

Online Peer Learning amid Covid-19 Pandemic in Malaysian Higher Learning Institution

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Abstract: Online learning has been a tremendous influence on helping people in promoting potential abilities during Covid-19 pandemic where all learning institutions were closed and adapted blended learning as an alternative due to Movement Control Order (MCO). In this respect, learning via social media such as WhatsApp, Facebook, and YouTube have become an emerging phenomenon in students' academic achievements. Therefore, this study has been conducted to identify the level of UPM undergraduates' cognitive engagement, motivation and emotional engagement while practicing Online Learning via social media. This study aims to determine the relationships between online peer learning and academic achievements, and the differences between genders in academic achievements. The study was based on the quantitative method in nature with correlational design using questionnaires. Cluster sampling techniques applied and a total of 225 responses were collected. Result indicated highly perceived mean score on engagement of undergraduates' use the social media for learning purposes. There is a positive correlation between online peer learning and undergraduates' academic achievement. The T-Test analysis revealed that there is a significant different between gender in academic achievement and female undergraduates had the highest mean score. The findings illustrate undergraduates' emotional engagement appears as an essential aspect in their learning process. Students keen to participate in online learning which makes them feel comfortable and positive when they engaged in online social interactions. The Ministry of Education should take proactive measure to promote the use of online peer learning to encourage creative, innovative and practical based learning in higher institutions.

Keywords: online peer learning, covid-19 pandemic, academic achievement, higher learning institution

1. Introduction

As the entire world has been battling to stop the spread of COVID-19 pandemic, this causes high level of psychological stress to individuals and families. This viral pneumonia disease primarily started among residents in Wuhan, China in late December 2019 (Bender, 2020; Meng, Hua, & Bian, 2020). However, communicable diseases have become one of the significant crisis worldwide. World Health Organization (WHO) reported that the rise of another Coronavirus (2019-nCoV) was a general well being crisis of global concern (PHEIC). Due to COVID-19 cases which has drastically increased all over the world, forcing the government to keep their nation on lock down.

Hence, Malaysian government has issued Movement Control order (MCO) effective on 18 to 31st March 2020, later extended to 14 April 2020. During MCO period, all the premises such as bars, shops, schools, and higher education institutions are temporarily closed, and individuals are required to remain and stay at home. Due to this pandemic, education in Malaysia particularly has changed drastically, with the distinctive rise of e-learning, whereby lesson delivery is attempted distantly and on advanced stages. Kaur (2020) expressed that since no one knows when this pandemic will fully recover, all the educational institutions conduct the learning through online learning platform. However, this transformation may link to different types of challenges at this point (Crawford et al., 2020). Due to this, all Malaysian teachers and lecturers delivered the lesson through online learning classrooms such as Google Meet, Zoom Application and so on. They also urged to use work from home period to enhance their knowledge with the implementation of virtual classes and online assessment. Lecturers upload instructional materials such as videos on social media. The new generation students who are highly exposed to technology, are well accepted and capable of learning through online learning platform such as E-learning, Google Classrooms, innovative classroom and so on. Eaton (2012); World Bank (2020) reported that students are highly exposed towards technology and having a high level of knowledge in digital literacy compared to teachers and parents.

