Online Learning: A Post Covid-19 Alternative Pedagogy For University Students

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Abstract: The sudden COVID-19 pandemic situation experienced globally has caused many schools and institutions of higher learning to resort to fully online teaching and learning throughout the world, including Malaysia. As many educators and students braved the situation, and until a remedy is found to prevent the spread of this deadly coronavirus, the question that lingers in the mind of many people is 'Will online learning be the way forward for university students in post COVID-19'? Most past research have reported on students' experience of online mode of learning via a blended learning approach but there is relatively little research focusing on the real experience of students embarking on full online learning mode, especially in the state of Sarawak. Thus, this quantitative research aimed to identify the level of acceptance of online learning among university students who have experienced full online learning mode. It also intended to identify the factors that facilitated online learning and the challenges of online learning among university students. Data were collected using an online survey involving 156 respondents from a public university in the state of Sarawak. The data collected from the survey were analysed using descriptive statistics (means, frequency counts and percentages). Results showed a moderate high level of acceptance of online learning among the university students. In addition, results revealed that among the four main factors that facilitated online learning among the students, enhancement of English language skills ranked the highest, followed by enthusiasm, self-efficacy and satisfaction. This study also found that among the main challenges encountered by the majority of the students are issues of delivery speed of teaching and learning, students' attitude, struggles and stress of online learning mode. Results yielded in this study add to the existing literature on the possibility of online learning as an alternative pedagogy in post COVID-19 for the education sector.

Keywords: Online Learning, Virtual Learning, Online Learning Pedagogy, Post COVID-19 Education, Challenges, University Students

1. Introduction

Online learning pedagogy employs technology as the mechanism for educators to provide quality learning experience for students to be engaged in student-centred learning (O'Neil, Fisher & Newbold, 2009). The sudden COVID-19 pandemic situation experienced globally has caused many schools and institutions of higher learning to resort to fully online teaching and learning throughout the world, including Malaysia. Based on the statistics provided by the Ministry of Health Malaysia, the Covid-19 cases in Malaysia have been increasing with 19 cases recorded on 9 March 2020 to 260 new

cases recorded on 1 October 2020, then to 287 new cases recorded on 2 October 2020 and 317 new cases recorded on 3 October 2020. This sudden spike in the number of cases has brought the total cumulative Covid-19 cases throughout Malaysia to be 12,088 as on 3 October 2020 (The Ministry of Health Malaysia, 2020). In the state of Sarawak, three Covid-19 cases were recorded on 13 March 2020, 32 new cases were recorded on 1 April 2020. Three new imported Covid-19 cases were reported in Sarawak on 3 October, thus registering the total number of positive cases in the state at 716 (Malay Mail, 3 October 2020). There were mixed feelings among educators, parents and students on this issue of online teaching and learning. As many educators and students braved the situation, and until a remedy is found to prevent the spread of this deadly coronavirus, the question that lingers in the mind of many people is 'Will online learning be the way forward for university students in post COVID-19'? Most past research has reported on students' experience of online mode of learning via blended learning approach but there is relatively little research focusing on the real experience of students embarking on full online learning mode, especially in the state of Sarawak. The study was conducted in Sarawak due to the plight highlighted by a university student who lives in a longhouse in Pakan, Sarawak. She unfolded her story of her challenges in venturing into the jungle to establish stable Internet connection for e-learning during the pandemic (The Star, 2020).

In this study, urban areas refer to cities and town centres, while rural areas refer to the outskirts or remote areas. This study is underpinned by Maslow's (1943) hierarchy of needs which is a motivational theory based on a five-tier model of human needs. From the lowest of the hierarchy to the peak, the needs are physiological, safety, love and belonging, esteem, and self-actualization. According to Maslow (1943), in attaining 'self-actualization' which is the highest level of the pyramid, an individual would be able to reach his potential and thereby continue to work independently and search for self-improvement. Thus, this study aimed to identify the level of acceptance of online learning among university students who have experienced full online learning mode. It also intended to identify the factors that facilitated online learning and the challenges encountered by university students.

1.1 Research Questions

This study addressed the following research questions:

1. What is the level of acceptance of online learning among the students?
2. What are the factors that facilitated online learning among university students?
3. What are the challenges of online learning among university students?

2. Literature Review

2.1 Factors Facilitating Online Learning

Numerous past studies explored the students' perceptions of online learning. A study by Sit, Chung, Chow and Wong (2005) on online learning initiative among 198 students of degree in nursing in Hong Kong showed that the students felt online learning is convenient and that they were responsible for their own learning and could navigate their own learning. Other benefits yielded in previous studies on satisfaction of online learning include intrinsic motivation (Vanslambroucka, Zhu, Lombaerts, Philipsen, & Tondeur, 2018), its convenience in retrieving information and saving cost (Bali & Liu, 2018; Herrin, 2001; Soon, Sook, Jung & Im, 2000), ability to understand concepts taught in subjects (Sit, Chung, Chow and Wong, 2005), and opportunity to be engaged in learning with opportunity of repeated access to learning activities at own pace and peer interaction (Gao, Zhang and Franklin, 2013; Jonassen & Kwon, 2001; Ravi, 2014; Sit, Chung, Chow and Wong, 2005; Webb, Gill & Poe, 2005; Vanslambroucka, Zhu, Lombaerts, Philipsen, & Tondeur, 2018). Besides that, other gains of online learning are ease of time (Bali & Liu, 2018; Puzziferro, 2008), study environment (Puzziferro, 2008), chance to be innovative by using computer technology (Bali & Liu, 2018), and instructor's timely feedback (Martin, Wang & Ayesha Sadaf, 2018).

