Online Learning Readiness Among University Students in Malaysia Amidst Covid-19

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Abstract: Universities around the world have been directly and indirectly affected due to the Covid-19 pandemic. Within the span of less than one month, the traditional face-to-face learning has been replaced by online learning to ensure education continuity. This paper sets out to examine online learning readiness among university students who have been thrown in at the deep end. It aims to investigate if demographic factors make any difference in their readiness to learn, online learning experiences and intention to continue using online learning. It also examines their preferred methods of online learning and challenges they face. Data collected from 399 students in two different online learning courses in Malaysia showed that respondents are generally ready for online learning. However, females are found to be more ready than male, degree students are more ready than diploma students while female students and degree students are more satisfied with online learning and have better learning experiences compared to male and diploma students. More than half of the respondents indicated that if given a choice, they do not want to continue with online learning in the future. Most respondents preferred online learning via pre-recorded lectures uploaded to Google Classroom and YouTube. While the biggest challenge for degree students is internet connectivity, for diploma students, it is the difficulty in understanding the content of the subject. Moving forward, government, telecommunication companies and universities should invest in developing internet infrastructure across the country as online learning will be the new norm in the foreseeable future. University also needs to provide further training to enhance academics' online teaching skills to ensure lessons are delivered more effectively.

Keywords: Covid-19, Online learning, Online learning readiness, University students

1. Introduction

Students and lecturers in institutions of higher education were critically hit by the unprecedented changes as a result of the Covid-19 pandemic (Chung, Mohamed Noor & Mathew, 2020). Many prestigious universities around the world have since fully adopted online learning as a way to ensure continuity of education. The University of Cambridge has become the first university in the United Kingdom to move teaching and learning online for a full year 2020/2021 to limit the spread of Covid-19 (Europe News, 2020). Other universities around the world have since followed the move.

World Wide Web was invented by Sir Tim Berners-Lee in 1989, in a span of 30 years, and has had a huge impact on online learning opportunities, which were only further enhanced by the increase in high-speed internet technology. Studies conducted within the last decade or so have documented a spurt in the growth of online learning. The percentage of undergraduate enrolment in at least one online learning course grew from 8% in 2000 to 20% in 2008 (Radford & Weko, 2011). A 2013 EDUCAUSE Center for Analysis and Research (ECAR) study of e-learning in higher education, involving more than 80% of institutions reported a similarly high rate of growth where several courses were offered online with more than half offering a considerable number of whole programs online (Bischel, 2013). Further, an annual survey involving more than 2800 higher education institutions carried out by Babson College's Arthur M. Blank Center for Entrepreneurship (Allen & Seaman, 2014) found that the number of students taking at least one online course soared by 411 thousand to 7.1 million students in 2013 (Van Rooij & Zirkle, 2017).

In Malaysia, like many countries around the world, the Movement Control Order (MCO) was enforced to flatten the curve of the spread of Covid-19. The Ministry of Higher Education announced that all public and private universities in Malaysia are to conduct teaching and learning activities via online learning until the end of December 2020 (Malaysian Ministry of Higher Education, 2020). The academic fraternity were very resilient, quick to adapt and proactive in overcoming the challenges presented by MCO. Lessons, projects, groups work, presentations and assessment were all prepared within two weeks and carried out with the aid of technology. Although it is undeniable that online learning is deemed the best solution to ensure continuity in learning in the era of what has been coined the "new norm", there may be some setbacks such as lack of human touch such as sensing students' incomprehension via facial expressions, cracking small jokes to enlighten mood, student engagement and interaction which can be done more effectively in traditional face to face learning. The absence of social interaction and the inability to form study groups previously enjoyed by students are also some of the challenges they now have to contend with.

Universiti Teknologi MARA (UiTM), a public university in Malaysia, started online learning on 12th April, 2020. Around the same time, the Learning Management System (LMS) known as UFuture was launched to complement the earlier i-Learn system. Prior to the implementation of full online learning, blended learning (BL) was used. The concept of BL was introduced to most disciplines by combining the traditional face-to-face teaching and online communications. It is aimed to prepare the students for self-directed learning, the overall satisfaction towards the theory and real practices are still scarce (Abu Seman, Hashim, Mohd Roslin, Mohd Ishar, 2019). Since the use of i-Learn was not compulsory, many lecturers chose other more user-friendly and free platforms such as Google Classroom and other social media such as WhatsApp, Telegram and YouTube (Chung et al, 2020).