Online learning plays a crucial role in developing students' academic achievement. With the use of online learning it will be beneficial for helping lecturers and students in problem-solving, gaining new skills and promoting their potential abilities in technology usage. Mohamadet al. (2015) expressed that 90% of these educational institutions have been implementing various plans in using e-learning. These learning methods are highly recommended since online learning enable to exchange the knowledge and skill through active learning, provide assistance and support to individuals through group discussion or one-to-one basis. Online learning also develops person's knowledge through sharing or exchanging ideas. Peers may share their knowledge in the context of a discussion, and communication, where equilibrium and cognitive changes. Students also feel encouraged and motivated to use peer learning as it support each other by enhancing the learning of their peers. This encourages them to do different challenges, participate actively in all the activities, enjoy learning, and demonstrate performance, persistence, and creativity. Yet, there has been inadequate discussion about relationship of social media tools and improvement of university students' academic achievement in Malaysian context (Keppellet al., 2006). Moreover, there are not many studies conducted on the effectiveness of online learning during this COVID-19 pandemic. Studies conducted in Malaysia related to the said technological tools, seemed silent on major success factors, benefits, and obstacles limiting their applications in learning institutions, despite their opportunities to facilitate meaningful knowledge in higher education. Therefore, this study attempted to examine the relationship between online learning and academic achievement among undergraduates in Malaysian higher learning institution amid of COVID-19 pandemic. Thus, Carey (2020) notifies that this is the right time to promote effective learning and quality training using latest technologies and the separation, scale, and customized instructing and learning are the three greatest difficulties for online teaching. As such, inventive arrangements by Malaysian institutions may help the higher institutions management in managing online learning during Covid-19 pandemic.

2.Literature Review

2.1 Online Peer Learning

With high exposure in technology usage, online learning has been a tremendous influence that helps everyone in problem solving, gaining new skills and promoting their potential abilities in times of COVID 19 where all the learning institutions has been closed and alternatively perform blended learning (Azzi-Huck & Shmis 2020; Shahzad et al., 2020). Online peer learning is the innovation in technology which allows students to use any social media or social network platform to meet virtually, exchange ideas and information related to their academic studies. This enhances the students learning interactions and promotes their potential skills. However due to COVID-19 pandemic has been expanded exponentially in Malaysian Institutions, there was a short-term move of ordinary homerooms into e-study halls, that is, instructors have moved their whole academic way to deal with new economic situations and adjust to the evolving circumstances. Saxena, (2020) also expressed that remote teaching via Google Meet, Google Hangouts, Skype, Adobe Connect, Microsoft Teams, Zoom and so on will be effective. In addition, in order to conduct smooth learning, the students will receive a list of online etiquettes and proper instructions for attending classes.

Zhong, (2020) revealed that the transformation of face to face learning to virtual class are proven to be more effective for students, where they are able to get more information in single click. The absence of appropriate cooperation and collaboration with teachers is another significant concern related to web-based learning. However, in order to participate in virtual class, students and lecturers need to have strong and stable internet connection, which sometimes become a problem.

2.2Cognitive engagement in online communication

Mohamadet al. (2019); Rotgans and Schmidt (2010) expressed cognitive engagement is a learner's readiness to spend more time and work harder in mastering difficult learning and skill. In this case the learner could also utilise diverse types of strategies for the learning process. Jean Piaget expressed cognitive development theory is a comprehensive theory about human intelligence where he explained how human beings make sense of their environment and experience. Tur and Marin (2015) expressed that as undergraduates are using social media in their daily lifestyles, they are able to share, discuss and conspire with each other, which helps them to enhance meaningful learning experiences. Rutherford (2010) reported that social media usage transforms the undergraduates to be active learners. Learning through online in times of Covid-19 also makes the students highly engaged as they have various type of online resources which can be received or shared within few minutes. Even though at the beginning stage of battling with the spread of COVID 19, most of the students had high level of psychological stress since the learning institutions has been closed. However, later on, all face to face or conventional class had been converted to online learning. This online learning helps the student to enhance meaningful learning experiences.

2.3 Emotional Engagement in online communication

According to Skinner and Belmont (1993) emotional engagement is how students emotionally interact when they begin the learning process. In this case students might have mixed types of feelings and reactions in the classroom such as joy, boredom, anger, sadness, anxiety and so on. Nowadays, there are multiple changes in education. Thus, the management of universities provides more opportunities in online-based learning where students able to perform actively. Cheung et al. (2011) expressed that most of the youngsters nowadays use social media as intentional actions. They use social media tools for discussion with their peers, sharing ideas and exploring new skills where they mainly focus on peer feedback based on their assessment. Bao et al. (2020) expressed COVID pandemic raised anxiety among the students. However, the virtual learning made the students felt more emotionally attached to their peers. Students will be more collaborative and communicative in online learning environment as it promotes opportunities for the group presentation or assessment discussion with their peers. Zaheer et al (2020) expressed that undergraduates were satisfied and feeling happy with the online education as they can actively engage with the peers and share their ideas. Online tutorials, student contribution, proper instructions online, mode of assessment, the content, learning environment, and the resources used makes the students actively engaged even though they don't have to attend the classes physically during COVID-19 pandemic