2.2 Challenges of Online Learning

Nonetheless, despite past studies documenting the positive experiences of online learning, others provide a different view. Some studies reported the drawbacks of online learning such as lack of self-regulation, inability to effectively operate technology and inefficiency of time management (Chuang, Weng, & Chen, 2018; Rasheed, Amirrudin & Nor Aniza, 2020), no access to computer at home (Anderson and Perrin, 2018); confrontation with computer technology was stressful and time-consuming (Atack and Rakin, 2002; Chuang, Weng, & Chen, 2018; Scollin, 2001), lack of opportunity for interaction with group members (peer support) on subject matter (Atack and Rakin, 2002; Bali & Liu, 2018; Sit, Chung, Chow and Wong, 2005; Vanslambroucka, Zhu, Lombaerts, Philipsen, & Tondeur, 2018), and lack of timely feedback (Jeong & Frazier, 2008). Other negative experiences of online learning include increased workload (Ravi, 2014; Vanslambroucka, Zhu, Lombaerts, Philipsen, & Tondeur, 2018), inadequate opportunity for human contact and interactions (Sit, Chung, Chow and Wong, 2005), lack concentration and tend to fall asleep (Morgan, 2020); inadequate English language skills to understand Internet learning materials (Cragg, Edwards, Zhao, Song & Zou, 2003; Ravi, 2014), costly for heavy workload and group discussions (Vanslambroucka, Zhu, Lombaerts, Philipsen, & Tondeur, 2018), inability to freely express views (Ravi, 2014), and less engagement and learning via online and the various features of synchronous technology were unhelpful (Martin, Wang & Ayesha, 2018).

2.3 Other Factors Contributing to Online Learning

Other past studies examined the students' performance and satisfaction in terms of self-efficacy in relation to online learning. A study by Chang, Liu, Sung, Lin, Chen & Cheng (2014) reported that students with high Internet self-efficacy performed better and have more confidence than those with low Internet self-efficacy. Males had higher degree of Internet self-efficacy, confidence and motivation than females, whereas females scored higher for online discussion participation as compared to the males. However, different results were yielded in a study by Puzziferro (2008) which examined undergraduate students' performance and course satisfaction related to students' self-efficacy for online technologies and self-regulated learning strategies. Results showed no correlation between online technologies self-efficacy and student performance. In addition, time, study environment and self-regulation were significantly positively correlated with levels of satisfaction, resulting in higher student's performance.

3. Methodology

This quantitative study utilised a questionnaire which consists of two parts: Part A and Part B. Part A of the questionnaire gathers information on the respondents' demographic profile. A random sample of 156 students (Male = 57 and Female = 99) from a university in Sarawak were chosen as respondents for this study. The respondents aged between 17 to 25 years old were from various Diploma and Degree Programmes. Out of the 156 respondents, 115 lived in urban areas while 41 of them lived in the rural areas. The respondents' English Language result for the semester prior to the study ranged from average to excellent, with the majority of them in the good English language category. The demographic profile of the respondents is shown in Table 1.

Table 1. Demographic Profile of Respondents

	Students	Frequency (No.)	Percentage (%)
Gender	Male	57	36.5
	Female	99	63.5
Age	17-20 years old	96	61.5
	21-24 years old	60	38.5
Hometown locality	Urban	115	73.7
	Rural	41	26.3
Previous semester English Language Paper Result	Excellent	56	35.9
	Good	87	55.8
	Average	13	8.3

A questionnaire designed by the researchers was used to examine the university students' perceptions on the factors that facilitated online learning and the challenges encountered by them. Part B of the questionnaire comprised 45 items with 5 main components that influence online learning, namely Satisfaction, Self-efficacy, Enhancement of Language Skills, Enthusiasm and Challenges. Using a scale of one to five (1=Strongly Disagree, 2=Disagree, 3=Mildly Agree, 4=Agree and 5=Strongly Agree), the respondents identified the extent that each item relates to them.

A pilot test on the questionnaire was conducted with 40 separate participants. The reliability analysis was carried out on all the items in the questionnaire to identify the factors that facilitated online learning and the challenges of online learning. Item analysis was conducted a few times to evaluate the appropriateness of the items in each category in the questionnaire. Those items that are inappropriate were rearranged into a more appropriate category. Prior to the actual survey, the questionnaire was validated by a content expert in this field of study. The content expert rephrased item number 10 from 'I like online learning as I have more time to learn on my own' to become 'I like online learning as I have more time flexibility in learning'. As shown in Table 2, the Cronbach's Alpha is 0.895, which indicates a high level of internal consistency for the scale. Cronbach's Alpha value is more than 0.70 (70%) showed that all the items are reliable and acceptable for data collection.

