ประสบการณ์การเรียนออนไลน์ของนักศึกษาระดับอุดมศึกษา ในช่วงการระบาดของโรคโควิด 19

The Experience of Thai Higher Education Students in Online Learning during the Outbreak of COVID-19

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บทคัดย่อ

งานวิจัยชิ้นนี้มีวัตถุประสงค์เพื่อศึกษาความพร้อมในการเรียนออนไลน์ของนักศึกษาระดับอุดมศึกษา และสำรวจระดับความพึงพอใจของนักศึกษาต่อวิชาที่จัดสอนแบบออนไลน์ แบบสอบถามอยู่ในรูปแบบของกูเกิลฟอร์มและเผยแพร่ผ่านทางแอพลิเคชั่นไลน์และเฟซบุ้กโดยมีนักศึกษาจากทั่วประเทศไทยจำนวน 384 คน เป็นผู้ตอบคำถาม ผลการวิจัย พบว่า นักศึกษาจำนวน 79.7% มีสมาร์ตโฟน 77.6% มีคอมพิวเตอร์พกพา 56.5% มีแท็บเล็ต และ 19.8% มีคอมพิวเตอร์ตั้งโต๊ะ ในส่วนของความพร้อมในการเรียนออนไลน์ พบว่า นักศึกษามีความพร้อมในระดับปานกลาง (m=3.034) ด้านความพึงพอใจต่อวิชาที่จัดสอนแบบออนไลน์พบว่า นักศึกษา 32.6% มีความพึงพอใจ ในขณะที่ 50% มีความคิดเห็นเป็นกลาง ทั้งนี้ นักศึกษามีแนวโน้มที่จะมีความพร้อมในการเรียนออนไลน์มากขึ้น หากสามารถเข้าถึงระบบอินเตอร์เนตที่มีสัญญาณดีและมีความเสถียร ซึ่งในไปสู่ข้อเสนอแนะให้มีการจัดหาอินเตอร์เน็ตความเร็วสูงและอุปกรณ์สำหรับการเรียนออนไลน์แก่สถาบันการศึกษา เพื่อสร้างความเท่าเทียมในการเข้าถึงการจัดการเรียนการสอนแบบออนไลน์

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พร้อมทั้งมีการจัดอบรมเทคโนโลยีที่จำเป็นต่อการสอนแบบปกติและออนไลน์แก่ผู้สอนเพื่อเป็นการช่วยสร้างความพร้อมให้แก่ผู้เรียนก่อนเข้าสู่โลกแห่งเทคโนโลยีในอนาคตอันใกล้

คำสำคัญ: การเรียนออนไลน์ การศึกษาระดับอุดมศึกษา การระบาดของโรคโควิด 19

Abstract

This research was aimed to study an online learning readiness of higher education students and examine the satisfaction levels of students towards online learning courses. The online questionnaires in Google form have been distributed through Line and Facebook to the 384 key informant students across Thailand. The research findings suggested 79.7% owned smart phones, 77.6% owned laptops, 56.5% owned tablets and 19.8% owned desktop computers. The students had moderate level of the readiness of online learning (m=3.034). In terms of satisfaction towards online learning courses, 32.6% of students felt satisfied while 50% had neutral opinion. Moreover, the students were more likely to be ready for online learning once they had a stable internet connection and good internet signal. The recommendation are to improve the internet access in the educational institutions as well as providing students with a high-speed internet package to promote online learning for creating equality in online teaching and learning combination with technologies training in both offline and online classes to prepare students for the technology world in the near future.

Keywords: online learning, higher education, COVID-19 pandemic

1. Introduction

In the 30th of January 2020, World Health Organization (WHO) officially declared the coronavirus disease 2019 (COVID-19) outbreak as a public health emergency of international concern (Who, 2020). It became the global challenge in

dealing with the high rate of outbreak and infection of COVID-19. Since initial identification of positive cases in Wuhan, China in December 2019, WHO reported in late April 2020 that there were 3,090,445 confirmed positives and 217,769 confirmed deaths worldwide. It found that, among those cases, the majority of infected cases were in Europe (1,434,649) and Americas (1,246,190) while the minority of positive cases were in Southeast Asia (54,021) and in Africa (24,713). Europe and Americas also found more death cases (135,961 and 65,228) than other regions (WHO, 2020).

