Google Meet, and $n=12$ (52.2%) had used Curriculum Information Development and System (CIDOS) Learning Management System (LMS). Just $n=3$ (13%) lecturers, on the other hand, were using Zoom Applications. From the overall number of respondents, it was discovered that Microsoft 365 was used by the least number of lecturers $n=2$ (8.7%) and Facebook/Telegram was used by the least number of lecturers $n=1$ (4.3%). However, none of them is interested in using Kahoot during their online teaching process.

Table 2: The most frequently used applications by lecturers for online teaching

<i>Applications</i>	<i>Frequency n</i>	<i>Percentage %</i>
Google Meet	21	91.3
CIDOS LMS	12	52.2
Zoom	3	13
Microsoft 365	2	8.7
Google Classroom	3	13
Facebook/Telegram	1	4.3

4.2 The Attitude of Lecturers in General Studies Department of Politeknik Kota Bharu towards e-Learning.

The mean for each instrument for the lecturers' attitudes toward e-learning is shown in Table 3 below. The first question was posed to determine the lecturers' shared interest in e-learning. The lecturers deemed e-learning will help them increase the consistency of their instruction. This is to see if the lecturers are preferred or if they are undecided on using e-learning in their classes. According to the results, the mean is 3.91, with n=22 (95.6%) agreeing with the assertion. Just one person (4.3%) disagreed with the argument. We can see from this study that many respondents agree that using e-learning approaches can increase their teaching efficiency.

“e-learning is essential and simple to use for teaching and learning,” was the second research issue. This item was designed to gauge lecturers' concerns on using e-learning in their teaching and learning in PKB, and the mean was found to be 3.96, indicating a high level of consensus on the relevance and use of e-learning in their teaching and learning process.

With a mean of 3.39, the lecturers have received neutral input on their readiness to incorporate e-learning into their classroom operation. Even if their preparation appears to be adequate, their attitudes toward e-learning must be improved, according to Dursun & Effie (2010), to promote the successful adoption of e-learning.

By a mean of 3.78, they agreed that e-learning necessitates a great deal of careful time control. To make e-learning successful and more meaningful to the students, the lecturers concluded that they would organise their core business and supplementary workload accordingly. The averages were 4.35 and 4.04, respectively. If lecturers have well-organized time control, they are seen as having a firm belief that e-learning tools can increase the efficiency of their lectures. “Personal time management” refers to a collection of routines, guidelines, and recommendations for successfully managing one's time and getting as much work done as possible in the time allocated. While personal time management is important for the productivity of the educational process, there are other uses for the concept, most notably course time management and the capabilities of an e-learning system. (Ana Haziqah, 2014).

Understanding how individuals learn at different ages emphasizes the social aspect of e-learning as well as human nuances in how learners choose to communicate with others during the learning process. The continuing work in validating positive teaching strategies consistent with Learner-Centered Practice is discussed on this foundation (Siti Rashidah, 2013). According to the findings, many respondents concluded that face-to-face and e-learning approaches are

both learner-centred methods, with a mean of 3.70, and that they improve the level of information obtained by students by including multiple incentives and advantages, with a mean of 3.96.

Table 3: The mean analysis of instruments for the lecturers' attitudes towards e-learning

	<i>n</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Mean</i>	<i>Std. Dev</i>
e-learning can improve the quality of their teaching	23	2	5	3.91	.793
I am ready and interested to transfer my face to face class to online learning	23	2	5	4.00	.798
I believe using e-learning technologies will improve my job performance.	23	2	5	4.00	.853
eLearning is important and easy to use for teaching and learning	23	2	5	3.96	.767
I am ready to apply e-learning in my classroom.	23	2	5	3.39	.839
e-learning requires me to manage my time properly	23	2	5	3.78	.850
e-learning requires me to adjust my core business and supplementary workload	23	3	5	4.35	.775
Teaching through e-learning is interesting.	23	3	5	4.04	.638
e-learning increases the quality of knowledge attained.	23	2	5	3.96	.767
A face-to-face and e-learning methods are both a learner-centered method.	23	2	5	3.70	.876
e-learning will supply many benefits to my students	23	2	5	3.96	.825

Table 4 displays the cumulative mean and standard deviation for the 11 instruments used in this analysis to determine teachers' attitudes toward e-learning. The cumulative mean is 3.91, with a standard deviation of 0.54, according to the report. The obtained mean value is considered strong. It can be inferred that the lecturers at Politeknik Kota Bharu's General Studies department have a rather optimistic outlook toward e-learning.