2.4 Motivation in online communication

Keller (1983), cited in Brown (2000, p. 160), "motivation is described as people's decision making based on their experience or goals that they will approach or maintain a strategic distance from, and the degree of exertion they applied in that respect". Ilknur (2014) expressed that learning through social media develops undergraduates' motivation, enhancing innovative ways in a learning environment and changing the nature of learning boundaries. Another study by Rovai et al. (2007) notified that university students who learned through online learning were more intrinsically motivated than students who learn in traditional way. The findings also notified that students are highly motivated to learn through online learning as they enable to share a lot and develop their skills. Sintema (2020) argued that poor internet connections and lack of learning materials discourage students and make them feel bored to learn the lesson. Undergraduates just speak with their colleagues carefully and never observe individual understudies face to face, and along with these lines the constant sharing of thought, information and data is incompletely absent from the advanced learning world.

In the education system, academic achievement plays an important role in promoting students as holistic learners. Pandey (2008) describes that academic achievement is what students learning in the school. This academic performance explores the student's enrollment in classrooms which helps them to develop their potential talents, upgrade their learning skills and achieve better grades. Student's future so that they can find out persuasive variables and hence show distinctive models. According to James and Chilvers (2001), most educational institutions measure their students' academic performance through the grade point average (GPA) system. Thus, the students must be given further tertiary education, jobs, university recruitment, financial assistance, and other recognition. Most of the students are highly preferred Massive Open Online Courses (MOOCs) since it been a tool for uplifting the existing skill for them (Gupta & Gupta 2020).

Carey (2020) notifies this will be the right time where the students can explore more skills and promote their skills through online learning platform during this pandemic period. They are also happy since most of the instructions and assessment shared through WhatsApp where the students can share and discuss with their friends easily. Therefore, this study expected to identify UPM undergraduates' Motivation, Cognitive Engagement and Emotional Engagement while practicing online peer learning in times of COVID-19 and to determine the relationship between online peer learning (Motivation, Cognitive Engagement and Emotional Engagement) and academic achievements.

3.Methodology

The study was based on the quantitative method with a correlation design. UPM has a large community and diverse environment in terms of race, gender, ethnicity and normality. Alhazmi and Rahman (2013) said UPM offers high priority to using ICT, where more than 95% of undergraduates use social media like Facebook. Thus, cluster sampling techniques were applied in order to select undergraduates from Faculty of Educational studies, Universiti Putra Malaysia (UPM). Cochran's (1977) sample size formula was applied in this study with the margin error of 5% and degree of confidence 95%. Thus, from the population of 1193, 225 respondents have been chosen. There are two parts of instruments: (i) section A - demographic information including gender, race, year of study and intent of social media use in terms of academic and non-academic, time spends on social media, academic achievement (CGPA), and use of E-learning during COVID-19, (ii) section B - information based on undergraduates' motivation, emotional engagement, and cognitive engagement. This instrument was adapted from Mohamad et al., (2015). All the items were rated on a five-point Likert scale of potential responses ranging from

“Strongly Disagree = 1” to “Strongly Agree = 5”. This scale used to measure the respondents’ perception in using online peer learning. Due to COVID-19 pandemic, the questionnaires were handed out through Google form.

4.Results and Discussions

Table 1 represents the findings of the demographic data indicate that majority of the undergraduates 69.3% (156) were female compared to male undergraduates 30.7% (69). Other than that, the majority of the 51.6% (116 students) are Malays, followed by 2.8% (63) of Indian students, 18.7 % (42) of Chinese students and 1.8% (4) from another ethnicity such as Kadazan, Dusun and Rungus.

