A PRELIMINARY STUDY ON THE READINESS OF BLENDED LEARNING AMONG LECTURERS AT UNIVERSITI UTARA MALAYSIA

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ABSTRACT

The modern way of teaching and learning emphasizes the technology to be embedded in the education system. Thus, higher learning institutions (HLIs) are gradually switching their class delivering method from classroom-based teaching (CBT) to the so-called blended learning approach (BLA). The BLA integrates traditional CBT with the online teaching class. Thus, this study aims to investigate the readiness level towards BLA among lecturers in HLIs. Universiti Utara Malaysia (UUM) lecturers were chosen as a study population, and the sample of 350 lecturers was determined using a proportionate random sampling method. The survey method was used to gather the

data, and by utilizing the descriptive statistic, our results suggest that lecturers in HLIs have a high level of readiness towards the BLA. Even though there are limitations, they are keen to participate in the BLA. The findings of this study will help HLIs to understand the readiness level of lecturers towards BLA, explicate how face-to-face and online classes could be integrated besides accommodates the loopholes in the system.

Keywords: blended learning, readiness, lecturers, higher learning institutions

INTRODUCTION

Many higher learning institutions (HLIs) have long started offering out-campus or distance learning programs (Anthony, Kamaludin, Romli, et al., 2019; Bowyer & Chambers, 2017). During the years with limited advancement in Information and Communication Technology (ICT), the programs offered by HLIs could only be done face-to-face in the classroom. The old practice of conducting the programs has seen various costs incurred especially travelling costs, and is also time-consuming. However, the current advancement of the ICT provides room for the HLIs to conduct the programs in more convenient ways. Today's technology in the ICT field enables the programs to be run virtually. Consistent with the technology advancement, the Malaysian government has underlined the Malaysia Education Blueprint 2015-2025, emphasizing the transition from full classroom-based teaching to blended learning, which comprises both CBT and online learning components. This approach is an effort by the Malaysian government to ensure the HLIs move in line with the technological developments. The HLIs have been given a series of times to get prepared for the transition. In the Malaysia Education Blueprint, the HLIs have been urged to implement new method of conducting classes known as Blended Learning. The blended learning approach (BLA) is a new medium of conducting classes that integrates face-to-face and online learning.

The shift from traditional classroom-based teaching to BLA requires a certain level of computer and technology-based skills to be possessed by lecturers and students. However, this paper discusses the readiness

of lecturers regarding the blended learning implementation. The readiness to embark on the BLA may require researchers to look into various things, including knowledge, skills, technology devices, to name a few. In short, many elements of BLA need to be comprehended in identifying the readiness of lecturers towards this new approach of teaching and learning. The sudden pandemic of Coronavirus disease 2019 (COVID-19) is a good example that may describe the importance and necessities of embarking on a more advanced teaching method, such as blended learning.

It is undeniable that perhaps the full online teaching method may take place in the future; however, the readiness of lecturers and students to start familiarizing themselves with online teaching needs to be examined. HLIs should see BLA as a lifeline for teaching and learning during a critical time, such as the outbreak of COVID-19 when students had to leave the campus immediately, and online teaching and learning was the best option available. Thus, this study aims to investigate the readiness level towards BLA among lecturers.

The following sections present the literature review, research methodology, findings and discussions and end with the conclusion.

LITERATURE REVIEW

Blended Learning

Blended learning is an alternative pedagogical technique. Blended learning involves a mixture of traditional classroom-based teaching and online learning. Online learning is conducted using the assistance of computer-mediated instructions. The features allow the teaching and learning session to be held at any convenient time and place to increase accessibility to a broader section of society (Muller and Mildenberger, 2021). According to Shand (2018), understanding blended learning requires specific knowledge of the blended course design process to enable the instructor to make informed decisions about integrating the online and face-to-face components.

