

Original Article

Healthcare Academicians' Attitudes and Behavioural Intentions Towards E-learning in a Private Healthcare University in Malaysia

Annamma K¹, Puziah Y², Aini A³

^{1,2,3}School of Nursing, KPJ Healthcare University College, Nilai, Malaysia.

¹ann@kpjuc.edu.my

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Abstract - E-learning has been adopted globally by all educational institutions, from schools to Higher learning institutes, to facilitate teaching, learning, and assessment. Therefore, this research aims to assess academicians' attitudes and behavioural intentions toward E-learning, mainly on the Moodle-based Learning Management System (LMS). This cross-sectional survey study includes 38 academicians from one private healthcare university college in Malaysia. A validated which was adopted and adapted was used for data collection. The questionnaire had three dimensions to measure academicians' attitudes and behavioural intentions toward E-learning. The data was collected using Google forms. Both descriptive and inferential statistics were used for the data analysis. The result shows that academicians had positively rated the usefulness of E-learning and the benefits of E-learning. The respondents also rated the behavioural intentions to develop and ruse E-learning positively. All the respondents (100%) agreed that E-learning enhances teaching and learning. The majority (76%) also agreed that E-learning makes teaching the learning process easy, quick and friendly for academicians and students. Most (86%) agreed that E-learning can be motivating for learners and compatible with today's life. The other perceptions were that E-learning offers flexibility (84%) and recommend for all courses (87%). The respondents also agreed that University is a better place (92%)with more E-learning. All respondents (100%) agreed that more effort is needed for developing more E-learning resources, especially the need for more training related to the technical aspects. Providing quality E-learning platforms and experiences can help improve the E-learning experience of both the teachers and learners and promote satisfaction and grade expectations of the learners of higher education institutions. Given the characteristics of healthcare training students, developing and applying an effective and viable E-learning educational program is necessary to sustain motivation and produce the desired learning outcome, especially in the post-pandemic era.

Keywords - E-learning, Online learning, Blended learning, Distance learning, Online education.

1. Introduction

E-learning is training delivered on a computer (including Internet, conference, or intranet), designed to enhance knowledge.[1] The convenience offered in the form of learning flexibility gives a positive value to the learning outcomes.[2] E-learning has many new technologies that can be an overwhelming experience for academicians, students, and organisations alike.

E-learning use in the training of health professionals is growing quickly. The development and application of information technology (IT) have emerged as the key to a brand-new educational environment that offers more options while experiencing exponential changes in the teaching and learning process. Rapid development in information technology compels education to transform into E-learning, a pedagogical approach that integrates face-to-face (F2F)

(synchronous) and online delivery methods (asynchronous) in a flexible, integrated, and complementary manner to support and enhance learners' diverse needs and offer a successful, effective, and enjoyable learning experience. To implement a successful strategy, optimising each medium's strengths is necessary. The ultimate goals of both students and teachers are always served by this method. Giving students the best learning environment and experience also benefits institutions.

Academicians' attitudes and behavioural intentions toward Massive Open Online Courses (MOOCS)[3]. The primary purpose of this study was to decide levels of attitude and behavioural intention to develop and implement MOOCs and the possible relationships between attitude and behaviour intentions. Respondents consisted of 238 academics in a Malaysian public university. Descriptive and Pearson



Correlation analyses were employed to determine relationships. Results show that: (a) respondents are receptive toward MOOCs as an alternative platform to deliver teaching content; (b) they are mostly ready to develop MOOCs; (c) they are generally prepared to use MOOCs in teaching and learning and (d) there are significant relationships between academic staffs' attitude and behavioural intention to develop and use MOOCs.

The outcome of the study findings may help nurse educators to use E-learning as part of teaching or learning strategies even after the MCO is lifted. Overall, the survey will help enhance students' teaching and learning using E-learning and face-to-face learning. E-learning can also support blended learning in the future. In this era of IR 4.0, blended learning is not a choice but a necessity. The study can provide recommendations for the strategies to be used in enhancing blended learning in the future for healthcare students. The present study aims to determine the attitude and behavioural intentions of academicians of KPJUC towards the E-learning strategies. This study aims to determine the attitude and behavioural intentions of academicians of KPJUC towards E-Learning.