It also shown that undergraduates spent a different length of time using social media. The findings reveal that 43.1% (97 students) were spending more than three hours on social media. Equally, majority of the respondents using WhatsApp were 36.0% (8 students). Then in about 19.6% (44 students) of the respondents were YouTube user and followed by 16.4% (37 students) Instagram users. Those respondents who used Telegram were 11.5% (25 students), Facebook user were 8.4% (19 students) and Twitter user were 4.9% (11 students). The rest. 3.6% (8 students) using social media Application such as Google, TikTok and Zoom to communicate with their friends and family. Thus, it can be indicated that majority of the UPM undergraduate students accessed social media and they are commonly using WhatsApp as main tool every day. These findings are consistent with Kumar (2016) that stated “WhatsApp became a popular social media application for communication among young generations nowadays”. Kumar (2016) also found that WhatsApp is being used as an instructional tool source with in and out of classrooms environments, this help the medical students to share their ideas and opinions. This indicates that WhatsApp utilization had improved the students’ learning performance. Findings also reveals that 95% of the students learned through online every day during this COVID-19 period. However, 4% undergraduates learned through online three days in a week. The balance 1% undergraduates stated that they are applying the e-learning for limited duration due to poor internet connections (UNESCO, 2020).

Table.1. Demographic Information of the Respondents

Variable	Frequency	Percent
Gender		
Male	69	30.6
Female	156	69.3
Social Media Applications		
Facebook	19	8.4
YouTube	44	19.6
WhatsApp	81	36.0
Instagram	37	16.4
Twitter	11	4.9
Telegram	25	11.1
Others	8	3.6
Purpose of Using Social Media		
Academic Purpose	22	9.8
Non- Academic Purpose	15	6.7
Both	188	83.6

The findings in table 2 below indicated 83.6% (188) undergraduates stated that they used social media for both academic and non –academic purposes. Equally, it was shown that majority of the 41.3% (93) undergraduates using social media to connect with their peers and lecturers followed by 23.1% (52) undergraduates using social media for participating in academic discussion with people. These results support the review of Jones et al. (2008) who claimed that 84% of students who use the internet for academic purposes able to perform well in their academics. The findings reveal students felt convenient in using online learning where they can communicate with their peers, share their opinion or thoughts, queries in assessment, group task discussion, feedbacks and so on. This is in line with research by, Mazman and Usuel (2010) that reported the online learning facilitates students to acquire knowledge, share information and interact with their peers. This results also notify that majority of the undergraduates actively using online learning during this COVID-19 time.

Table 2. Social Media Usage for Academic Purpose

Statement	Frequency	Percent
Share information with my peers;	48	21.3%
Ask information from my peers;	11	4.9%
Discuss class related matter;	16	7.1%
Ask for feedback from peers;	5	2.2%

Connect with my peers and lecturers;	93	41.3%
Participating in academic discussion with people on social media	52	23.1%

Table 3 shows social media usage for non-academic purpose, the majority of the 29.3% (66) students using online tools to watch news and movie, followed by 24.9% (56) undergraduates using social media for socializing purpose. The results of this study support the findings of Oye (2012) who asserted that most of the students using an online tool as the main platform for socializing activities rather than academic purposes. Shana (2012) expressed that majority of the students using this platform for chatting and making friends. However, Nicole (2007) reported that students and teenagers using an online tool for both general (non-educational) purposes and educational purposes.