In view of these drastic changes, while lecturers were resilient and had to prepare classes within a fortnights' time, many university students were found to be grappling with online learning. Despite all policies and preparations by the Ministry of Education, the government, the universities and the academic staff, the question of whether university students in Malaysia are ready for online learning remains. The objectives of the study are to investigate if demographic factors make any difference in their readiness to learn, the experiences they go through and the intention to continue using online learning. The study also attempted to find out the preferred method of online learning and challenges the students face. This study uses the Online Readiness Scale (OLRS) by Hung, Chou, Chen and Own (2010) to answer the following questions :

1. Does the gender and program level of university students make any difference in their readiness for online learning?
2. Does gender and program level of university students affect their online learning satisfaction, experience, intention to use online learning in the future?
3. What are the most preferred and least preferred learning methods among university students?
4. What are the online learning challenges faced by the university students?

2. Literature Review

In an unprecedented turn of events, Covid-19 has changed the way students are educated around the globe within a short span of time. The Organisation for Economic Co-operation and Development

(OECD) estimated that over 421 million children are affected by school closures in 39 countries, while 22 countries have resorted to partial "localized" close down (Tam & El-Azar, 2020). One of the vital shifts in education is the resultant largest "online movement" in the history of education. This and other ensuing changes allow us a glimpse into the future of education with many experts predicting will be a new normal in learning.

Over the years, much interest revolves around online learning readiness among university students (eg; Atkinson & Blenakenship, 2009, Coates, 2006; Chung et al, 2020; Hung, Chou, Chen & Own, 2010; McVay, 2000). Building on past studies done by other researchers, Hung et al (2010) presented and validated a conceptual framework that online learning readiness can be gauged in five dimensions: self-directed learning (SDL), learner control, computer & internet efficacy, online communication self-efficacy and motivation for learning.

Self-Directed Learning (SDL), as a learning model, promotes self-control in the learning process and provides space and opportunities for the learner to interact with people outside the classroom to reach the learning goal (Benson, 2011; Holec, 1996). Apart from individual factors, a survey including 661 foreign language learners' cultural values in three countries using Hofstede's cultural dimensions (2001), showed learners who were more likely to embrace technology for SDL outside the classroom were those who had long-term goal orientation, collectivistic and had high power orientations (Lai, Wang, Li, and Hu , 2016).

Lee, Yeung & Ip (2016), made a comparison among three key constructs of self-directed learning (SDL) such as self-management, desire for learning, and self-control, computer technology use and personal factors such as age, gender, language learning anxiety and language learning style a university context. In the study the students' preparedness for online learning was examined. The three SDL factors were found to positively correlate to use of computers and individual learning but revealed an opposite relationship to language learning anxiety with the desire for learning having the strongest association to computer use. Gender and age differences did not account significantly for use of computers for SDL although the older students scored higher for both desire for learning and anxiety.

As for computer and internet efficacy, a Hong Kong study of university students found some of the major factors that affected technology use for learning were students' own computer technology skills, their attitudes towards it, learners' learning styles as well as peer and teacher support (Lee, Yeung & Ip, 2016). A study by Paul & Glassman (2017) on the relationship between internet self-efficacy and internet anxiety made the case that the various constituents of internet self-efficacy such as search self-efficacy, communication self-efficacy, organisation self-efficacy, differentiation self-efficacy, and reactive/generative self-efficacy have varying degrees of significance at predicting internet anxiety in blended learning environments. Hsiao, Zhu, and Chen (2017) uncovered a more complex relationship between internet anxiety and internet identification (realisation of the importance of the internet), whereby it was observed among students with high internet self-efficacy that internet anxiety did not have a significant relationship with internet identification, while for students low in internet self-efficacy, there was positive correlation between the two variables.

Part of the learning process involves asking questions. Since asking questions is a way to gain deeper understanding into a subject matter, students are often encouraged to ask questions (McVay, 2000). Likewise, posting questions online can achieve the same outcome. Online communication self-efficacy involves posting questions online in the Learning Management System, class forum, or in the courses chat groups. Chung et al (2020) in their study find that university students do not normally ask questions in face to face lessons due to some social stigma, even when they do not understand the content of a lecture, and they also do not possess a high level of online communication self-efficacy. This has directly affected their online learning readiness.