Similar to other countries, Thailand has fallen into this unprecedented period of time. In the middle of May 2020, the total positive cases were 3,017 including 2,844 recovered, 117 hospitalized and 56 deceased (WHO, 2020). Although Thailand might have slightly less positive cases than other countries, the Thai government quickly and strictly responded to this circumstance. On March 26, 2020, the Thai government declared the state of emergency as well as launching the guidelines for controlling and preventing the outbreak of COVID-19. In general practice, WHO provided the recommendations for infection protection and control including frequent cleaning of hands using alcohol-based hand rub or soap and water; covering the nose and mouth with a flexed elbow or disposable tissue when coughing and sneezing; and avoiding close contact with anyone that has a fever and cough (WHO, 2020). For further control and prevention, the Thai government provided additional guidelines such as wearing masks in public, practicing social distancing in all areas, implementing work from home policy and staying indoors only at night time. With the great cooperation of people, the positive cases dropped to single digit for a number of days in May 2020 (WHO, 2020).

With the severe situation of outbreak and infection of COVID-19, it has made the huge impact on all sectors in society including educational systems particularly in higher education levels. In general, classroom activities have been done through a traditional teaching approach known as face to face instruction especially in

developing countries. In Thailand, some higher educational institutions have implemented a blended learning system because of the limitation of internet access together with the preference of instructors and students. In fact, many more educational institutions keep using the traditional learning system because some courses essentially require physical interaction or teachers sometimes do not believe in the effectiveness of blended learning and online learning systems. However, to maintain the learning process of students in this unprecedented period, higher educational institutions are forced to make almost an immediate change from the traditional instructional approach to the online learning system. Although online learning can open the doors of education to many students who need flexible schedules or have self-regulated learning style as well as being able to prevent and control the outbreak of COVID-19, there are several challenging factors in promptly running full-scale of online learning. Those factors may include self-regulation and motivation, interaction and communication, cultural restrictions, technology skills and access, accessibility platforms, high cost of implementation, no technological devices, difficulty translating local language to English for online environment, and fear of isolation (Gilbert, 2015; Ngampornchai & Adams, 2016).

As described above, online learning in Thailand has come across many challenges and been in progress of improvement. Nevertheless, COVID-19 has expedited the full-scale implementation of online learning in Thailand. To ensure that students benefit from the execution of online learning, the study was to examine the online learning readiness of higher education students in Thailand by looking at the capacity in owning technological devices and accessing to internet as well as discovering the levels of learning preference, self-direction, self-efficacy and support skills in using online learning courses. The study was also to examine the satisfaction levels of students towards online learning courses as well as observing the relationships between demographic variables and levels of readiness and satisfaction.

2. Literature Reviews

2.1 Online Learning in Thailand

The digital technology began playing significant roles in Thai educational system in 2000 with the initiative of 2000-2002 Information and Communication Technology Master Plan of the Ministry of Education. The plan focused on the distribution of computers and expansion of internet access in schools, the improvement of digital literacy of professionals and the acquisition of digital content and development of curriculum. In response to the plan, the project of "SchoolNet Thailand" was launched in 2000 to promote the ability to access online resources of all educational institutions without charge. Under SchoolNet project, several thousand educational institutions were able to access the internet network, and numerous online contents and learning materials were used in teaching and learning activities (Laohajaratsang, 2009). With the support of the government, Thailand was ranked 36th in the 2003 e-learning readiness rankings from the world's 60 largest economies (The Economist Intelligence Unit and IBM, 2003). In 2009, Laohajaratsang reported that most higher education institutions (93%) already started online learning systems and provided support for online learning services. He further highlighted that more than 75 percent of institutions expressed their readiness to accommodate online learning services for staffs and students (Laohajaratsang, 2009).