Moreover, results from the study by Bonk, Kim & Zeng (2006) found that HLIs have currently put attention on the BLA. The researchers

also claim that the increasing implementation of blended learning in HLIs is reasonably expected. BLA has received excellent feedback from the faculty and students (Dziuban, Graham, Moskal, Norberg & Sicilia, 2019) and has earned great attention among academicians in HLIs worldwide (O'Byrne & Pytash, 2015; Vaughan & Garrison. 2006). The study also claims that there are ten trends and predictions related to BLA that may influence the teaching and learning process in HLIs, and there are; increasing use of mobile for blended learning; greater visualization, individualization, and hands-on learning activities; self-determined for learning; increased connectedness, collaboration, and global awareness; increased authenticity and on-demand learning; linking work and learning to foster real working experience; changed calendaring from normal semester constraints to be more flexible in learning; blended learning course designations will be embedded; changed instructor roles to become a mentor, coach, and counsellor; and the emergence of blended learning specialists in teaching, programs, and resources (O'Byrne & Pytash, 2015). All these trends and predictions may foster the adoption of blended learning in conducting new norms of teaching and learning.

Readiness towards Blended Learning

The advancement of ICT, including mobile technology, demands people to follow the rapidness of the technology, or otherwise, they will be left behind. However, with various backgrounds and experiences, some lecturers might not be ready to conduct their classes using the BLA that requires them to embrace the technology. BLA requires lecturers to spend more time learning, using, and familiarising the technology, spending the extra money to buy a more up-to-date and compatible laptop or mobile phone, and subscribing to high-speed internet data. All these actions and preparations may increase the readiness level of academicians towards blended learning (Vaughan & Garrison. 2006).

In addition, academicians are highly encouraged to equip themselves with the necessary skills and techniques to improve the teaching and learning process via BLA to ensure that blended learning environments can be effectively implemented. For instance, the academicians may help students to engage in BLA by conducting discussions to understand the subject, critically reflect on the perspectives of

others through reading and commenting on fellow students' online contributions, and use others' ideas in the discussions to evaluate their own (Han & Ellis, 2019).

In this context, the lecturers may change their roles not only as instructors but also as mentors, motivators, and counsellors to encourage their participation in online discussion (O'Byrne & Pytash, 2015). In addition, according to Shand (2018), understanding blended learning requires specific knowledge of the blended course design process to enable the instructor to make informed decisions about how to blend the online and face-to-face components. Among the process are planning course objectives, planning for content delivery and student engagement, and planning the blend of face-to-face and online components (Shand, 2018) as part of the preparation to engage in BLA. Moreover, the institutions also may help the instructors by providing a range of relevant technologies such as learning management system as well as quiz software and video editors, conducting training and coaching of instructors in digital skills and relevant approaches to teaching, and adapting the curriculum to the new learning environment (Muller & Wulf, 2021).

Lecturers' Technology Readiness

Despite the readiness of lecturers towards blended learning, the technology readiness of lecturers also plays a critical role. The readiness towards blended learning described in the previous paragraph refers to the preparedness of lecturers to implement blended learning as their mode of teaching and learning (a mixture of traditional classroom-based teaching and online learning). Meanwhile, technology readiness refers to the readiness of the lecturers towards technology (using the latest technology).

Research by Rogers (cited in Walczuch Lemmink and Streukens, 2007) claims that people are different regarding the disposition towards using technology. Using the Technology Readiness Index (TRI), technology readiness is measured using four traits: Optimism, Innovativeness, Discomfort, and Insecurity. The TRI is a framework used to examine the trait of individuals on technology in general. The belief of individuals on the technology will determine which trait that he or she belongs to and subsequently will define the individuals'

openness towards technology. The TRI only reflects the set of beliefs about technology but does not indicates the individuals' competency in using the technology.

According to Walczuch, Lemmink and Streukens (2007) the TRI's traits are:

- *Optimism:* a positive view of technology. Belief in increased control, flexibility, and efficiency in life due to technology.
- *Innovativeness:* a tendency to be the first to use new technology.
- *Discomfort:* needing control and a sense of being overwhelmed.
- *Insecurity:* distrusting technology for security and privacy reasons.

In this index, individuals who score high on Optimism and Innovativeness are called high TRIs scorers. They are comfortable using technology and only call for little proof of its performance (Walczuch, Lemmink & Streukens, 2007). Meanwhile, lower scorers of TRIs are more critical and ask for help more often and feel uneasy using new technologies. It may be due to security and privacy reasons that influence the degree of trust in technology and data management.

