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Anxiety and Satisfaction toward Online Learning on Academic Engagement During Covid-19 Outbreak among Malaysian Undergraduates

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Abstract

This study aims to determine the relationship between anxiety and satisfaction towards online learning with student academic engagement during Covid-19 pandemic among local university students. A total of 203 students from four faculties in University Putra Malaysia, Serdang were involved in the study. Data were obtained using an online questionnaire form. Findings showed that anxiety and satisfaction toward online learning were significantly correlate with the academic engagement among students. Multiple regression analysis showed that two factors were found to have significantly predicted students' academic engagement namely state anxiety ($\beta = 0.167$, $p < 0.05$), and response satisfaction toward online learning ($\beta = 0.486$ $p < 0.001$). The model explained 34% of the variance in academic engagement among UPM students. Results of the present study revealed that access in satisfaction toward online learning is important in influencing the academic engagement of local UPM students. By understanding the aspects that have a high impact on local UPM students, it helps government agencies and higher education institutions to reduce mental health problems and online learning problems.

Keywords: Anxiety, Satisfaction, Academic Engagement, Online Learning, CoVID-19

Introduction

Covid-19 pandemic has struck the world which provides a significant impact on the health and wellbeing of every person. The outbreak originated from Wuhan City, Hubei Province, China and was declared by WHO as a pandemic on March 11, 2020, due to its deadly wide-spreading impact (World Health Organisation, 2020). It has resulted not only in the public health sector and the economic crisis, but also brings an impact on educational life as well. On 4th February 2020, the first Covid-19 was reported in Malaysia and started on 18th of March, Malaysia has enforced the movement control order (MCO). The implementation of movement restriction order and staying home strategies has been put in place as the preventive action to flatten the curve and control the transmission of the disease (Ganasegeran et al., 2020). With the MCO implemented, all social and economic activities are disrupted. Lockdown and social distancing measures due to the COVID-19 pandemic have led to closures of schools, training institutes and higher education facilities in most countries have discontinued face-to-face

teaching. According to a United Nations policy brief of August 2020, nearly 1.6 billion students in more than 190 countries from all continents were affected by the COVID-19 (UNESCO, 2020). At this point, a pressing need to innovate and implement alternative educational and assessment strategies have become crucial. Thus, the COVID-19 pandemic has introduced us with an opportunity to pave the way for introducing digital learning.

The detrimental effects of COVID-19 have received serious attention from several researchers especially the impact of pandemic on mental wellbeing and quality of life. Previous studies have shown that mental health issues among students increased significantly during the COVID-19 pandemic lockdown (Viner et al., 2020; Zhang, et al., 2020). Furthermore, a few studies have suggested that exposure to the covid-19 pandemic has resulted in increased mental health concerns in students, including anxiety, sadness, moodiness, and PTSD (Cao et al., 2020).

Along with this pandemic, all physical activities in teaching and learning were prohibited, and online or web-based learning platforms had become primary tools in delivering lectures. However, recent findings found that the dramatic shift from physical to online learning has leads to increase level of stress and anxiety to both students and lecturers (Hajduk et al., 2020; Bruggeman et al., 2022). Not all students are able to benefit from these new learning environments, while others are just struggling to catch up with their studies and try to keep motivated (UNESCO, 2020). In addition, students shifted to online learning which required quick adjustments and affected their daily habits, experiences, and expectations. These changes may have required more self-motivation to learn, in a situation characterised by potential less direct support from teachers and classmates (Aucejo et al., 2020). In addition to online learning, isolation and lack of social contact during the pandemic may have led to an increased sense of fear, stress, anxiety, and even depression (Hiremath et al., 2020).

Furthermore, a comparative study conducted by Adams et al (2015) had indicated that online learners were not as successful as face-to-face learners which were inferred through student's motivation, satisfaction, and attendance. To note, past research reported that the academic engagement could be affected by both emotional and anxiety (Hooda and Saini, 2017). Therefore, the sudden shift of teaching and learning approach had rising the questions about the quality of learning, students' satisfaction as well as academic engagement.

During the COVID-19 pandemic, numbers of studies have been carried out, focusing on the psychological wellbeing among university students (Cao et.al., 2020; Dhar et al., 2020). The topic regarding the relationship between mental health problems and the covid-19 pandemic had become popular. More recent findings also indicated that approximately more than half of university students experienced minimal to most extreme anxiety levels during the COVID-19 pandemic and lockdown (Barbosa et al., 2022).