Table 2. Reliability Test for all items on factors that facilitated and the challenges of online learning

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.895	0.911	45

The reliability test for items in the 'Satisfaction of Online Learning Component', 'Self-efficacy of Online Learning Component', 'Enhancement of Language Skills Component', 'Challenges of Online Learning Component' and 'Enthusiasm in Online Learning Component' showed the Cronbach's Alpha is 0.924, 0.849, 0.894, 0.881 and 0.715 for the respective components. Since Cronbach's Alpha is more than 70% of the standard reliable alpha value, no item was deleted.

The data collected from the survey were analysed using descriptive statistics (means, frequency counts and percentages) in the SPSS version 24.0. The mean score was measured using the Mean Score Interpretation Table designed by Nunnally and Berstein (1994) as shown in Table 3. Results were reported according to the research questions.

Table 3. Mean Score Interpretation Table (Nunnally and Berstein, 1994)

Mean Scale	Level
1.00 – 2.00	Low
2.01 – 3.00	Medium Low
3.01 – 4.00	Medium High
4.01 – 5.00	High

4. Result

4.1 Research Question 1: What is the level of acceptance of online learning among the students?

Results showed a moderate high level of acceptance of online learning among the university students. This is portrayed in Table 4 which showed a medium high mean score of 3.13 for the main factors influencing the acceptance of online learning by the students.

Table 4. Mean Scores of Main Factors Influencing the Acceptance of Online Learning

N=156	Mean
Satisfaction	3.08
Self-efficacy	3.11
Enhancement of Language Skills	3.17
Enthusiasm	3.17
Average mean	3.13

As evident in Table 4, among the main factors, 'enhancement of language skills' and 'enthusiasm' with a mean score of 3.17 ranked the highest in the factors that influence the acceptance of online learning among the university students. This is followed by 'Self-efficacy' factor which ranked the second with mean score of 3.11, and the 'Satisfaction' factor which ranked the lowest with mean score of 3.08.

4.2 Research Question 2: What are the factors that facilitated online learning among university students?

The 'Enhancement of Language Skills' factor is the highest ranked among the four main factors that facilitated online learning among the university students. Results showed that online learning has moderately helped the university students to develop their English language skills, especially their listening skills and improve their English language vocabulary. This is illustrated in Table 5 in that when the 'strongly agree' and 'agree' responses were combined, majority (74 students, that is 47.4%) of the university students reported that 'I feel online learning helps me to improve my listening skills in English', followed by 61 (39.1%) of the students reported that 'I feel online learning helps me to improve my English vocabulary'; while 62 (39.7%) of the students 'mildly agree' that 'I feel online learning helps me to improve my oral English-speaking skills' and 60 (38.6%) of the students 'mildly agree' that 'I feel online learning helps me to improve my writing skills in English'.

Table 5. Enhancement of Language Skills

N=156	Strongly Disagree No. (%)	Disagree No. (%)	Mildly Agree No. (%)	Agree No. (%)	Strongly Agree No. (%)
I feel online learning helps me to improve my oral English-speaking skills	12 (7.7)	27 (17.3)	62 (39.7)	40 (25.6)	15 (9.6)
I feel online learning helps me to improve my writing skills in English.	13 (8.3)	26 (16.7)	60 (38.6)	43 (27.6)	14 (9.0)
I feel online learning helps me to improve my English vocabulary	13 (8.3)	25 (16.0)	57 (36.5)	43 (27.6)	18 (11.5)
I feel online learning helps me to improve my listening skills in English	14 (9.0)	23 (14.7)	45 (28.8)	56 (35.9)	18 (11.5)

Among the four main factors influencing the students' acceptance of online learning, the 'Enthusiasm' factor is equally ranked the highest together with the 'Enhancement of Language Skills' factor. Results showed that the university students were moderately optimistic about online learning. This is demonstrated in Table 6 in that when the 'strongly agree' and 'agree' responses were combined, majority (81 students, that is 51.9%) of the students indicated 'I like online learning as I learn to be updated with the latest technology', and 64 (41.1%) of the students agreed that 'Online learning is the way ahead for education in the new normal'. However, 55 (35.3%) of the students 'mildly agree' to the item 'I like online learning as I learn to be more creative'.