METHODOLOGY

Population and Sample

This study is a preliminary and cross-sectional research. Data is collected at one point in time to provide a snapshot of a particular phenomenon. Data is collected using a questionnaire adapted from existing literature and analyzed quantitatively. In this study, the population consists of lecturers from all schools in Universiti Utara Malaysia (UUM). As of October 2016, there are 732 lecturers as reported by the Academic Affairs Department of UUM. The proportionate random sampling method was used in selecting samples of lecturers. This sampling method was chosen because the size of each stratum is proportionate to the population size of the strata when examined across the entire population. Therefore, a random sample is taken from each stratum, with the sample size proportional to its stratum size compared to the population. This means that each stratum has the same sampling fraction, which will ensure that the sample will highlight the differences between stratum groups. Thus it helps to arrive at the objective of this study.

Out of the total population, the sample size of lecturers is 350, and it is considered appropriate as recommended by Krejcie and Morgan (1970). Questionnaires were distributed to all respondents through the representative from each school. The representatives helped disseminate the questionnaires and assisted the researcher in ministering the response from the respective school. Besides, a small token was included in each envelope to encourage respondents to answer the questionnaires. However, the returned questionnaires of the lecturers are only 113, which represent 32% of the sample. Considering all the efforts that had been taken to anticipate a good response, the low rate of returned questionnaires was a limitation to this study.

Data Analysis

The data were analyzed descriptively using Statistical Product and Service Solutions (SPSS) software. Descriptive analysis was used in this study because it is aligned with the study aim, which is to identify the level of readiness towards blended learning. The level of awareness towards blended learning was measured in nine dimensions, and a 5-point Likert Scale, being 1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, and 5=Strongly Agree, was used. For each level of awareness examined, positive statements were used to measure their agreement on the items statement, except for one negative statement used in the 'perceived ease of use' dimension. On average, for each dimension, between four to eight items were used as a measurement.

FINDINGS AND DISCUSSIONS

Demographic Profile of Lecturers

Table 1 shows the demographic profile of the lecturers.

Table 1

Demographic Profile of Lecturers

	Male	Female						
Gender	44 (38.9%)	69 (61.1%)						
Nationality	**Malaysian** 109 (96.5%)	**China** 1 (0.9%)	**Thailand** 1 (0.9%)	**Nigeria** 1 (0.9%)	**Yamani** 1 (0.9%)			
Age	**31–40 years old** 44 (38.9%)	**41-50 years old** 57 (50.4%)	**51-60 years old** 12 (10.6%)					
College	**COB** 39 (34.5%)	**CAS** 53 (46.9%)	**COLGIS** 21 (18.6%)					
Teaching experience	**< 5 years** 2 (1.8%)	**5-9 years** 7 (6.2%)	**10-14 years** 42 (37.2%)	**15-19 years** 37 (32.7%)	**20-24 years** 12(10.6%)	**25-29 years** 9(8%)	**30-34 years** 3(2.7%)	**35 years and above** 1(0.9%)
Internet experience	**< 5 years** 0 (0%)	**5-9 years** 5 (4.4%)	**10-14 years** 27 (23.9%)	**15-19 years** 39 (34.5%)	**20-24 years** 27 (23.9%)	**25-29 years** 10 (8.8%)	**30-34 years** 3 (2.7%)	**35 years and above** 2 (1.8%)
Have internet access at home	**Yes** 107 (94.7%)	**No** 6 (5.3%)						
Have mobile data	**Yes** 102 (90.3%)	**No** 11 (9.7%)						
Adopt BL	**Yes** 95 (84.1%)	**No** 18 (15.9%)						

Table 1 shows that most respondents are female (61.1%), and half of the respondents (50.4%) ages are between 41-50 years old. Most of the respondents (69.9%) claimed that they have between 10 to 19 years of experience in teaching. Meanwhile, for the internet experience, 34.5% of the lecturers have 15 to 19 years of experience, and more than 90% of them have internet access. Further to that, 84.1% of the lecturers have adopted blended learning in their teaching and learning. The experience they have in using the internet varies between 10 to 24 years. The majority of the respondents have the internet at home and a mobile data plan. However, surprisingly, some lecturers in UUM are not adopting blended learning as their teaching method even though UUM has officially instructed lecturers to switch their traditional teaching and learning method to the BLA.