The Industrial Revolution 4.0 significantly changed the world of learning, especially in universities. Many educational institutions are now trying to get out of the pattern of graduate printing through knowledge transfer into learning that students themselves can determine. The problem is that the changes that occur are not yet comprehensive in the learning process. [2]

The private healthcare university where the study was conducted has been delivering various healthcare-related training in a conventional mode since its inception in 1991. However, due to the pandemic, including requests from working adults, it became imperative to offer all programs in E-learning mode. As a result, adapting to the E-learning approach in a context that currently relies on a regular face-to-face (F2F) teaching-learning process is challenging. Implementing E-learning is not a simple undertaking for educational authorities and institutions currently using the traditional teaching-learning method. It would be wise to progressively implement the proportion transition to an online E-learning component as traditional learning has been well-practised over the years. Therefore, it's critical to have a good conversion process when transitioning from a conventional course to an E-learning one.

There is a lack of data regarding educators' attitudes toward and skills with Information and Communication Technology (ICT). However, healthcare academicians must be attentive to the requirements of healthcare students in terms of the widespread usage of information and communication technology.

1.1. Research Question(s)

- [1] How is the academicians's perception of the uses and benefits of E-learning?
- [2] What is the behavioural intention of academicians towards E-learning?
- [3] Is there any association between an academicians's attitude to E-learning and behavioural intentions regarding E-learning?

2. Methodology

This study was conducted at a major Healthcare University College with various undergraduate and postgraduate health professional degrees in various disciplines. The disciplines include Nursing, Pharmacy, Allied health sciences, and postgraduate medical training.

2.1. Design and sampling

It is a descriptive cross-sectional survey using 4 points Likert questionnaire. The researcher recruited the respondents through convenient sampling from one of the private healthcare universities in Negeri Sembilan state. Academicians from various faculties were involved in the study. The data collection was done in May 2020 over two weeks. The sample size was calculated using the Krecjie Morgan table.[4] The maximum number required for this study was 76. Thirty-eight academicians (response rate=50 %) responded to this survey. All 38 responses were used in this study, as the data had no missing answers.

2.2. Data collection tool

The data collection tool was adopted and adapted from a previous study. The cross-sectional survey was conducted using the instrument to assess academicians' attitudes and behaviour toward E-learning. The questionnaire was adopted and modified from a tool used for measuring academicians' intentions to develop and use MOOCs.[5] The original questionnaire has 31 items (15 items on attitude and 16 items on behavioural intentions) in the form of a 5-point Likert scale. However, only 24 relevant items were included in this study using a 4-point Likert scale. A score of 1 for strongly disagree and 4 for strongly agree. The instrument was pilot tested, which yielded a Cronbach alpha of 0.898, indicating the high reliability of the measurement tool.

2.3. Data collection method

Due to the Covid-19 pandemic, data was collected through Google form, and the link was forwarded via WhatsApp. Permission, explanation, and informed consent were stated in the google form.

2.4. Data interpretation

Responses were made on a 4-point Likert scale ranging from 1 point for "strongly disagree to 4 points for strongly agree. Higher scores indicated better E-learning quality. The 4-point Likert scale was further dichotomised for data

interpretation purposes (Strongly agree & agree = Positive quality of Experience; Disagree & strongly disagree = Negative quality of experience).

2.5. Data analysis

The data were analysed by using SPSS software Version 26. The analysis included descriptive statistics such as frequencies, percentages, means, and standard deviation and inferential statistics involving the Pearson correlation test.

2.6. Ethical considerations

The institutional review board approved the study. The ethical approval number is XXXXX/RMC/SON/EC/2020/277.

3. Results

The study findings are categorised into the demographic characteristic of the respondents, perceived use of E-learning, benefits of E-learning, and behavioural intentions towards E-learning.

Table 1 shows the demographic characteristics of the respondents. Most of the academicians were females above 40 years and from the faculty of the School of Nursing.

Table 1. Demographic characteristics of sample academicians

Variables	Characteristics	Frequency (n)	Valid Percent (%)
Age(Years)	26-40	12	31.6
	41-60	26	68.4
Gender	Male	4	10.5
	Female	34	89.5
Faculty	School of Nursing	20	52.6
	School of Pharmacy	7	18.4
	School of Allied Health Sciences	7	18.4
		3	7.9

	School of business Centre of Global and Professional services	1	2.6
Years of experience	<10 years	15	39.5
	11-20 years	16	42.1
	>20 years	7	18.4

Table 2 shows the perception and behaviour intentions toward E-learning. Perceived use of E-learning and behavioural intentions to develop and use E-learning courses. Overall, behavioural intents to develop and use E-learning had the highest mean score (M=3.1/4, SD 0.31).