Table 6. Enthusiasm

N=156	Strongly Disagree No. (%)	Disagree No. (%)	Mildly Agree No. (%)	Agree No. (%)	Strongly Agree No. (%)
I like online learning as I learn to be updated with the latest technology	10 (6.4)	13 (8.3)	52 (33.3)	59 (37.8)	22 (14.1)
I am ready to face the future challenges of online learning	21 (13.5)	25 (16.0)	55 (35.3)	39 (25.0)	16 (10.3)
Online learning is the way ahead for education in the new normal	20 (12.8)	14 (9.0)	58 (37.2)	43 (27.6)	21 (13.5)
I like online learning as I learn to be more creative	20 (12.8)	30 (19.2)	51 (32.7)	40 (25.6)	15 (9.6)

The 'Self-efficacy' factor ranked the second highest among the main factors that influence online learning among the university students. It was found that the students were moderately able to be engaged in independent online learning. As exemplified in Table 7, when the 'strongly agree' and 'agree' responses were combined, majority (90 students, that is 57.6%) of the students agreed to the item 'I like online learning as I have the freedom to search for answers in books and other online sources to complete my assignments or tests' and 79 (50.6%) of the students indicated 'I like online learning as I can self-explore the Internet for more information'. In addition, the students were found to have a medium high sense of responsibility and are self-disciplined for online learning. This is shown in the responses gathered from 71 (45.5%) of the students who agreed that 'I like online learning as I can learn to be self-disciplined' and 67 (43.0%) of the students who agreed that 'I like online learning as I tend to be more responsible for my own learning'.

However, results revealed that the students had difficulty to concentrate and are not motivated in online learning. As evident in Table 7, when the 'strongly agree' and 'agree' responses were combined, medium low agreement was shown from 33 (21.2%) of the students for items 'I like online learning as I can concentrate and be more focussed in learning' and 'I like online learning as I feel motivated to learn'.

Table 7. Self-efficacy

N=156	Strongly Disagree No. (%)	Disagree No. (%)	Mildly Agree No. (%)	Agree No. (%)	Strongly Agree No. (%)
I like online learning as I feel motivated to learn	21 (13.5)	55 (35.3)	47 (30.1)	26 (16.7)	7 (4.5)
I like online learning as I tend to be more responsible for my own learning	16 (10.3)	25 (16.0)	48 (30.8)	43 (27.6)	24 (15.4)
I like online learning as I have the freedom to search for answers in books and other online sources to complete my assignments or tests	13 (8.3)	18 (11.5)	35 (22.4)	62 (39.7)	28 (17.9)
I like online learning as I can concentrate and be more focussed in learning	29 (18.6)	36 (23.1)	58 (37.2)	26 (16.7)	7 (4.5)
I like online learning as I can self-explore the Internet for more information	11 (7.1)	17 (10.9)	49 (31.4)	52 (33.3)	27 (17.3)
I like online learning as I can learn to be self-disciplined	16 (10.3)	24 (15.4)	45 (28.8)	47 (30.1)	24 (15.4)

Pertaining to the 'Satisfaction' factor, the students revealed medium high fulfilment in online learning as many of them possessed their own electronic gadgets and they reported that online learning is cost efficient. This is manifested in Table 8 in that when the 'strongly agree' and 'agree' responses were combined, majority (108 students, that is 69.3%) of the students agreed to the item 'I have my own gadgets to be engaged in online learning (e.g. handphone/computer/ laptop / tablet)' and a total of 90 (57.7%) of the students agreed to the item 'I like online learning as I don't need to pay for my rental and food since I stay at home'. They also felt that they could moderately understand content subjects via online learning. This is shown in the total of 60 (38.5%) of the students' agreement and 64 (31.0%) students' mild agreement to the item 'I can understand content subjects via online learning'.

The other benefits of online learning acknowledged by the students included developing interpersonal and socialising skills, ease of Internet access, enhanced family ties, and time flexibility in learning. This is evident in their medium high agreement when the 'strongly agree' and 'agree' responses were combined in which a total of 65 (41.7%) of the students agreed to the item 'I like online learning as I can develop my interpersonal skills by easily socialising and discussing certain issues with my friends', a total of 61 (39.1%) of the students agreed and 56 (35.9%) of the students mildly agreed to the item 'I have average to high speed Wi-Fi or mobile data bandwidth for online learning', 64 (41.0%) of the students agreed to the item 'I like online learning as I can strengthen my relationship with my family members', 57 (36.5%) of the students agreed and 54 (34.6%) of the students mildly agreed to the item 'I like online learning as I have more time flexibility in learning', and 62 (39.7%) of the students agreed and 44 (28.2%) of the students mildly agreed to the item 'I can easily access the Wi-Fi or mobile data for online learning from my home', 51 (32.7%) of the students agreed and 66 (42.3%) of the students mildly agreed to the item 'I like online learning as it is an exciting way to be

engaged in learning via various online Apps (e.g. Google Classroom, Google Meet, Whatsapp, Telegram, Zoom, Skype)'.

However, the students seemed to have some reservations about the environment aptness, motivation, gadget space, delivery speed of online teaching and learning, convenience, understanding discussion, as well as security issues related to online learning. This is exemplified in their medium low responses when the 'strongly agree' and 'agree' responses were combined in which only a total of 48 (30.7%) of the students agreed to the item 'I have a conducive environment for online learning', 46 (29.5%) of the students agreed to the item 'I like online learning as it is a fun way of learning', 54 (34.0%) of the students agreed to the item 'My gadgets have enough space to install the necessary online Apps required for online learning', 39 (25.0%) of the students agreed to the item 'I like online learning as it is a convenient way of learning', 41 (26.3%) of the students agreed to the item 'I can understand my lectures and discussion via online learning', 39 (25.0%) of the students agreed to the item 'I like online learning as it is a secure way of learning', and 30 (19.2%) of the students agreed to the item 'I like online learning as it speeds up the teaching and learning process'.