Descriptive Analysis of the Level of Awareness among Lecturers

Table 2 shows the frequency of activities and resources available in the UUM Online Learning System (OLS) that lecturers have or currently use in their teaching and learning.

Table 2

Frequency Analysis of Activities and Resources Used in Uum Online Learning System

Activities	Yes	No	Resources	Yes	No
Assignment	94 (83.2%)	19 (16.8%)	Book	18 (15.9%)	95 (84.1%)
Chat	34 (30.1%)	79 (69.9%)	File	91 (80.5%)	22 (19.5%)
Choice	6 (5.3%)	107 (94.7%)	Folder	34 (30.1%)	79 (69.9%)
Database	4 (3.5%)	109 (96.5%)	IMS content package	0 (0%)	113 (100%)
External tool	3 (2.7%)	110 (97.3%)	Label	16 (14.2%)	97 (85.8%)
Feedback	26 (23%)	87 (77%)	Page	17 (15%)	96 (85%)

(continued)

Activities	Yes	No	Resources	Yes	No
Forum	79 (69.9%)	34 (30.1%)	URL	68 (60.2%)	45 (39.8%)
Glossary	6 (5.3%)	107 (94.7%)			
Lesson	14 (12.4%)	99 (87.6%)			
Quiz	50 (44.2%)	63 (55.8%)			
SCORM Package	2 (1.8%)	111 (98.2%)			
Survey	5 (4.4%)	108 (95.6%)			
Turnitin assignment 2	30 (26.5%)	83 (73.5%)			
Wiki	3 (2.7%)	110 (97.3%)			
Workshop	5 (4.4%)	108 (95.6%)			

Overall, there are 15 activities and seven resources available for lecturers to use in their online learning system. Table 2 shows that 'Assignment' is the most popular activity (83.2%) used by lecturers in the online learning system. Then, it is followed by 'Forum' activity (69.9%) and 'Quiz' activity (44.2%). On the other hand, the least used activities by the lecturers are 'External Tool' (2.7%), 'Wiki' (2.7%) and 'SCORM Package' (1.8%).

In addition, the 'File' item is the primary component (80.5%) used by the lecturers to upload notes etc., followed by the 'URL link' (60.2%). None of the lecturers in this study used the 'IMS' content package as a resource for their teaching and learning activity.

In general, this study found that from the 15 options of 'activities' in the UUM OLS, only five activities are popular among the lecturers. 'Assignment' activity is the most popular option, where 83% of the lecturers use the 'activity' in their online learning system. 'Assignment' is a platform for students to submit their tutorial questions, quizzes, and exercises. In addition to that, the other four commonly used activities by lecturers are 'Forum', 'Quiz', 'Chat' and 'Feedback'.

There are seven types of 'resources' in the online learning system that lecturers can choose to use for the' resources' options. From these 'resources', only two resources are used most by the lecturers, which are 'File' and followed by 'URL'. 'File' is the option lecturers can choose to upload notes and other teaching materials. Meanwhile, the 'URL' is the option for lecturers to share videos or other articles taken from other websites. These two resources are the best options for lecturers because they do not involve any complicated processes. Next, Table 3 shows the descriptive analysis of the level of awareness among lecturers towards blended learning. The descriptive analysis shows the minimum value, maximum value and means score for each dimension.

Table 3

Descriptive Analysis of the Level of Awareness Among Lecturers Towards Blended Learning

	N	Minimum	Maximum	Mean
Technology mastery	113	14	40	30.84
Personal readiness	113	10	25	20.54
Self-efficacy	113	11	25	17.52
Perceived ease of use	113	8	20	13.62
Perceived usefulness	113	6	20	15.45
Technology readiness (optimism)	113	10	30	24.6
Technology readiness (innovativeness)	113	6	25	15.95
Technology readiness (discomfort)	113	6	28	20.04
Technology readiness (insecurity)	113	7	25	18.57

Technology mastery

There are eight items' statements used to measure the dimension of 'technology mastery'. Results in Table 3 show that, on average, the lecturers agreed that they master the technology. Basically, they know how to download and upload files, upload videos, do online discussions, and create online assignments, online forums, and online quizzes. The lecturers also agreed that their skills related to computer usage could support the requirement of blended learning.