Table 4: The cumulative mean value of 11 instruments for lecturers' attitudes towards e-learning

	<i>n</i>	<i>Min</i>	<i>Max</i>	<i>Mean</i>	<i>Std. Deviation</i>
Cumulative mean for lecturers' attitudes	23	2.27	4.82	3.9130	.54853

4.3 The Computer Mastery among the Lecturers.

The cumulative mean for the lecturers' computer mastery is 3.70, according to the review (see table 5). As a result, it is possible to conclude that lecturers are confident and comfortable in the use of computers in their daily routines as well as during the teaching and learning phase associated with e-learning.

Table 5: The cumulative mean for the lecturers' computer mastery

	<i>N</i>	<i>Min</i>	<i>Max</i>	<i>Mean</i>	<i>Std. Deviation</i>
Cumulative Mean for Computer familiarity	23	2.45	4.91	3.7075	.61043

4.4 The Relationship between the Lecturers' Attitudes towards e-Learning with Their Computer Mastery.

Table 6: The analysis of correlation coefficient between the lecturers' attitudes and computer mastery

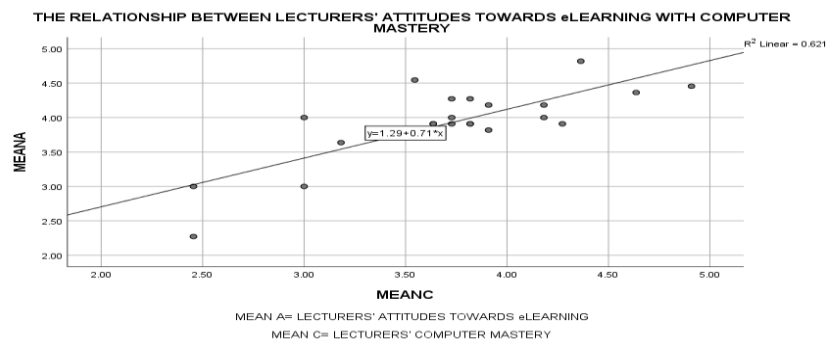
		<i>Mean of Computer Mastery</i>
Mean	Pearson Correlation	.788**
of	Sig. (2-tailed)	.000
Attitude	N	23

**. Correlation is significant at the 0.01 level (2-tailed).

The Pearson Correlation Analysis demonstrated that the value is $R=0.788$. (Table 6). There is a rule of thumb for interpreting the reliability of a relationship depending on its R-value: when the R-value of two variables is greater than 0.7, the relationship is usually considered good (Moore, D. S., Notz, W. I, & Flinger, M. A.,2013). As a result, we can see that lecturers' attitudes about e-learning are extremely optimistic and strongly correlated with their programming skills. This means, when a lecturer's mindset toward e-learning improves, so does their computer knowledge.

Figure 1 demonstrates the scatterplot and sees the association between such two factors to offer further justification. When the average attitudes of lecturers' attitudes appear to complement the average of computer mastery in e-learning, we can see that they have a positive relationship. Furthermore, the lecturers' attitudes rise at about the same pace as computer mastery, which is represented by a straight line and a 45-degree angle, implying that the two are related linearly.

Figure 1: The scatterplot on the association between lecturers' attitudes towards e-learning with computer mastery.



5. Recommendations

The immediate experience of lecturers has a positive impact on their use of e-learning environments. As a result, lecturers could be allowed to incorporate e-learning techniques into their classes; for example, they should be assisted in creating e-content. There must be opportunities to learn about and use new technology such as virtual whiteboards, websites, and other similar tools. The Polytechnic and Ministry of Higher Education must assist lecturers in their use of emerging technology in the teaching-learning process.

The study's respondents should be extended to include lecturers from a variety of fields and a larger sample size to have more precision and perspective which is not limited to the General Studies Department of Politeknik Kota Bharu, e-learning environments have become increasingly common among Politeknik Malaysia students. The mindset of lecturers is critical in using technology as a powerful force for social progress in today's educational environment.

Besides this, initiatives that concentrate on fostering a positive attitude among lecturers toward e-learning and information and communication technologies should be coordinated. More workshops in e-Learning should be given to lecturer and staff to expand their capabilities and understanding. The workshops and training may be performed in phases, focusing on areas such as assisting students and staff in using the technology, as well as system implementation, service, maintenance, restoration, management, and protection.