Table 8. Satisfaction of Online Learning

N=156	Strongly Disagree No. (%)	Disagree No. (%)	Mildly Agree No. (%)	Agree No. (%)	Strongly Agree No. (%)
I like online learning as it is an exciting way to be engaged in learning via various online Apps (e.g. Google Classroom, Google Meet, Whatsapp, Telegram, Zoom, Skype)	15 (9.6)	24 (15.4)	66 (42.3)	39 (25.0)	12 (7.7)
I like online learning as it is a fun way of learning	16 (10.3)	32 (20.5)	62 (39.7)	38 (24.4)	8 (5.1)
I like online learning as it speeds up the teaching and learning process	21 (13.5)	43 (27.6)	62 (39.7)	20 (12.8)	10 (6.4)
I like online learning as it is a convenient way of learning	17 (10.9)	38 (24.4)	62 (39.7)	27 (17.3)	12 (7.7)
I like online learning as it is a secure way of learning	19 (12.2)	40 (25.6)	58 (37.2)	32 (20.5)	7(4.5)
I like online learning as I can gain a lot of benefits from it	14 (9.0)	34 (21.8)	59 (37.8)	33 (21.2)	16 (10.3)
I like online learning as I have more time flexibility in learning	18 (11.5)	27 (17.3)	54 (34.6)	37 (23.7)	20 (12.8)
I like online learning as I can easily consult my lecturers for clarification on certain things that I don't understand	16 (10.3)	34 (21.8)	51 (32.7)	44 (28.2)	11 (7.1)
I like online learning as I can develop my interpersonal skills by easily socialising and discussing certain issues with my friends	15 (9.6)	24 (15.4)	52 (33.3)	50 (32.1)	15 (9.6)
I have a conducive environment for online learning	18 (11.5)	32 (20.5)	58 (37.2)	35 (22.4)	13 (8.3)
I can understand my lectures and discussion via online learning	17 (10.9)	37 (23.7)	61 (39.1)	34 (21.8)	7 (4.5)

I can easily access the Wi-Fi or mobile data for online learning from my home	22 (14.1)	28 (17.9)	44 (28.2)	40 (25.6)	22 (14.1)
I have average to high speed Wi-Fi or mobile data bandwidth for online learning	20 (12.8)	19 (12.2)	56 (35.9)	39 (25.0)	22 (14.1)
I have my own gadgets to be engaged in online learning (e.g. handphone/computer/ laptop / tablet)	4 (2.6)	12 (7.7)	32 (20.5)	48 (30.8)	60 (38.5)
My gadgets have enough space to install the necessary online Apps required for online learning	30 (19.2)	30 (19.2)	43 (27.6)	27 (17.3	26 (16.7)
I can understand content subjects via online learning	12 (7.7)	20 (12.8)	64 (31.0)	44 (28.2)	16 (10.3)
I like online learning as I can strengthen my relationship with my family members	22 (14.1)	30 (19.2)	40 (25.6)	39 (25.0)	25 (16.0)
I like online learning as I don't need to pay for my rental and food since I stay at home	19 (12.2)	12 (7.7)	35 (22.4)	34 (21.8)	56 (35.9)

4.3 Research Question 3: What are the challenges of online learning among university students?

In spite of the moderate acceptance of online learning by the students, some challenges were identified. Results indicated that the main challenges encountered by majority of the students are issues of delivery speed of teaching and learning, students' lazy attitude towards online learning, struggle with online mode of learning, sense of distanced due to failure in accessing online learning platform, bored and lonely experience, and stress due to incompetence in operating online Applications. This is demonstrated in Table 9 in that when the 'strongly agree' and 'agree' responses were combined, 80 (51.3%) of the university students agreed to the item 'I feel online learning slows down the learning process because questions posted take a longer time to be answered due to long queue as compared to traditional classroom teaching' and 71 (45.6%) of the students agreed to the item 'I tend to be lazy when engaged in online learning'. Additionally, they also expressed their struggle in online learning as evident from their average agreement (69 students, that is 44.2% of the students) to the item 'I struggle to change from traditional classroom to virtual learning', 69 (44.2%) of the students' agreement to the item 'I feel left out when I am unable to get internet access for online learning', 63 (40.4%) of the students' agreement to the item 'I feel bored to be engaged in online learning', 61 (39.1%) of the students' agreement to the item 'I feel lonely to be engaged in online learning', and 57 (36.5%) of the students' agreement to the item 'I feel stressful to be engaged in online learning as I am not efficient in operating online Apps'.