In 2011, the government launched the critical project of "One Tablet Per Child " to create educational equality opportunities and improve educational quality in compulsory and basic education. The project aimed for providing students with mobile devices for educational purposes. The mobile learning center and national online learning system were also established to support the project implementation together with enhancing the lifelong learning for students (Ministry of Education, 2011; OECD/UNESCO, 2016). Due to One Tablet Per Child project, the use of mobile and ubiquitous learning in Thai educational systems were boosted (Panjaburee &

Srisawasdi, 2018). The study of Vate-U-Lan also found that online learning tended to be in the form of two-way communication with the use of mobile applications because online two-way communication allowed internet users to use instant messaging in various forms, post their thoughts or comments, share other posts, and create their own community to exchange their interests (Vate-U-Lan, 2017). In addition to traditional web-based learning system and mobile learning system, the higher educational institutions in partnership with Ministry of Digital Economy and Society, Ministry of Science and Technology, and Ministry of Education have established Massive Open Online Courses (MOOCs) as a central system for teaching and learning management, measurement and evaluation. Through MOOC system, higher educational institutions are able to share their learning resources while students are able to register for courses and transfer course credits across institutions in the future. It is anticipated that Thai MOOC is able to promote lifelong learning for Thai people. In the initial period of implementation, there were 239 courses available on the MOOC system (Phithak, Wanapu, Kittidachanupap, & Kamollimsakul, 2018). Although Thailand has adopted several platforms for online learning and started implementing online learning for almost 20 years, it has been slow in making progress of integrating online learning into classroom settings due to several factors.

2.2 The challenges of Online Learning in Thailand

It is widely recognized that online learning can open the doors of education for a number of students regardless of time and location. Moreover, online learning is suitable for students who need flexible schedules, prefer work independently, enjoy learn on computer, have self-regulated skills and have metacognitive skills (Xu & Xu, 2019; You & Kang, 2014). However, effective implementation of online learning has faced ample challenges in developing countries including Thailand. Those issues might include acceptance on the use of online learning systems, inability to access internet, difficulty in affording technological devices, lack of digital literacy, unreliable

platform and Internet services, difficulty translating local language to English for online environment, and fear of isolation (Ngampornchai & Adams, 2016; Panjaburee & Srisawasdi, 2018). These factors lead to the unwillingness of educational administrators in establishing effective online learning platforms, the unpreparedness of instructors in creating online learning courses and staff in providing technical support, as well as the unreadiness of students in using online learning platforms. In addition, the research found that online learning readiness relates to demographics of online and distance learning learners. The same research also indicated that the time spent online and preferred technological devices significantly correlated with online learning readiness of learners (Firat & Bozkurt, 2020).

In 2016, Ngampornchai and Adams studied the online learning readiness, self-regulation, computing devices ownership, and level of familiarity with education-related technologies of students in northeastern Thailand. The study found that 82 percent owned smartphones, 74 percent owned laptops and 23 percent owned desktop computers. The findings also indicated that students had a slightly positive perception towards online learning, used mobile technologies extensively, and had experience using social media; however, they were unfamiliar with other collaborative online learning tools. On average, students reported a moderate level of self-regulation in online learning (Ngampornchai & Adams, 2016). In addition, Panjaburee and Srisawasdi (2018) suggested that mobile and ubiquitous technology was an opportunity for teachers in applying the online learning approach to teaching practices. To receive full advantage of mobile and ubiquitous technology, Panjaburee and Srisawasdi further recommended that the learning activities should be designed with compatible functions and features of mobile technologies aligning with the courses and students' learning performances. In fact, the innovative and emerging pedagogies are highly suggested to use together with mobile and ubiquitous technology in daily teaching practices. Those innovative and emerging pedagogies

included inquiry-based learning, knowledge engineering approach, seamless learning, collaborative learning, and self-regulated learning (Panjaburee & Srisawasdi, 2018).

It is clear that effective online learning requires the close collaboration among instructors, technicians and support staff in creating meaningful and attractive learning activities. Meanwhile, efficient online learning needs obligated policy and financial support for the continuity of system maintenance and development of personnel. Indeed, all students need to be provided with adequate knowledge, skills and devices in accessing online learning platforms.

3. Methods

3.1 Research Design and Procedures

This study used a quantitative and qualitative methods through a survey research approach. Tillman and Scheurich described that survey research can be useful for collecting information from relatively large numbers of dispersed groups of people rather than a small number as in the case of other research methods (Tillman & Scheurich, 2013). It is suitable for this study because the main purpose is to observe online learning readiness of students in higher educational institutions across Thailand. With a survey research approach, the questionnaire was created on google form and disseminated through social media platforms mainly on Line and Facebook. The participation was voluntary by giving consent before proceeding to the question section. Throughout two weeks of data collection in April 2020, 384 higher education students responded to the survey.