Motivation for learning can be divided into intrinsic and extrinsic motivation. Intrinsic motivation refers to the mental, social and physical development of a person that affects a person's interests that thrust towards certain choices in life (Ryan & Deci, 2000). Extrinsic motivation on the other hand refers to the inclination to achieve goals based on external rewards (Ryan & Deci, 2000). Motivation for learning is essential to ensure a learner is able to remember, understand, recall, apply, analyse and synthesise knowledge. Having established that, the role of learner motivation is an undeniable one in online learning. Paul (2018) in her unpublished PhD thesis stated that the results of her path analysis pointed to motivational factors being crucial precursors for online discussion in the context of blended classrooms.

In sum, by understanding online learning readiness among university students and in what ways demographic factors affect this readiness, not only can lecturers provide a better online learning approach, but also to improve their online experience and satisfaction.

METHODOLOGY

3. Methodology

3.1 Context and participants

The study employed a non-experimental quantitative research design. The respondents in this study are online and distance learning (ODL) students who are enrolled in two online courses in the UiTM. Being the largest university in Malaysia, it has presence in each of the thirteen states. An online questionnaire using Google Form was sent out via instant messenger to a total of 435 undergraduate students. A total usable 399 responses were collected from the respondents, yielding a response rate of 91.7%. The respondents were asked to respond to the OLRS 18-items with a 6-point Likert scale, with anchors ranging from 1 (least agree) to 6 (strongly agree). Apart from that, there was one item each to gauge the respondents online learning satisfaction, online learning experience, intention to use online learning in future. Information on the challenges they faced while learning online were also captured.

As depicted in Table 1, the 399 respondents are made up of 116 (29 %) male and 283 (71 %) females. They ranged from 19 to 25 years of age, with an average age of 21 years. While 178 (45%) were degree students, the remaining 221 (55%) were diploma students. In terms of geographical location, 194 (49%) were from East Malaysia of Sarawak and Sabah while 205 (51%) were from West Malaysia. Internet connectivity has been one of the major challenges faced by students in Malaysia (Chung et al., 2020), this study showed that only 6 % of them had very good internet connectivity, 40% with good internet connectivity, 47% with average connectivity while the remaining 6% had poor connectivity. When asked where they normally did their online learning, 60% said that they studied from their homes either in the town or city areas, 31% did their studies at home in the rural areas, while 9 % in university hostels. Apart from making a comparison between gender for their online learning readiness, this study makes comparison between degree students who majored in Business Management and diploma students who majored in Economics. Degree students have always been seen as more matured compared to diploma students, thus this study intends to investigate if maturity plays a role in online learning readiness. Respondents in the degree program were enrolled in Human Resource Management course while diploma students were enrolled in Introduction to Economics course. Both these courses were distance learning with a hybrid of synchronous and asynchronous format. Both these courses were delivered using a combination of digital learning material which included pre-recorded lectures uploaded to YouTube, with their links posted in Google Classroom, live streaming lecture via Google Meet, Zoom, Webex, Instant Messengers such as WhatsApp and Telegram text and voice messages.

3.3 Instruments

The instrument used in this study, the OLRS, was adapted with permission from Hung et al (2010), The scale has five dimensions: self-directed learning, learner control, motivation for learning, computer/ internet self-efficacy and online communication self-efficacy. Apart from that, there were four items to gauge respondents' overall learning satisfaction, overall learning experience and intention to continue using online learning in the following semester.

3.4 Reliability

Although the OLRS was a validated instrument with a scale reliability of between 0.727 to 0.871 (Hung et al., 2010), and further confirmed to be between 0.841 to 0.911 by Chung et al (2020), it is essential to test its reliability within the context of the current study. To do this, data collected in

Google Form was screened, cleaned and transferred to Statistical Package for Social Science (SPSS) version 24 for analysis. The composite reliability for OLRS was measured first before subsequent analyses were conducted. Nunnally (1978) suggested that 0.7 is an acceptable value for a reliable construct. The values of composite reliability for the five dimensions in this study were between .781 to .883 are given in Table 2. The reliability for single-item online learning satisfaction, online learning experience and intention to continue using online learning was also shown. Table 3 shows the correlations among the different dimensions. All the five dimensions were positively, and significantly correlated to each other, with p value < 0.01. All constructs had strong correlations of above .60 with each other except for learner control. This dimension recorded a positive but moderate correlations strength of between .512 to .684 with the other four dimensions.