Table 3. Social Media Usage for Non-Academic Purpose

Statement	Frequency	Percent
Connecting with my family members	38	16.9%
Connect with friends	43	19.1%
Socializing purpose	56	24.9%
Participating in general discussion about general topics;	22	9.8%
Watching the news, movies	66	29.3%

The findings reveal that the majority of the 40.4% (91) undergraduate students scored CGPA between 3.51 and 4.00, followed by 37.3% (84) students had CGPA between 3.00 and 3.49. While the rest 22.2% (50) students had CGPA between 2.50 and 2.99. The findings reveal that that most of the students scored more than 3.51 CGPA. The findings of the study reveal the level of undergraduate cognitive engagement ranges between 3.75 (SD=1.143) and 4.29 (SD=0.908). The overall mean score value of 4.07 (SD=0.55) indicates that the undergraduates have agreed on the statement of online peer learning helps me to memorize, take note of important points and helps me to work with other colleagues on course to solve shared academic problems. The findings also supported Junco (2015) statement where undergraduates who use high levels of social media experiences the engagements between the students and perform well in exams. This shows that undergraduates able to interact and actively engaged with their peers and this leads them to receive a better quality of learning experiences. Online peer learning also elevates students' knowledge and enhance the skills of professional and academic staff as well as people in industry through the internet. This virtual learning has been raised the quality of education (Sahu 2020).

The data collection analysis illustrates the use of social media, UPM undergraduates are emotionally engaged and develop their knowledge and learning skills in both academic and non-academic matters. The mean score value of the items ranges between 4.11 (SD=0.917) and 4.44 (SD=0.748). This shows UPM undergraduates are emotionally engaged with the use of social media for learning purposes. Thus, they feel more connected with their peers with the usage of social media. This emphasizes the usage of social media has elements of collective social action sider where it helps them to feel satisfied with online peer learning. These findings are consistent with Sahu (2020) statement, who notified that with the social media applications, undergraduates felt more emotionally attached to their peers because they can communicate or seek advice when they are in need of help. As the lecturers shared the assignments via WhatsApp in times of Covid-19, it will be easier for the students to discuss with their peers and they don't have to wait till next class. In this Covid-19 pandemic period, UPM undergraduates become more collaborative and communicative in their online learning environment as it promotes opportunities for group presentation or assessment discussion with their peers.

Furthermore, the findings of data analysis present that UPM undergraduates had relatively high motivation in academic matters with social media applications. Based on asked questions, the highest mean value 4.29 indicates that UPM undergraduates received an equal chance in contributing the given assessment and opportunity upgrading the learning and experiences. This motivated them to explore more skills and played an active role in learning. Karpinski et al. (2012) findings also was in line with this study, found that undergraduates are not only using social media sites in general but they use social media as a guideline for academic purposes. Most of the undergraduates highly preferred to use online peer learning and social media, since they can search and acquire various types of favorable information in completing their tasks especially during this COVID-19 pandemic period. This reflects the social media usefulness, as such the implementation had enhanced the undergraduates' ability and motivation in learning and helps them improve their academic achievements.

4.1 Relationship between Online Peer Learning and Academic Achievement

Based on the analysis, it can be notified clearly that there is a positive significant moderate correlation (Davis's strength of correlation co-efficient) between cognitive engagement and undergraduates' academic achievement while practicing online peer learning via social media. The variables were analyzed by Pearson correlation which is ($r=0.425$, $p < 0.01$). These findings also indicate that as UPM undergraduates very much engaged with the usage of social media tools expecting to perform well in academic achievements. This also supported Sedek's (2014) statement where undergraduates who exploring more in online learning and creating presentations via technology scoring well in all the assessments given. Undergraduates also actively engaged and share their knowledge with peers and adapting the lesson online. This enabled them to challenge themselves, problem solving and creativity in preparing the slides through an online platform. Wang and Wang (2010) expressed that as undergraduates' chances in using technology wisely, they are gaining more experiences and learning skills. These observations seem to be more vital in line with undergraduates' understanding of the usage of online peer learning and achieving their goals. As UPM management implements an online network environment in many places such as libraries, hostels, classrooms, UPM café, this opportune UPM undergraduates and post graduates to develop their confidence and active engagement using social media tool in which becoming the vital step to online peer learning.

Tur and Marin (2015) noted that as undergraduates applying social media in their daily lifestyle, they able to share, discuss and conspire with each other, which helps them to enhanced and meaningful learning experiences. Rutherford (2010) notify that social media usage transforms the undergraduates to be active learners. They also enable them to share and upgrade themselves by using social media applications. Undergraduates learn from each other's multiple intelligence, which lead to a more nuanced perspective of the course material.