6. Conclusions

In a nutshell, the results of this study suggest that lecturers' constructive attitudes toward e-learning are essential if Politeknik Kota Bharu students are to successfully transition from traditional face-to-face instruction to e-learning. Lecturers are important players in education, and their perspectives on accepting e-learning have a big influence on students' attitudes toward it (Moore et al., 2013).

Attitudes and computer mastery credentials will provide valuable information for education investors, allowing them to plan for and expand the growth of e-learning adoption at Politeknik Kota Bharu by identifying variables that lead to negative attitudes and strengthening those that lead to positive attitudes. Since most teachers were shown to have positive attitudes toward e-

learning, the correlation of other variables in this sample, such as computer mastery, was found to be important. The findings of this research provided a valuable basis for further study of teachers' implementation of e-learning.

7. Acknowledgment

I cannot express enough thanks to my family for their continued support and encouragement. My mom, husband and my kids. To Dr Tengku Ahmad Badrul Shah, I offer my sincere appreciation for the learning opportunities provided. My completion of this study could have been accomplished without the support of everyone. My heartfelt thanks.

8. Declarations

Author contribution : This research was basically initiated by myself together with the instrument construction, data collection, analysis and draft writing together with the revising the research ideas, literature review, data presentation and analysis, also the final draft.

Funding statement : The research is self-funded

Conflict of interest : No conflict of interest.

Additional information : No additional information is available for this paper.

REFERENCES

- Ana Haziqah Binti A Rashid(2014). *Teachers' Perception Towards Virtual Learning Environment*.UTM.Malaysia
- Arindam Basu,2021. Cronbach's Alpha.<https://doi.org/10.32388/3XOD6Z>. University of Canterbury, New Zealand
- Dalton H. Kisang(2016). *Determinants of Teachers' Attitudes Towards E-Learning in Tanzanian Higher Learning Institutions*. [EJ1117380.pdf \(ed.gov\)](#) Dar es Salaam Institute of Technology, Tanzania.
- Dursun & Effie (2010). *Measuring Teachers' Readiness for E-learning in Higher Education Institutions associated with the Subject of Electricity in Turkey*. DOI: [10.1109/EDUCON.2011.5773180](#) Leicester, UK. IEEE Global Engineering Education Conference (EDUCON) – "Learning Environments and Ecosystems in Engineering Education.
- K. Kamaruddin, C. A. C. Abdullah, and M. N. Idris,(2017) "Integrating ICT in teaching and learning: A preliminary study on Malaysian private preschool," Int. J. Acad. Res. Bus. Soc. Sci., vol. 7, no. 11, pp. 1236–1248, 2017 <http://dx.doi.org/10.6007/IJARBS/v7-i11/3561>
- Masnan, A. H. (2014). *Amalan Pedagogi Guru Prasekolah Permulaan*, Doctoral dissertation, Universiti Sains Malaysia). DOI:[10.13140/RG.2.2.14328.65287](#)
- Moore, D. S., Notz, W. I, & Flinger, M. A. (2013). *The basic practice of statistics (6th ed.)*. New York, NY: W. H. Freeman and Company.
- Mundy M-A, Lori Kupczynski and Rik Kee.(2012). Teachers' perceptions of technology use in the schools. DOI: [10.1177/2158244012440813](#) .SAGE Open 2012

- Norhafizah et.al, (2014), *The Effects of Blended Learning Methods on Educational Achievement and the Development of Online Material in a Curriculum Information Document Online System (CIDOS) for Computer Application Courses*. [sspis 2014 ms336 - 353.pdf \(usm.my\)](#)
Department of Foundations of Education, Universiti Putra Malaysia. Malaysian Social Sciences Postgraduate International Seminar (SSPIS) 2014 [ISBN 978-967-11473-1-3](#)
- Singh, M.R. & Chan, R. (2014). Teacher Readiness On ICT Integration In Teaching-Learning: A Malaysian Case Study. <http://www.aessweb.com/journals/5007>, International Journal of Asian Social Science ISSN(e): [2224-4441/ISSN\(p\): 2226-5139](#), International Journal of Asian Social Science, 2014, 4(7): 874-885.
- Siti Rashidah Binte Abdul Rahim(2013). *Teachers' Attitudes Towards A Learning Management System, Mc Online: An Exploratory Study In A Singapore Secondary School*. 2013.
[DOI: 10.1109/CICEM.2013.6820191](#) IEEE 63rd Annual Conference International Council For Education Media (ICEM). Electronic [ISBN:978-1-4799-3216-0](#)