Table 1. Respondents' demographic background

Demographic background	Variable	n	%
Gender	Male	116	29
	Female	283	71
Program level	Degree	178	45
	Diploma	221	55
Geographical location	West Malaysia	205	51
	East Malaysia	194	49
Internet connectivity	Very good	25	7
	Good	161	40
	Average	187	47
	Poor	25	6
Online learning location	Home in city/town areas	240	60
	Home in rural areas	125	31
	University hostel	34	9

Table 2. Reliability Analysis

Dimension/ Item	Items	Composite reliability
Computer/internet self-efficacy	3	.781
Self-directed learning	5	.862
Learner control	3	.846
Motivation for learning	4	.873
Online communication self-efficacy	3	.883
Online learning satisfaction	1	.759
Online learning experience	1	.789
Intention to continue using online learning	1	.834

Table 3. Correlation among the OLRS dimensions

	1	2	3	4	5
Computer/internet self-efficacy	1				
Self-directed learning	.684**	1			
Learner control	.512**	.690**	1		
Motivation for learning	.651**	.814**	.620**	1	
Online communication self-efficacy	.629**	.739**	.607**	.755**	1

**. Correlation is significant at the 0.01 level

4. Findings and discussion

4.1 Overall online learning readiness

The overall online learning readiness among respondents were measured by calculating the composite mean for the five dimensions of the OLRS. These five dimensions were computer/ internet self-efficacy, self-directed learning, learner control, motivation for learning and online communication self-efficacy. As seen in Table 4, the mean scores ranged between 3.91 to 4.33, representing a slight to moderate level of readiness for online learning. The findings suggest that respondents had the highest level of readiness in the computer/ internet self-efficacy (CIS) dimension, but had the lowest mean score in the learner control dimension. These findings conform to studies by Chung et al (2020) and Hung et al (2010) which also found the students had similar outcomes on online learning readiness. However, the overall learner readiness score shows that generally the students' online learning readiness is above average.

Table 4. Mean for OLR dimensions

Dimensions	Mean	Standard deviation
Computer/internet self-efficacy	4.33	.776
Self-directed learning	3.99	.831
Learner control	3.91	.750
Motivation for learning	4.07	.926
Online communication self-efficacy	3.99	.991
Overall online learning readiness	4.06	.737

4.2 Overall online learning readiness between gender and program level

The first research question in this study was to examine if gender and program level of university students make any difference in their readiness for online learning. To answer this question, the overall online learning readiness was further tested to examine whether there was any significant relationship between readiness and respondents' demographics variables. Table 5 shows the descriptive statistics for overall online learning readiness for gender and program level. The results show that females had higher mean scores than males, and degree students have a higher mean score than diploma students. However, further testing using independent-sample t-test in Table 6 shows that gender had no significant effect on the overall online learning readiness. In other words, both male and female did not exhibit any significant difference in their overall readiness for online learning. This finding is supported by Atkinson & Blankenship (2009), Bunz, Curry, and Voon (2007), Chung et al (2020), Hung et al (2010) and Masters and Oberprieler (2004). As for the program level, it had a significant effect on students' overall readiness for online learning. As depicted in Table 6, degree students were more ready for online learning compared to the diploma students, $t(397) = -4.707$, $p = 0.00$. This could be because degree students who were between 21 to 25 years old were more matured and had more years in the university, compared to diploma students who were younger, mostly only between 19 to 20 years old. This finding is supported by Hung et al (2010) and Wojciechowski & Palmer (2005) where they found that more matured exhibited greater readiness for online courses than students who were less matured. The claim by many researchers that age correlates with self-directed learning despite university students' age gap being small (between 17 to 25 years), has its evidence in an analysis by Lee, Yeung & Ip (2016).