Table 2. Perception and behavioural intentions towards E-learning

Items	Min	Max	Mean (M)	Std. Deviation (SD)	Std. Error (SE)
Perceived uses of E-learning.	2.4	3.8	3.05	0.39	0.64
Perceived benefits of E-learning.	2.43	3.5	2.94	0.26	0.04
Behavioural intentions to develop and use E-learning.	2.71	3.83	3.1	0.31	0.52

Table 3 shows the perceived use, benefits, and behavioural intentions to develop and use E-learning. All the items scored show a positive response to perceived use, perceived benefits, and behavioural intentions to E-learning. The behaviour intention to develop and use had the highest scoring.

Table 3. Uses, benefits, and behavioural intentions

	Items	Strongly agree/with agree		Disagree/Strongly disagree		Mean	SD
		f	%	f	%		
	Perceived use of E-learning						
1	E-Learning helps me to perform teaching tasks easily.	30	79	8	21	2.95	0.61
2	E-Learning helps me to perform my teaching task	30	79	8	21	2.84	0.49
3	I am glad there are more options for students to learn these days with E-learning application systems.	38	100	-	-	3.34	0.48
4	I am glad there are more options for teaching these days with E-Learning application systems.	38	100	-	-	3.29	0.46
5	It is easy to use E-Learning application systems.	30	79	8	21	2.84	0.67
	Perceived benefits of E-learning						
6	Developing E-Learning materials is enjoyable.	29	76	9	24	2.79	0.47
7	Using E-Learning application systems saves me time.	28	74	10	26	2.87	0.7
8	Developing E-Learning resources is a waste of time.	4	11	34	89	2	0.46
9	I can easily manage different E-learning application systems.	30	79	8	21	2.95	0.61
10	University would be a better place with E-Learning application systems.	35	92	3	8	3.24	0.59
11	Students must use be able to use E-Learning in all subject matters.	29	70	9	24	3.08	0.81
12	E-Learning would further motivate students to study.	33	81	5	13	2.95	0.46
13	E-Learning is a fast means of gaining knowledge.	38	100			3.18	0.39
14	I would recommend E-Learning as much as possible.	37	97	1	3	3.11	0.39
15	E-learning offers flexibility to teachers in the teaching process.	33	87	5	13	3.11	0.6
16	E-learning application systems recommended by the University are easy to use.	32	84	6	16	2.89	0.45
17	The E-learning application systems are compatible with my needs as a teacher.	34	89	4	11	2.92	0.36
18	The E-learning application systems are compatible with my lifestyle.	33	87	5	13	2.97	0.49
	Behavioural intentions towards the Development of E-learning.						
19	I affirm that developing teaching materials in E-Learning needs only a reasonable effort that should be followed by other lecturers in the University shortly.	36	95	2	5	3.03	0.37
20	I intend to work on developing E-Learning materials in the next 12 months.	37	97	1	3	3.21	0.47
21	I look forward to attending training sessions to learn how to develop E-Learning in more depth.	38	100	-	-	3.37	0.48
22	I am thinking of developing E-Learning resources for more courses in the future.	36	95	2	5	3.18	0.5
23	I am thinking of developing E-Learning resources for more assessment activities for the courses I'm involved with.	38	100	-	-	3.24	0.43
24	I affirm that using E-Learning is a good effort that all lecturers should follow at the University shortly.	38	100	-	-	3.24	0.43

Table 4 shows the association between perceived ease to use and behavioural intention to develop and use E-learning. There is a high correlation between the perceived use of E-learning and behavioural intention to develop and use E-learning in the future.

Table 4. Correlation Perceived ease to use and behavioural intention

Table 4: Correlation Perceived ease to use and behavioural intention			
		Perceived ease of using E-learning	Behavioural intention for E-learning
Perceived ease of using E-learning	Pearson Correlation	1	.821**
	Sig. (2-tailed)		.000
	N	38	38
Behavioural intention for E-learning	Pearson Correlation	.821**	1
	Sig. (2-tailed)	.000	
	N	38	38
**. Correlation is significant at the 0.01 level (2-tailed).			

3.1. Correlation Perceived benefits of E-Learning and behavioural intention

Table 5 shows the relationship between the Perceived benefits of E-Learning and behavioural intention. The study findings show a high correlation between Perceived benefits of E-Learning and behavioural intention to develop and use E-learning.