Thus, it can be concluded that this present study provides shreds of evidence to think the level of undergraduates' cognitive engagement on social media usage matters in any fruitful discussion related to online peer learning and academic achievements. So, it is important to discuss the increased level of undergraduates' cognitive engagement together with social media usage to actively engaged, adapt various learning strategies, problem-solving, a creativity that leads a good academic performance.

Furthermore, UPM undergraduates' emotional engagement and academic achievement were another important combination studied in this research. The results on the Pearson correlation analysis of these two variables present ($r = 0.381$, $p < 0.01$) which indicates that there is a significantly positive moderate (Davis's strength of correlation co-efficient) correlation between the two variables. Hence, emotional engagement among the undergraduates could be determined by their academic achievements. The findings illustrate undergraduates' emotional engagement appears as an essential aspect in their learning process. UPM undergraduates have developed prior expectations that their interactions with peers are vital for learning. UPM undergraduates were keen to participate in online learning which makes them feeling comfortable, positive and happy when they engage in online social interactions. They also had positive feelings consistent with a sense of belongings and trust between the peers.

This finding are consistent with the findings of Junco (2015) that found, the usage of social media made the undergraduates felt more emotionally connected to their peers because they felt as though they had people to talk to if they had a problem or if they needed help. Students who involved with social media stated that they are happy because they have a more collaborative and communicative learning environment (providing opportunities for discussions and interactions with their peers).

Meanwhile, Yang and Chang (2011) expressed that social media usage enables undergraduates to develop positive attitudes towards peer interaction and academic achievement. Junco (2015) also supported this statement and added up that the use of Twitter has a positive impact on academic engagement and achievement. In line with this, Chen and Smith (2015) stated learners are emotionally balanced and able to perform well in online learning which enables them to develop their potential skills such as be confident and positive. By using the online learning, the aspect of students' emotional engagement could influence students' performance, and the finding has reported that the students' performances have been improved from 70% to 90%. Thus, the findings of the present study indicate UPM undergraduates' emotional engagement are highly connected to their academic achievement.

The finding of Pearson Correlations between motivation and academic achievement shows a significant positive and moderate relationship (Davis's strength of correlation co-efficient). This indicates that UPM undergraduate's motivation is highly associated with their academic achievements. In this respect, it can be notified that UPM undergraduates interact and spend more time sharing knowledge, skills, and experience through social media which helps them to improve their academic achievement. The use of social media among undergraduates created a sense of self-fulfilling perceptions and perceptual convictions which assists them in

developing their performance in academics. Undergraduates' motivation for academic achievement is important, because this will help them to become more diligent and passionate with their study. In addition, Ilknur (2014) revealed that learning through social media develops undergraduates' motivation, enhancing innovative ways in a learning environment that altering the nature of learning boundaries. Schunk (2004) have shown that highly motivated students are willing to participate in challenging activities and engaged actively in all activities, adapt and enjoy the learning, demonstrate their performances, persistence and creative.

Another study by Rovai et al. (2007) notifies that university students who using online learning in their lectures were more intrinsically motivated than students who learn in traditional way. Afzal, Imran and Mohamad (2010) added up that students who have a high level of motivation perform well in their academic achievement with the use of social media. In this case, UPM undergraduates with a high level of motivation present that they had a better quality of learning outcomes that demonstrate and enhance more learning experience. Thus, motivation helps undergraduates to explore more opportunities through online peer learning.

Table 4 Pearson Correlation Matrix

Variables	Y	X ₁	X ₂	X ₃
Y (CGPA)	1			
X ₁ Cognitive Engagement	0.425**	1		
X ₂ Emotional Engagement	0.381**	0.393**	1	
X ₃ Motivation	0.369**	0.469**	0.451**	1

NB. **Significant at 0.01 level of probability (2-tailed)

Based on the discussion above, it can be concluded that the correlation between the independent variables and dependent variables is positive. The findings of the study indicated that an association existed between cognitive engagement, emotional engagement, motivation and academic achievements. Thus, it can be concluded that all the correlation results between the independent and dependent variables were less than 0.70. This indicates that there is no multicollinearity

Table 5. Difference between genders in academic achievement.