Results revealed that some of the students encountered difficulties with issues such as financial constraint in purchasing mobile data, stressful to communicate using the English language, sharing of electronic gadgets, problem with internet connectivity and accessibility. This is exhibited in their medium low to low agreement when the 'strongly agree' and 'agree' responses were combined in which a total of 44 (28.2%) of the students agreed to the item 'I have financial constraint in purchasing mobile data for online learning', 40 (25.7%) of the students agreed to the item 'I feel stressful to communicate in English via online learning due to lack of English proficiency to deliver my message to my lecturers and friends', 35 (22.4%) of the students agreed to the item 'I have to share my mobile data with my siblings and family members', 23 (14.7%) of the students agreed to the item 'I have to share my electronic gadgets with my siblings', 19 (12.2%) of the students agreed to the item 'I need to go outside my house (within 500 metres) to get a good internet reception for online learning' and 19 (12.2%) of

the students agreed to the item 'I need to walk 1 kilometre to 2 kilometres to get good internet reception for online learning'.

Table 9. Challenges of Online Learning

N=156	Strongly Disagree No. (%)	Disagree No. (%)	Mildly Agree No. (%)	Agree No. (%)	Strongly Agree No. (%)
I need to go outside my house (within 500 metres) to get a good internet reception for online learning	59 (37.8)	53 (34.0)	25 (16.0)	9 (5.8)	10 (6.4)
I need to walk 1 kilometre to 2 kilometres to get good internet reception for online learning	71 (45.5)	45 (28.8)	21 (13.5)	9 (5.8)	10 (6.4)
I have to share my electronic gadgets with my siblings	61 (39.1)	47 (30.1)	25 (16.0)	15 (9.6)	8 (5.1)
I have to share my mobile data with my siblings and family members	45 (28.8)	42 (26.9)	34 (21.8)	22 (14.1)	13 (8.3)
I have financial constraint in purchasing mobile data for online learning	41 (26.3)	26 (16.7)	45 (28.8)	25 (16.0)	19 (12.2)
I struggle to change from traditional classroom to virtual learning	16 (10.3)	24 (15.4)	47 (30.1)	37 (23.7)	32 (20.5)
I feel lonely to be engaged in online learning	20 (12.8)	24 (15.4)	51 (32.7)	38 (24.4)	23 (14.7)
I feel bored to be engaged in online learning	17 (10.9)	26 (16.7)	50 (32.1)	37 (23.7)	26 (16.7)
I tend to be lazy when engaged in online learning	12 (7.7)	25 (16.0)	48 (30.8)	38 (24.4)	33 (21.2)
I feel online learning slows down the learning process because questions posed take a longer time to be answered due to long queue as compared to traditional classroom teaching	15 (9.6)	21 (13.5)	40 (25.6)	43 (27.6)	37 (23.7)
I feel stressful to be engaged in online learning as I am not efficient in operating online Apps	23 (14.7)	28 (17.9)	48 (30.8)	39 (25.0)	18 (11.5)
I feel left out when I am unable to get internet access for online learning	28 (17.9)	21 (13.5)	38 (24.4)	40 (25.6)	29 (18.6)
I feel stressful to communicate in English via online learning due to lack of English proficiency to deliver my message to my lecturers and friends	34 (21.8)	36 (23.1)	46 (29.5)	26 (16.7)	14 (9.0)

5. Discussions

Results gathered from this study revealed a medium high acceptance of online learning among the university students. Among the main factors, 'enhancement of language skills' and 'enthusiasm' ranked the highest, followed by 'self-efficacy' and 'satisfaction' are found to have facilitated online learning. In the 'enhancement of language skills' factor, the results that online learning has moderately helped the university students to develop their English language skills, especially their listening skills and improve their English language vocabulary contrasted the results in studies by Cragg et al. (2003) and Ravi (2014) which revealed that language is a hindrance to understanding online materials. The zeal to enhance their English language skills is because they have good basic English which is an added advantage to help them understand and further develop their English language vocabulary and also sharpen their listening skills.

In terms of enthusiasm, results in this study showed that the university students were moderately optimistic about online learning. Results in this study that the students possessed moderately high interest to learn to be updated with the latest technology juxtaposed the results in past studies (Atack & Rakin, 2002; Chuang, Weng, & Chen, 2018; Scollin, 2001) which found that confrontation with computer technology was stressful for the students. Likewise, results in this study that the university students have averagely learnt to be more creative is contrary to Bali and Liu's (2018) study in which the students perceived they were very comfortable with online learning as it provided them the opportunity to be innovative by using computer technology. This is perhaps because some of the students were novice while most of them in this study only possessed basic knowledge to use online platforms to follow online lectures during the pandemic. Thus, they were still exploring the use of the various online platforms and the online tools for learning. According to Fischer, Malycha and Schafmann (2019), intrinsic motivation can lead to creativity. Thus, this shows that to attain 'self-actualization' in Maslow's theory (1943), an individual needs to be intrinsically motivated in order to have a sense of self-satisfaction and accomplishment and this will help to push the individual to work towards a certain goal.