Table 5. Overall learning readiness between Gender and Programs

		N	Mean	Std deviation
Gender	Male	116	3.93	.747
	Female	283	4.11	.727
Program level	Diploma	178	3.87	.711
	Degree	221	4.21	.722

Table 6. Independent Sample t-test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig.(2 tailed)	Mean Difference	Std. Error Differences	Lower	Upper
Gender	Equal variances assumed	.003	.955	-2.28	397	0.23	-.184	.080	-.343	-.025
	Equal variances not assumed			-2.25	208.76	0.25	-.184	0.80	-.345	-.023
Program level	Equal variances assumed	.135	.713	-4.70	397	**0.00**	-.340	.072	-.482	-.198
	Equal variances not assumed			-4.71	381.36	**0.00**	-.340	0.72	-.4821	-.198

4.3 Online learning satisfaction, experience and intention to use online learning

Does gender and program level of university students affect their online learning satisfaction, experience, and intention to use online learning in the future, as the second research question asks? Chi square analysis was used to identify whether there is any correlation between the gender, program level and online learning experience, online learning satisfaction and intention to continue using online learning. Table 7 shows that both factors had a significant effect on online learning satisfaction, with $p < 0.05$. Females were reported to be more satisfied compared to males. This finding contradicts findings by Cole, Shelly and Swartz (2014) where they found that there was no significant difference in online learning satisfaction between male and female. It was also found that degree level students were more satisfied than diploma students.

As for online learning experience, both gender and program level had a significant effect on online learning experience. Table 8 shows that females and degree students had better experiences compared to males and diploma students respectively.

Table 7. Demographic factors and online learning satisfaction

Variable	Category	Online learning satisfaction				Significance level
		Not satisfied		Satisfied		
		n	%	n	%	
Gender	Male	49	42.2	67	57.8	0.020**
	Female	89	31.4	194	68.6	
Program level	Diploma	72	40.4	106	59.6	0.014**
	Degree	66	29.9	155	70.1	

** Significant at 0.05 level

For the intention to continue using online learning, the item "If given a choice, I will continue to use online learning next semester" was asked. Table 9 shows that more than half of the respondents regardless of their demographic profiles disagreed with the statement. Further Chi Square analysis showed that there was no significant difference between gender, program level and their intention, with $p > 0.05$. This finding suggests that although they were generally ready for online learning, satisfied with online learning and their experience so far has been somewhat good, more than half of them would not want to continue with online learning if they had a choice, regardless of their gender and program level.

Table 8. Demographic factors and online learning experience

		Online Learning experience				Significance level
		Poor		Good		
		n	%	n	%	
Gender	Male	48	41.4	68	58.6	0.021**
	Female	87	30.7	196	69.3	
Program level	Diploma	73	41	105	59	0.004**
	Degree	62	28.1	159	71.9	

** Significant at 0.05 level

Table 9. Demographic factors and intention to continue using online learning

		Intention to continue using online learning				Significance level
		Disagree		Agree		
		n	%	n	%	
Gender	Male	73	62.9	43	37.1	0.096
	Female	158	55.8	125	44.2	
Program level	Diploma	104	58.4	74	41.6	0.424
	Degree	127	57.5	94	42.5	

4.4 The most and least preferred online learning method by respondents

All the students were taught online using both synchronous and asynchronous methods. For the synchronous method, this form of teaching was via Google Meet, Zoom, Webex, WhatsApp and Telegram text delivered live at the original timetable. As for the asynchronous method, the lecturers used pre-recorded powerpoint slides with voice over and uploaded to YouTube and Google Classroom. In an attempt to find out what were their preferred learning methods, two questions were posed. Table 10 shows that the majority (69%) of the students preferred pre-recorded lectures uploaded to Google Classroom and YouTube compared to the other methods. This could probably be that this method gives them time to listen to the lecture before their classes. Besides, for students who face internet connectivity issues, when their lectures are pre-recorded, it helps them to prepare before attending class just in case the connectivity drops while the lesson is on. This method also enables students to replay the recorded lectures again and again to gain better understanding of the content. This could also help them better prepare for quizzes, tests and final assessments. On the other hand, WhatsApp voice message was noted as the least preferred online learning method. This could be because some of the students have problems waking up in time for their classes. The other probable reason could be due to the lack of smartphone capacity to store all the voice messages in WhatsApp. Apart from that, since WhatsApp messages allow two-way communications between lecturer and all the students in the WhatsApp group, the lessons are very often interrupted by responses or questions from students before the lecturer could finish the lesson.