Table 5. Correlation Perceived benefits of E-Learning and behavioural intention

		Benefits of E-Learning	Behaviour intention
Benefits of E-Learning	Pearson Correlation	1	.835**
	Sig. (2-tailed)		.000
	N	38	38
Behaviour intention	Pearson Correlation	.835**	1
	Sig. (2-tailed)	.000	
	N	38	38
**. Correlation is significant at the 0.01 level (2-tailed).			

4. Discussion

Digitalisation in Higher Education (HE) institutions is an issue that concerns many educational stakeholders [6]. Higher education institutions have been experiencing digital transformation for some time, which is not a relatively new phenomenon. The proliferation of blended learning

experiences in higher education means that the online environment is now a ubiquitous aspect of university education [7]. However, with the recent pandemic, there has been a global transition from conventional education to E-learning across the globe. Therefore, the administration of higher education provider organisations is responsible for preparing aspiring professionals to meet challenges related to E-learning and offer solutions [8]. This process also involves proper strategic planning, building trust, thinking through procedures, and combining and strengthening the knowledge of all parties involved, both educators and learners [8].

The private healthcare University where the study was conducted is committed to the robust implementation of E-learning for all undergraduate and postgraduate students. The study's first objective was to identify the usefulness of E-learning as perceived by the academicians involved in training healthcare students. The faculty were from the School of Nursing, School of Pharmacy, Allied health sciences, and the centre for global and professional development(CGPS).

Findings revealed that the introduction of E-learning assisted the lecturers in performing the training task more easily. The academicians were satisfied that E-learning offers more learning opportunities for the students. They also found that E-learning helps make teaching easy, quick, and friendly.

The second objective was to find the benefits of E-learning as perceived by the faculty. E-learning helps save time, enjoy learning, and knowledge is gained faster. Moreover, the University becomes a better place and helps motivate students in their learning process. E-learning also is flexible and compatible with lifestyle. Teachers also found that developing E-learning materials requires reasonable efforts and is not tedious. Barriers that affect the development and execution of online learning in medical education include time constraints, poor technical skills, inadequate infrastructure, absence of institutional strategies and support, and negative attitudes of all involved. Solutions to these include improved educator skills, incentives, and rewards for the time involved with the development and delivery of online content, improved institutional strategies and support, and a positive attitude amongst all those involved in the development and delivery of online content [9]. However, those barriers were not identified as a concern for the study,

The final objective of the study was to identify the behaviour intentions toward E-learning. The study findings revealed that developing teaching materials in E-Learning needs only a reasonable effort. However, they perceived that additional training by the Centre For Innovation in Training and Education (CITE) department would assist the faculty in equipping themselves more efficiently with E-learning. The

faculty also intended to work on developing E-Learning materials and resources in the Learning Management System to enhance the E-learning process. Overall, the academicians perceived that E-Learning is a good effort that all lecturers should follow at the University shortly. Similar study findings were reported in which E-learning positively motivated both the teachers and students in the training of natural sciences courses.[10].

A contradictory finding was reported in which the sense of confidence was inversely proportional to the level of self-control. However, the pandemic has forced the educational sector to be more flexible and adopt E-learning as a way of life to move forward. The perception of E-learning has already changed across the globe. So the findings may not be significant in the current educational context [11].

Educators found E-learning very comfortable, and it helped them well prepared for the training[12]. The higher education institution also supported the teaching-learning process. The study also reported sufficient support by the University for training and education of faculty regarding E-learning. The study outcomes are in agreement with the findings of this study. Previous studies have reported a positive correlation between attitude towards integrating digital technologies in education and actual usage [13,14].

A few authors have reported concern over the quality of education using distance learning mode [15,16]. The findings highlighted poor teacher-student interaction and engagement and quality of the teaching-learning process as the main

concern of E-learning. However, the study findings are contradictory in that the faculty affirmed that students could gain wider knowledge and perform better using learning facilities. E-learning facilitates self-directed learning rather than traditional book-based learning, with greater opportunities to explore and seek up-to-date knowledge. The study's main limitation is the sample size; therefore, the study's findings may be relevant mainly to the context of the study.

5. Recommendations

The major recommendation is to have adequate training for the academicians regarding the technical aspects of the various platforms. Overall the findings are very supportive of E-learning.

6. Conclusion

E-learning is the way to move forward. E-learning-related skills to develop and use various E-learning resources may vary among academicians based on age, background experience, and motivation. In addition to regular attention to IT infrastructure and maintenance of computers and equipment needed, it is essential to periodically conduct online training and seminars for teaching staff to support the application of E-learning.

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