In terms of self-efficacy, results garnered in this study that the students possessed moderately high self-efficacy such as ability to be engaged in independent learning, freedom to search and self-explore the Internet, self-responsible and self-discipline coincide with results in past studies (Chang, Liu, Sung, Lin, Chen & Cheng, 2014; Sit, Chung, Chow and Wong, 2005). Chang, Liu, Sung, Lin, Chen & Cheng (2014) reported that students with high Internet self-efficacy performed better and have more confidence than those with low Internet self-efficacy. The results on moderate high self-efficacy in online learning yielded in this study is probably because the students have some experience in using blended learning mode for some courses prior to using fully online learning mode. As such, they have some basic knowledge of computer technology related to online learning.

In terms of satisfaction, some results in this study were similar to that yielded in past studies. For instance, the results that students have moderately high agreement on cost efficiency of online learning corroborate with results in studies done by Bali & Liu (2018); Herrin (2001); and Soon et al. (2000). Likewise, results that students could understand about subjects via online learning correspond with results in a study by Sit, Chung, Chow and Wong (2005) which found that students were able to understand concepts in subjects taught online.

In addition, results in this study that the students were in medium high agreement that online learning helps to develop their interpersonal and socialising skills as well as enhance family ties are opposite of studies by Atack and Rakin (2002); Bali & Liu (2018); Sit, Chung, Chow & Wong (2005); Vanslambroucka, Zhu, Lombaerts, Philipsen & Tondeur (2018) which found that online learning hinders opportunity for human contact and interactions (Sit, Chung, Chow and Wong, 2005). Nevertheless, students in this study perceived that although they have the opportunity to have group discussions, they had difficulty to understand the discussion which is unlike the result yielded in Ravi's (2014) study that online learning enhances group discussion. The results in this study that students encountered difficulty to understand group discussion is perhaps because they were so used to traditional approaches in which they could physically meet their group members to discuss their assignments. They have not adapted themselves to group discussion via online mode which will also consume more mobile data.

In addition, results in this study that the students were medium high in their satisfaction on the ease of Internet access substantiate the results in studies by Gao, Zhang and Franklin (2013); Jonassen & Kwon (2001); Ravi (2014); Sit, Chung, Chow and Wong (2005); Webb, Gill & Poe (2005); and Vanslambroucka, Zhu, Lombaerts, Philipsen, & Tondeur (2018) which found that online learning provides the opportunity for students to access to learning at their own pace. This is because a high percentage (73.7%) of the students in this study were residing in the urban areas and an average number of students reported that they have average to high speed Internet connection.

While results in this study that the students have moderate high satisfaction in online learning in terms of time flexibility are in line with a study by Bali & Liu (2018), they differ from results in studies by Chuang, Weng, & Chen (2018); and Rasheed, Amirrudin & Nor Aniza (2020) which found inefficiency of time management among the students for online learning. Although the majority of the students in the present study reported that they possessed their own electronic gadgets for online learning, their gadgets lack space to install the various Applications for online learning (Chung, Subramaniam, & Dass, 2020). This is because many of the students have 3 to 4 siblings and thus their parents could not afford to purchase high capacity computers, laptops or handphones for all the siblings. Similar to the results in Anderson and Perrin's (2018) study, some of the students in this study reported that they had to share their electronic gadgets and mobile data with their siblings. While results of this study showed that students were only moderately excited about online learning via the various online platforms, Martin, Wang and Ayesha Sadaf (2018) found that students perceived the various features of synchronous technology as unhelpful.

Moreover, results in this study which showed the main challenge of online learning is that it slowed down the teaching and learning process due to long queues for questions to be answered concurs with findings in Jeong & Frazier's (2008) study which revealed lack of timely feedback. Likewise, Martin, Wang and Ayesha (2018) reported that undergraduate students rated lower on engagement and learning although the instructor provided timely feedback.

Unlike previous studies that revealed students' positive intrinsic motivation with regard to online learning (Vanslambroucka, Zhu, Lombaerts, Philipsen, & Tondeur, 2018), results in this study found that university students had moderate low motivation and concentration in online learning and they opined that online learning lack fun and security. An average number of students reported that they had to struggle as online learning mode is a lonely, boring experience and they tend to be lazy. This is probably because it was the first time for the students to use online learning fully amidst the pandemic situation. Thus, students found difficulty in adapting to the new online learning environment without being able to physically meet classmates and lecturers. The results that students lack concentration and felt bored with online learning correspond with the results in Morgan's (2020) study which reported that students had difficulty concentrating and tend to fall asleep during online learning.

Another challenge reported by the students in this study concerns the issue of convenience of online learning mode. In contrast to studies (Bali & Liu, 2018; Herrin, 2001; Soon et al., 2000) that revealed the convenience of online learning, results of this study revealed that university students had medium low agreement that online learning is a convenient mode of learning. In addition, results in this study that some students faced financial constraint to purchase mobile data and they had to share their mobile data with their siblings concur with findings in Vanslambroucka, Zhu, Lombaerts, Philipsen, & Tondeur's (2018) study which found that online and blended learning are costly.