3.2 Research Instrument

The questions in the survey were adapted from the Online Readiness Assessment by Vicki Williams and The Pennsylvania State University. The survey consisted of three sections with a total of 39 items. The first section included 10 items for gathering demographic information and satisfaction levels, the second

section had 28 items for collecting readiness levels in four domains including learning preference, self-direction, self-efficacy, and technology and soft skills, and the last section was an open-ended question inquiring challenges or constraints in online learning. All questions were translated into Thai language with the validation of experts for the correctness and appropriateness of language, contents and structures. In addition, a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) was used for identifying the levels of satisfaction and readiness. For simple interpretation, a higher score indicates higher levels of satisfaction and readiness while lower score shows lower levels of satisfaction and readiness. However, three levels of mean score were used to identify the level of readiness for this study. The composite mean was collapsed into three levels with equal intervals for creating an interpretation of the mean score as suggested by Levin and Rubin (1998). The three collapsible levels of mean score included low level (1.00-2.32), moderate level (2.33-3.65) and high level (3.65-5.00). In collapsing the mean score from five levels to three levels, Pallant, Crook and Cameron suggested that it is practical to identify the different levels of assessment scales having five levels (Pallant, Crook, & Cameron, 2010).

3.3 Data Analysis

Statistical software was performed for data analysis. The Shapiro-Wilk test was initially performed for examining the normal distribution of the data. Ghasemi and Zahediasl illustrated that the Shapiro-Wilk test is based on the correlation between the data and the corresponding normal scores and it can provide better power of testing than other normality tests (Ghasemi & Zahediasl, 2012). The result showed that the data was normally distributed with a significant level of .05. Descriptive statistics including percentage, mean and standard deviation were subsequently calculated to describe the characteristics of demographic data. Inferential statistics containing One-Way Analysis of Variance and Pearson Correlation were also

employed to examine the different levels of online learning readiness among participants as well as observing the relationships between online learning readiness and demographic variables.

As for the open-ended section, the open coding approach was performed for generating common themes. Creswell explained that open coding is used to examine the texts for salient categories of information supported by the texts. Open coding is also for reducing the database to a small set of themes or categories that characterize the process or action explored in the study (Creswell, 2013). After open coding was done, selective coding was employed for confirming the themes. Yin illustrated that selective coding is an essential process of qualitative study because it is a process of integrating and refining themes (Yin, 2011).

4. Results

4.1 Demographic Information

The total of 384 participants consisted of 135 males (35.9%) and 249 females (64.1%). The majority of students attended in public institutions (92.7%) and just 7.3 percent studied in private institutions. For the degree of pursuit, 319 (83.1%) were undergraduate students and 65 (16.9%) were graduate students. Among those students, 306 (79.7%) owned smartphones, 298 (77.6%) owned laptops, 217 (56.5%) owned tablets and 76 (19.8%) owned desktop computers. In using online learning courses, the majority of students (49.7%) had somewhat of a problem, 26.1 percent had several problems while just 24.2 percent reported no problem. Regarding internet usage, 167 students (43.5%) used WiFi and mobile data, 155 students (40.4%) used WiFi only, and 62 students (16.1%) solely used mobile data. Moreover, 231 students (60.1%) had stable internet connection while 153 students (39.9%) reported as having unstable internet connection. In relation to internet signal, 52.8 percent could access very strong internet signal, 41.9 percent accessed moderate internet

signal and 5.3 percent had very poor to poor internet signal. For satisfaction towards online learning courses, 67 students (17.4%) were not satisfied while 125 students (32.6%) felt satisfied and half of the students (50%) had neutral opinion.

4.2 Online Learning Readiness

Overall, students had a moderate level of readiness (m=3.034). Within four domains of readiness, support skills were highest ranked (m=3.429) followed by self-efficacy (m=3.425), self-direction (m=2.657) and learning preference (m=2.626) respectively as further described in figure 1.