Table 10. Most Preferred Online Teaching Method

Online Method	n	(%)
Pre-recorded lecture uploaded to Google Classroom, YouTube	276	69
Zoom/ Google Meet/ Webex	77	19.3
WhatsApp/ Telegram text messages live at the original timetable	33	8.3
WhatsApp voice message	13	3.3

Further analysis was done to find out whether there was any difference in the two demographics' choice of preference for online learning methods. Gender did not have a significant effect on the choice of preference for online learning methods. However, it is interesting to note that the program level had a significant effect on choice of preference whereby majority of degree students (86%) preferred pre-recorded lecture uploaded to Google Classroom and YouTube, with $p < 0.005$. However, for diploma students, there were two preferences while the majority (48%) preferred Pre-recorded lectures, a large number (35%) also liked synchronous learning using Zoom, Google Meet and Webex.

Table 11. Most preferred online learning method by gender and program level

	Pre-recorded lecture uploaded to Google Classroom/ YouTube		Zoom/ Google Meet/ Webex		WhatsApp/ Telegram text messages		WhatsApp voice message		Significance Level
Gender	n	%	n	%		%		%	
Male	75	65	27	23	12	10	2	2	0.289
Female	201	71	50	18	21	8	11	4	
Total	276	100	77	100	33	100	13	100	
Program Level									
Diploma	85	48	63	35	23	13	7	4	0.000**
Degree	191	86	14	6	10	5	6	3	
Total	276	100	77	100	33	100	13	100	

** Significant at .001 level

4.5 Challenges faced in online learning

A list of challenges related to online learning was posed in the questionnaire for respondents to choose from, they were allowed to choose more than one challenge. There were also provisions for additional challenges that respondents could write down. These challenges were calculated then ranked based on the percentage. As seen in Table 12, there were eight challenges, ranked based on the percentage of responses, and grouped based on their study levels. For degree students, who were mostly in East Malaysia, the number one challenge was internet connectivity, followed by, in sequence, too many different online learning methods used by various lecturers (47.2% of respondents chose this option), limited broadband data (45%), slow personal laptop and devices (42.7%), difficulty to focus while learning online (40%), lack of motivation due to the absence of face to face contacts (68%), difficulty in understanding the content (43%) and finally lack of technical skills in using online learning method (23.6%). As for the diploma students, who were mostly in West Malaysia, they ranked the challenges differently. The main challenge facing 66% of the students were difficulty in understanding the content of the subjects, followed by internet connectivity (60.2%), difficult to focus (58.8%), too many different online methods (48%), lack of motivation due to absence of face to face contacts (45.7%), limited broadband data (39.3%), slow laptop and devices (32.6%), and finally lack of technical skills (25.9%). While the challenges were the same, degree students rank them differently compared to diploma students. The degree students' main challenge was related to internet connection. This was a pressing issue especially for rural areas of East Malaysia and has been in the limelight since MCO was enforced. Second challenge was too many different online learning methods used by different lecturers. This is especially true in the context of UiTM. In UiTM, although the LMS i-Learn System and UFuture are in place, its use is not mandatory. Many lecturers prefer to use other platforms such as Google Classroom or social media such as Facebook and YouTube. It could be because there is a huge digital divide among lecturers of different age groups (Shafie, Abd Majid & Ismail, 2019; Yaakob, Wan

Hassan & Daud, 2016). As such, lecturers who were not very Information Technology (IT) savvy opted to use simpler methods such as instant messenger such as WhatsApp or Telegram to deliver lessons. As for diploma students, their main challenge was related to understanding the subject matter. The probable explanation for not being able to understand the content of the subject could be the nature of the subject Economy itself. This subject has a combination of both theoretical understanding and calculations. Perhaps it was rather hard for students to learn this subject via an online method. The second biggest challenge faced by diploma students was internet connectivity. This came as a surprise for the researchers as the assumption was that West Malaysia has better internet connectivity compared to East Malaysia of Sabah and Sarawak.

Table 12. Challenges faced by students while studying online

	Degree students (N=178)			Diploma students (N=221)		
Challenges	n	%	Rank	n	%	Rank
Internet connectivity	105	59.0	**1**	133	60.2	**2**
Too many different online learning methods used by different lecturers	84	47.2	**2**	106	48.0	**4**
Limited broadband data	80	45.0	**3**	87	39.3	**6**
Slow personal laptop, devices	76	42.7	**4**	72	32.6	**7**
Difficult to focus due to distractions from my surroundings	71	40.0	**5**	130	58.8	**3**
Lack of motivation due to absence of face to face contact with friends and lecturers	68	38.2	**6**	101	45.7	**5**
Difficult to understand the content of the subjects	43	24.0	**7**	146	66.0	**1**
Lack of technical skills in using online learning	42	23.6	**8**	57	25.9	**8**