Furthermore, results in this study which found that while some students have easy access to Internet connection, others were stressed and felt distanced when they were unable to get internet access are contrary to findings in Chuang, Weng, & Chen's (2018) study which reported that students perceived that online learning is convenient. Other than that, results in this study which revealed that some students have inconducive environment for online learning differ from results in a study by Puzziferro (2008) in which the students perceived that they have conducive study environment for online learning. Results in this study is due to the fact that all the students experienced online learning at their home and they may encounter distractions and noise from their family members and neighbours or passing vehicles. Besides that, they may not have a proper room to study via online learning mode.

Other than that, results in this study that some of the students were stressed having to communicate using the English Language supported the findings in Ravi's (2014) study that students' inadequate English language skills posed as a challenge for online learning. Students in this study are stressed to interact using English Language although they have generally good results for their English

Language subject, perhaps they lack oral proficiency in the English Language since English is their second language.

6. Conclusions And Recommendations

In summary, results from this study indicated a moderate high level of acceptance of online learning among the university students. Among the main factors, 'enhancement of language skills' and 'enthusiasm' ranked the highest, followed by 'self-efficacy' and 'satisfaction' are found to have facilitated online learning. In terms of the 'enhancement of language skills' factor, it was found that online learning has moderately helped university students to develop their English language skills, especially their listening skills and improve their English language vocabulary.

In terms of 'enthusiasm' factor, results indicated that the university students were moderately optimistic about online learning. They had medium high interest in keeping up with the latest technology as they perceived that online learning will be the way forward for education in post COVID-19. There were only medium low agreements among the students that online learning helps them to be more creative.

In the aspect of 'self-efficacy', results showed that the university students were moderately engaged in independent online learning. There were moderate high students' recognition that online learning provides them the freedom to self-explore online materials, learn to be self-disciplined and self-responsible.

In terms of 'satisfaction' factor, results suggest that the students have medium high satisfaction in online learning as many of them possessed their own electronic gadgets, it is cost-efficient, ability to understand content subject delivered via online mode, can enhance interpersonal and socialising skills, ease of Internet access, enhance family ties, and time flexibility in learning.

Nevertheless, results in this study also revealed that the university students encountered challenges. Among the main challenges that they encountered are slow delivery speed of online teaching and learning, students' lazy attitude towards online learning, struggle with online mode of learning, sense of distanced and stressed due to failure in accessing online learning platform, bored and lonely experience, financial constraint to purchase mobile data, stressed to communicate using the English Language, difficulty to concentrate or stay focus, lack of motivation, lack of gadget space, unconducive environment, inconvenience, difficulty to understand group discussion as well as lack of fun and security.

Results in this study have several implications for educators, curriculum designers and institutions of learning to enhance online teaching and learning experience. As drawn from the results on the moderate acceptance of full online learning based on the university students' real experiences and challenges amidst the pandemic, several matters need to be considered for the effectiveness of online learning. On the part of educators, they need to plan well and redesign their lesson by reducing the time for online delivery of lessons so as not to overburden students with long lectures and giving too many assignments to students. This will help to retain their attention span on the screen and reduce their mobile data usage. Given this, curriculum designers need to redesign their normal syllabus to cater to the online learning approach.

Educators can also diversify their online teaching materials by incorporating motivating instructional methods such as virtual tours, virtual field trips and other free educational resources to inspire students and create learning opportunities. This will broaden students' knowledge of the world. Educators can encourage students to be creative by using online materials to engage them in group discussions. This will reduce their anxiety to speak using the English Language. Hence, in accordance with Maslow's theory (1943), educators play a vital role in providing extrinsic motivation to help cultivate intrinsic motivation in students so that they can become independent learners with the ability to explore and become more creative in online learning.

On the part of the learning institutions, the management needs to have proper planning to provide adequate IT infrastructure, technical support on the use of online platforms for both educators and students, training for educators to operate online learning platforms in order to facilitate online learning. This notion is substantiated by findings in a current study by Porter, Barbagallo, Peck, Allen, Tanti & Churchill (2020) which yielded three themes 'Get Ready', 'Get Set' and 'Go' in the shift to a blended online and digital nursing curriculum.

Results yielded from this study contribute to the existing literature on the possibility of online learning as an alternative pedagogy in post COVID-19 for the education sector. This new alternative pedagogical approach to learning will address the increasing population of students, lack of physical space in the classroom as well as lack of resources and manpower to teach. Hence, this will help to meet the government's aspiration and shift in transformation as outlined in the Education Blueprint, 2013-2025 (Ministry of Education Malaysia, 2013) on the need to enhance access to all levels of education in an effort to increase the number of educated citizens. Online learning can be an enriching experience in the teaching and learning process with the provision that it is properly planned with continuous support, sufficient facilities and facilitative environment.

Results in this study are confined to participants involved and cannot be generalised to the whole population of university students in this country. Hence, future research of this nature can include more participants from other universities to confirm the results in this study. Additionally, since most participants in the present study lived in the urban areas, future research can consider more rural participants for more conclusive results.

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