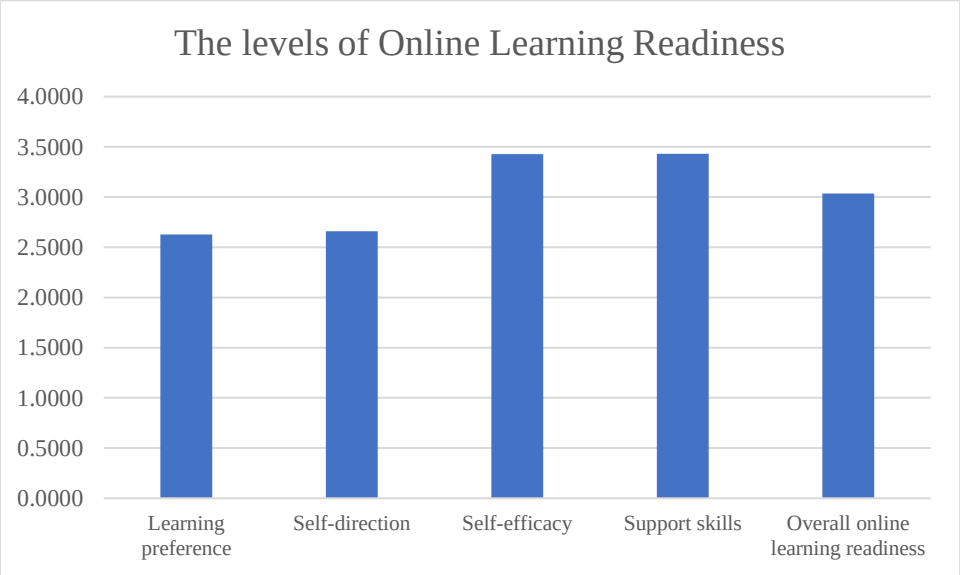

Figure 1: The levels of Online Learning Readiness

Considering the different levels of readiness among students, One-Way Analysis of Variance was performed for observation. It found overall that no statistically significant difference occurred towards readiness among students who owned different quantities of devices. However, in specific domains of readiness, it found that there was statistically significant difference among students who owned

different quantities of devices in the domains of self-efficacy, F (3, 380) = 5.08, p < .01 and support skills, F (3, 380) = 4.04, p < .01 as further detailed in table 1. For internet usage, it found overall that no statistically significant difference towards readiness occurred among students who used different internet carriers. Nonetheless, it found that there was statistically significant difference in readiness among students who used different internet carriers in the domain of support skills, F (2, 381) = 6.95, p < .01 as further illustrated in table 1.

Table 1: The different levels of online learning readiness

Domain			Quantities of devices		Internet usage	
	M	SD	F	P	F	P
Overall online learning readiness	3.034	.62	1.47	.22	.01	.99
Learning preference	2.626	.92	.75	.51	.77	.46
Self-direction	2.657	.79	2.40	.06	.37	.68
Self-efficacy	3.425	.75	5.08	.00**	2.47	.08
Support skills	3.429	.63	4.04	.00**	6.95	.00**
N = 384, **significant level at .01						

4.3 The relationships between online learning readiness and demographic variables

With the performance of Pearson Correlation, it found overall that online learning readiness had statistically significant positive correlation with internet

connection stability (R = .208), internet coverage (R = .193) and satisfaction (R = .667). Specifically within four domains of readiness, internet connection stability and internet coverage positively correlated with the domains of learning preference, self-direction and support skills as further demonstrated in table 2.

Table 2: The relationships between online learning readiness and demographic variables

	Pearson Correlation (R)		
Domain	Internet connection stability	Internet coverage	Satisfaction
Overall online learning readiness	.208**	.193**	.667**
Learning preference	.152**	.124*	.580**
Self-direction	.163**	.130*	.587**
Self-efficacy	.074	.076	.439**
Support skills	.303**	.323**	.513**
N = 384, *significant level at .05, **significant level at .01			

4.4 Challenges and constraints in online learning

In terms of internet connection, due to the fact that 39.9% of students reported unstable internet signal, several challenges were reflected such as unclear voices and audio lagging. These lead communication breakdown, misunderstanding, and, in some cases, class cancellation. In addition, problems from leaning equipment was also stated as some students found that their computers or laptops were not compatible with online learning requirement. As a result, some of them could not use several programs at the same time while others could not use their computers

to study. Many students also pointed out that using only one learning tool might not be enough since they had to do several things at the same time such as taking notes, looking at the slide presentation, and listening to their lecturers. Some students suggested that their universities should provide facilities to promote learning equality as well as quality.