	N	Mean	SD	T	Sig
Gender	-5.489			0.000	
Male	69	2.78	0.802		
Female	156	3.36	0.690		

The result of independent sample T-Test presents that female undergraduates had the highest mean (3.36) with a standard deviation of 0.690 compared to male undergraduates (2.78) with a standard deviation of 0.802. This is in line with the study by Heather and Michael (2012) who reported that female students perform well in academics compared to male students. Several studies have found significant differences in school achievement between favoring girls over boys (Duckworth & Seligman, 2006). Higher secondary schools have more girls than boys, while more boys than girls attend lower secondary schools. More girls obtain general university entrance qualification, while more boys complete lower secondary school certificate (Statistisches Bundesamt, 2011). Shahzad, Hassan and Aremu (2020) expressed that since there is a smaller number of male students in Malaysian learning institutions, female students are become dominant and they are highly focused and achieving more than male students. This study also implies female students of Malaysian universities are more focused on the E-learning portal as compare to male students

5. Conclusions

As online learning has just been implemented recently especially during the lockdown period, there are not much of research studies that have been conducted. However, in the future, it is recommended to carry out a study and investigate the use of online peer learning from different view. Future work is proposed to perform a qualitative study where experts can be interviewed to discover aspects and issues of online peer learning. The findings and discussions of this study interpreted there were relatively considerable levels of UPM undergraduates' cognitive engagement, emotional engagement and motivation and academic achievement. The findings illustrate undergraduates' emotional engagement appears as an essential aspect in their learning process. UPM undergraduates were keen to participate in online learning which makes them feeling comfortable, positive and happy when they engage in online social interactions especially during this COVID-19 pandemic period. It can be reflected from this study that online learning has significant effect on UPM undergraduates and the effectiveness of online learning during Covid-19 period. The findings from this study could be useful for the government, universities and school administrators to develop proper modules and guidelines for online learning with technical support such as fast internet connection and devices to ensure the online learning is conducted

effectively. This study also provides an insight that online learning is capable of engaging students and should be continued as Covid-19 pandemic is still not resolved at least for unpredictable period. From time to time, further studies from different areas and perspectives is recommended such as the factors that contribute to effective online learning, how to improve online learning and so on in line with Malaysian Education Blueprint aspiration.

This also helps undergraduates to plan, monitor, solve problems, organize information, upgrade their knowledge in the learning process and evaluate their own learning that contributes to their academic performances. For this, appropriate strategy and learning ought to be given to educators and government is additionally vital at such stage. From the findings, it can be reasoned out that it is possible when students would be given opportunities to collaborate, they can develop the sense of social presence through online peer learning in line with the social media tools they are using at the given time. During COVID-19 period, it can be notified that students interact and spend time sharing knowledge, skills, and experience through social media which helps them to improve their academic achievement. This enabled them to challenge themselves in problem solving and creativity in preparing the slides through online platforms. This transformation helps the youngsters to promote meaningful space opportunities, innovative and practical based learnings. Thus, in times of COVID-19 period, online learning plays crucial role in delivering the lesson and exploring more skills in using technologies. Martin (2020) expressed that proper guidance, content, inspiration, connections, and emotional wellness are the five significant things that an instructor must remember while bestowing online learning. Some showing procedures (addresses, contextual investigation, discusses, conversations, experiential picking up, meetings to generate new ideas, games, drills, and so on.) can be utilized online to encourage compelling and proficient instructing and learning rehearses. In such panicky circumstances, where the lives of endless individuals are in question, educating and learning ought to be made intriguing. This will likewise diminish the pressure, dread, and nervousness of individuals.

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