Personal readiness

There are five items used to measure the lecturers' personal readiness towards blended learning. Table 3 shows that, on average, the lecturers agreed that they are personally ready towards a blended learning approach. They have the interest to know about blended learning and looking forward to learning how to use tools and resources provided in the online learning system. They are ready to integrate blended learning in class, feel comfortable and willing to communicate with students electronically at least once a day.

Self-efficacy

There are five items used to measure the lecturers' self-efficacy on blended learning. Self-efficacy is the belief that one has in his/her capabilities on something. Based on results in Table 3, it shows that, on average, the lecturers almost believe that they would be able to use blended learning even there is no one around to help them. The lecturers also agree that they can use blended learning even when they have no early exposure to blended learning.

Perceived ease of use

There are four items used to measure the lecturers' perceived ease of use of blended learning. Perceived ease of use is the degree to which a person believes that using a particular system would be from the effort. Table 3 shows that, on average, the lecturers believe that blended learning is likely not too easy to be used.

Perceived usefulness

There are four items used to measure the lecturers' perceived usefulness of blended learning. Perceived usefulness is the degree to which a person believes that using a particular system would enhance his/her job performance. The results in Table 3 show that, on average, the lecturers almost agreed that blended learning helps improve their job performance in teaching and learning.

Lecturers' technologies readiness (optimism)

There are six items used to measure the lecturers' technologies readiness of the blended learning using the optimism measurement.

Optimism is a positive view of technology, and it is a belief in increased control, flexibility, and efficiency in life due to technology. Table 3 shows that, on average, the lecturers agreed that technology provides various benefits to them, particularly in their daily works and duties.

Lecturers' technologies readiness (innovativeness)

Five items were used to measure the lecturers' technologies readiness for blended learning using the innovativeness measurement. Innovativeness is a variable that measures the tendency to be the first to use new technology. Table 3 shows that, on average, the respondents somewhat disagree that they will be the first to use new technology.

Lecturers' technology readiness (discomfort)

There are six items used to measure the lecturers' technologies readiness of the blended learning using the discomfort measurement. Discomfort is a variable that measures feelings of needing control and a sense of being overwhelmed by technology. Table 3 shows that, on average, the lecturers tend to agree that technologies have some issues that need one to put cautious. The issues range from the replacement of people-tasks with technologies to health and safety risks.

Lecturers' technology readiness (insecurity)

There are five items used to measure the lecturers' technologies readiness of the blended learning using the insecurity measurement. Insecurity is a variable that measures distrusting technology for security and privacy reasons. Table 3 shows that, on average, the lecturers almost agreed that they have a feeling of distrusting technology for security and privacy purposes. It may due to some of the lecturers prefer to face-face teaching approach as compared to BLA. This study is highly suggested to the university to improve the security and privacy of the data in the learning management system.

In general, the study found that lecturers have technology mastery. From the items statements, most lecturers agree that they generally have no problem uploading and downloading lecturer notes in the online learning system, knowing how to upload videos, conducting

online discussions, and creating online assignments, forums, and quizzes. This finding suggests that the lecturers are ready to use the technology in their learning process. The finding is consistent with O'Byrne and Pytash (2015) study that claims academicians have put some attention to embedding technology in their teaching and learning process. Apart from technological mastery, the lecturers also have a personal readiness towards blended learning. The lecturers mainly have a determination to know more about blended learning. They always look forward to using the activities and resources facilities provided in the online learning system, besides ready to integrate the blended learning in their teaching and learning session and feel comfortable communicating online with students. For the perceived ease of use, on average, the lecturers feel that blended learning is a bit hard to be applied. But, despite that, the analysis also found that lecturers mainly believed that they would be able to use blended learning even there is no one to teach or assist them (self-efficacy). The lecturers, however, neither agree nor disagree that blended learning enhances their job performance.

The lecturers' technologies readiness was measured using four criteria: optimism, innovativeness, discomfort and insecurity. The result found that for the technology optimism, the lecturers agree that technology provides them with various benefits to their daily works and duties. This statement indicates that the lecturers have a positive view of the technology. The background or profile analysis found that the lecturers have more than ten years of experience using the internet and technologies and have gained many benefits from using technologies.