As for satisfaction towards online learning, the reasons why 17.4% of the students were not satisfied, and 50% had neutral opinion might result from several factors. To begin with, the majority of the students mentioned overloaded assignments within limited period of time. They also suggested lecturers to reconsider more suitable evaluation methods such as changing grading system to S/U, assessing during classes, or providing various ways of evaluation according to students' different learning styles. Indeed, some students also reflected their concerns on cheating during taking tests and pointed out that there should be a policy to prevent it. Finally, students also requested training for both teachers and students in order to prepare them to use online learning materials and tools effectively as well as relieving their stresses. Concerning students who were satisfied with online learning (17.4%), it was found that convenience was the main reason since students can design their timetable and review lessons at any time.

Regarding online learning readiness where the means of self-direction and learning preference were below moderate level, 2.657and 2.626 respectively, several students stated that online learning cannot provide full interaction when compared with the offline one, and they tend to prefer the face-to-face classroom since it encourages them to be more active and makes them feel connected with their others. In addition, some students found difficulties in communicating and working as a group due to the limitation of their learning equipment. The actual classroom was also recommended to be used with skill-based lessons in order to allow students to discuss and do activities directly together. Interaction seemed to relate to

students' self-direction as well. Several students reflected that online learning required high responsibility and self-disciplines. Consequently, without interacting with their lectures and friends, some students thought it was challenging to control themselves and finish their assignments since there was on one pressuring them. The lack of interaction also caused lack of motivation. Some students reported that they felt less motivated since they had to sit and listen to lectures for a long time.

5. Conclusion and Discussion

This study is to examine the online learning readiness of higher education students in Thailand by looking at the capacity in owning technological devices and accessing the internet. The study is also to observe the relationships between demographic variables and levels of readiness and satisfaction. Interestingly, it was found in this study that the percentage of students owned devices (smartphones, laptops and desktop computers) were slightly less than the finding in the study of Ngampornchai and Adams in 2016. However, the findings of this study showed that 56.5 percent of the students owned tablets while the study of Ngampornchai and Adams did not ask for ownership of tablets. It might infer that some students might prefer using tablets for online learning rather than smartphones, laptops or desktop computers. It is in relevance to the studies of Panjaburee and Srisawasdi (2018) and Vate-U-Lan (2017) indicating that mobile applications have become popular learning platforms among students because they are more flexible and suitable for living behaviors. In addition, the introduction of the One Tablet Per Child project in 2011 might be one of the key factors increasing the use of tablets among the students. This implication is supported by the study of Firat and Bozkurt demonstrating that online learning readiness had statistically significant correlation with preferred technological devices of students (Firat & Bozkurt, (2020).

The findings also signified that the online learning readiness tended to rely on the internet connection stability and internet coverage. As mentioned in the literature, the mobile applications and advanced technologies have been increasingly utilized in the online learning systems for engaging students, offering effective interaction between students and instructors as well as providing meaningful learning activities (Panjaburee & Srisawasdi, 2018; Vate-U-Lan, 2017). Certainly, advanced technologies require stable internet connection and excellent internet signal. It can be concluded that students who have a stable internet connection and good internet signal tend to be ready for online learning. Additionally, the findings found a good sign that online learning readiness of students had high positive correlation with satisfaction compared to slightly positive as found in the study of Ngampornchai and Adams (2016). It infers that multiple correlations may exist among those variables such as demographics and device ownership as found in the study of Firat and Bozkurt (2020).

The world of education tends to shift from traditional face-to-face approach to blended learning and soon to online learning system. Thailand is also in this trend as demonstrated in SchoolNet and One Tablet Per Child policy (Laohajaratsang, 2009; Panjaburee & Srisawasdi, 2018). However, with the severe outbreak of COVID-19, it has expedited the full-scale implementation of online learning in Thailand. With the participation of 384 students in higher educational institutions across Thailand, it found that students had a moderate level of readiness (m=3.034). The majority of them are also satisfied in online learning courses. Moreover, the students were more likely to be ready for online learning once they had a stable internet connection and good internet signal.

The findings produce useful recommendations particularly for the policy makers. As demonstrated in the findings, the online learning readiness and satisfaction of students rely on the ability to access stable internet connection and

good internet signal. Therefore, it is crucial for the government to invest in the quality improvement of internet access in the educational institutions as well as providing students with a high speed internet package to promote online learning particularly in the duration of COVID-19 pandemic. The government should also have measures for partially subsidizing technological devices to guarantee the equal access to online learning of all students. Meanwhile, the teachers should be encouraged and trained to use more mobile and ubiquitous technologies in both offline and online classes in order to prepare students for the technology world in the near future.

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