5. Conclusion and Implication

Based on the findings above, it was found that the respondents in this study generally indicated that they were between slightly to moderately ready for online learning. Some of them were not ready for online learning due to lack of learners control, self-directed learning and online communication efficacy. In line with the objectives of this study, several conclusions can be drawn. Firstly, it was found that female students were more ready than males, the degree students were more ready than the diploma students for online learning, Secondly, female students and the degree level students were more satisfied with online learning and had better learning experiences compared to male and the diploma students. However, more than half of the respondents indicated that if given a choice, they did not want to continue with online learning next semester. Thirdly, the most preferred online learning method was a pre-recorded lecture uploaded to Google Classroom and YouTube. Finally, the biggest challenge for the degree students was internet connectivity but the biggest challenge for the diploma students was understanding the course content.

Another surprising finding is, amidst all these hindrances facing online learning among university students in Malaysia, poor internet connectivity and limited broadband data remained the biggest challenge(Chung et.al, 2020). At the onset of MCO, private telecommunication companies such as Maxis, Digi, Celcom, UMobile and other telecommunication companies have offered a free 1 Gigabyte of broadband data between 8am to 6pm daily to allow students to engage in online learning. However, feedback from some students who do not have WiFi internet at home, the free broadband data was still not sufficient for them to participate in online learning. This challenge is even more pressing especially if lectures were delivered via live-streaming using platforms such as Google Meet, Zoom or Webex. Therefore, the Government needs to look into long term infrastructure investment to develop internet connectivity (Chung et al. 2020). Although UiTM has allowed students who have

internet connectivity back in rural areas to move back to the university hostels to gain better internet connectivity to ensure more effective learning, internet connectivity within the Campuses are also in dire need of improvement. As this new norm will be here to stay for the foreseeable future, improving internet connectivity should be on top of the University agenda.

As for ways to improve understanding of subject matter, the university needs to organise more training sessions to equip lecturers to be more effective in delivering online learning contents. Synchronisation of online platforms used for online teaching and learning by the university is necessary to avoid problems of students having to deal with different platforms used by lecturers of different subjects. This may go a long way to help alleviate students' anxiety in reference to online learning.

This study is not without its limitations. Future studies should look into comparing online learning readiness between broader groups of respondents, including students from different faculties and different geographical locations. Online learning satisfaction also needs further investigation by using multidimensional multi-item instruments and how this will affect their intention to continue using online learning. Future studies could investigate if there are any potential moderating factors between students and their online learning readiness. Another area worth studying is academic performance as a result of online learning. Findings from these studies hopefully could assist universities to improve online teaching and learning to educate graduates who can meet the challenges and aspirations of the Fourth Industrial Revolution.

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Appendix

Dimension an item no	Items
Computer/Internet self-efficacy	

CIS1	I feel confident in performing basic functions of Microsoft Office programs
C1S2	I feel confident in my knowledge and skills of how to manage online learning
CIS3	I feel confident in using the Internet to find information
Self-directed learning	
SDL1	I am able to carry out my own study plan while learning online
SDL2	I seek assistance when facing learning problems from lecturers and friends
SDL3	I manage my time well while learning online
SDL4	I set up my personal online learning goals for each lesson
SDL5	I have a high expectation for my learning performance
Learner Control	
LC1	I can manage my own learning progress while learning online
LC2	I am not distracted by other online social activities (Insta, FB etc) while learning
LC3	I repeated/replay the online learning materials based on my needs
Motivation for Learning	
MFL1	I am open to new ideas when learning online
MFL2	I am motivated to do online learning
MFL3	While learning online, I learn to improve from my previous mistakes.
MFL4	I like to share my ideas with my friends while learning online
Online Communication Self-efficacy	
OCS1	I feel confident in using online tools to communicate with my lecturer and
OCS2	I feel confident in expressing my thoughts through online text messages/ posting comments in WhatsApp/ Google Classroom ect.
OCS3	I feel confident in posting questions in online discussions
Behavioural intention	If given a choice, I will continue to use online learning next semester
Overall Experience	My overall online learning experience so far.
Overall Satisfaction	My overall online learning satisfaction so far.