Meanwhile, for the technology innovativeness criteria, the lecturers average disagree that they will be the first to use new technology. Despite the positive view they have on technology, the lecturers, however reluctant to be the first in using the new technology. The demographic profile of the lecturers shows the lecturers are mainly aged 31 years old and above. As been found by Meyer (2007), as people get older, they are more towards becoming users of technology rather than becoming a pioneer to technology. Finally, for the discomfort and insecurity criteria, it is found that lecturers are concern about some issues related to technology. Among the issues are health and safety risks, as well as providing personal details over the internet.

Overall Opinion among Lecturers towards Blended Learning

Table 4 shows the overall opinion among lecturers about blended learning in UUM.

Table 4

Overall Opinion Among Lecturers Towards Blended Learning

	Yes	No
Equipped with appropriate training on blended learning?	37 (32.7%)	76 (67.3%)
Is internet speed in UUM is reasonably good?	63 (55.8%)	50 (44.2%)
Is the UUM online learning system is friendly?	58 (51.3%)	55 (48.7%)
Are your devices compatible?	74 (65.5%)	39 (61%)

Based on the result, most lecturers claim that they have not been provided with appropriate training on blended learning. Han and Ellis (2019) suggest that university instructors should help lecturers see the learning values through BLA and explicate how the face-to-face and online discussions are integrated. Meanwhile, on the positive side, more than half of the lecturers claim that the internet speed in the UUM campus is reasonably good and the UUM online learning system is user-friendly. They also claim that they have compatible devices with the current technology used in the UUM campus.

CONCLUSION AND FUTURE WORK

This study shows that lecturers in UUM have a high level of readiness towards the BLA. Even though there are limitations in certain areas, for example, based on the perceived use, some of the lecturers still believe that blended learning is a bit difficult for them to handle. For some others, the feeling of unsecured in using the technology makes them reluctant to become among the first to use new technology; however, they are still motivated to participate in blended learning. Therefore, UUM should be able to implement the approach seamlessly with excellent cooperation from UUM lecturers.

The study is consistent with the encouragement by the government of Malaysia to apply BLA in teaching and learning as set up in the

Malaysia Education Blueprint (MEB) 2015 – 2025 (Ministry of Education Malaysia (MOE), 2013). MOE has set 2015 – 2016 as the initial stage of implementing blended learning in HLIs, particularly the public universities. MOE has aimed, at least for the year 2016, 30% of the course provided by any HLIs to use the online pedagogy. Thus, the findings of this study able to verify the consistency of the government's target towards the BLA in teaching and learning from the academician perspective.

In addition, this study contributes in a way that it helps HLIs understand the readiness level of lecturers towards BLA and explicate how face-to-face and online classes could be integrated, besides accommodating the loopholes in the system. However, as most of the lecturers still believe that they not be equipped with enough training on blended learning; University Teaching and Learning Center (UTLC) in UUM, for example, is highly encouraged to conduct workshops, seminars and talks on BLA to expose and equip lecturers with the current knowledge and technology applications in conducting BLA. In fact, blended learning may provide a platform for students and lecturers to improve their teaching and learning experience and to enhance their information technology skills as part of their preparation to enter the job market.

Considering the recent situation of the pandemic, this study provides the current picture of the readiness level towards BLA among the academicians before the pandemic situation severely hit the country. Furthermore, given the significant amount of time the academician in HLIs have conducted online learning during this outbreak, it is believed lecturers are more efficient and adapted to online teaching. Therefore, when all students come back to campus, the BLA approach can be integrated better and conducted efficiently by lecturers in HLIs.

For future study, as set in the MEB 2015 – 2025 - the initial stage (2015 -2016) of implementing blended learning in HLIs is believed to have been achieved. Then, the second phase, which is labelled as Enable Stage and (2017 – 2019), and the third phase, which is marked as Optimum Stage (2020 -2025) of study should take place to verify whether the target by MOE has achieved or whether the target is still relevant for the current situation. Furthermore, in getting a better overview of lecturers' feedback, the population could be increased to

include lecturers from other HLIs. Besides, students' feedback should also be incorporated in the study as both parties play a vital role in making the BLA more feasible.

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