As noted, students' anxiety has been negatively linked to their academic motivation (Camacho et al., 2021). Also, the shift to remote and online distance learning has been described as possibly compromising students' motivation (Fuente et al., 2021). Despite the importance of this evidence, there is limited research on the associations between students' anxiety and their academic engagement during the COVID-19. Besides that, previous studies

have been conducted to examine students' perception toward online learning and factors influencing it. For instance, Bendania (2011) study found that students hold positive attitudes toward online learning and the influencing factors mainly include experience, confidence, enjoyment, usefulness, intention to use, motivation, as well as ICT skills.

In Malaysia, this unexpected pandemic has also provided a chance to implement online education for almost five million primary and secondary schools' students, as well as 1.2 million universities students (Kamal et al., 2020; Mallik and Radwan, 2021). Thus, it is a timely call for studies investigating the impact of COVID-19 on students' mental health and the need for immediate interventions. Therefore, in the present study, we aimed to examine the relationship between the level of anxiety and satisfaction toward online learning on academic engagement during COVID-19 pandemic among local student in University Putra Malaysia.

Materials and Methods

Study Design, Sample and Setting

A cross-sectional quantitative study was carried out among the local undergraduate students in the Universiti Putra Malaysia. The sample size was calculated using Yamane Formula 1967. In this present study, the simple random sampling technique was used to select the faculties. Four out of 16 faculties were selected randomly namely Faculty of Human Ecology, Faculty of Economics and Management, Faculty of Environmental Studies and Faculty of Computer Science and Information Technology. A total of 203 students were included in the present study.

Data collection was conducted between July to and October of 2020, during the first wave of the COVID-19 pandemic in Malaysia. The survey was developed using an online survey using Google Form. The survey was then disseminated to students under selected faculty via: (a) official university emails; and (b) respective student's WhatsApp's groups. Students were provided with a detailed consent letter in compliance with research ethics. Only students who consented to participate by checking a box on the online survey were enrolled in our study. Although we used convenience sampling, we ensured that students from selected faculties were represented in our sample.

In the present study, we measured student academic engagement, anxiety, and satisfaction toward online learning. Student academic engagement is measured with the instrument University Student Engagement Inventory (Maroco et al., 2016). The USEI is a self-report Likert-type measure with 15 items categorised into three academic engagement dimensions (1 = "never" to 5 = "often"). The three-dimension included behavioural (e.g. I usually participate actively in group assignments), cognitive (e.g. I like being at school) and emotional (e.g. I try to integrate the acquired knowledge in solving new problems) (Maroco et al., 2016).

Anxiety is characterised by feelings of tension, anxious and physical changes such as increased blood pressure (Kazdin and Kagan, 1994). Psychologists have carried out anxiety into two categories called state and trait anxiety (Margalit & Shulman, 1986). Operationally, the student's anxiety level was measured using *Spielberger State-Trait Anxiety Inventory* (STAI) (Spielberger, 1983). The questionnaire consisted of 40 items scored on a 4-point Likert-type scale.

The questionnaire adapted from the Web-Based Learning Environment Instrument (WEBLEI) developed by Chang and Fisher (2003) was used to obtain the information of students' perception of the learning environment. WEBLEI is a four-factor scale that measures student perception based on i) access, ii) interaction, iii) response and iv) results toward online learning. The "Access" scale establishes the extent to which variables associated with accessing this medium meet students' expectations. Once the students have logged in successfully, they should be able to interact productively with their peers and their teachers. Meanwhile, the "Interaction" scale explores the extent to which this is achieved from the students' point of view. The "Response" scale gives an indication of how they felt about using a web-based medium, and the "Results" scale gives an idea of the extent of their accomplishment of the learning objectives by using the learning resources accessed through this medium. The four scales are rated on a 5-point Likert scale (Almost Never; Seldom; Sometimes; Often; Almost Always).

Results

A total of 203 students participated in this study. A detailed information of the students profile was summarised in Table 1. Majority of students were male (81.8%) and the age of students ranged from 18 years old to 34 years old respectively. Majority students were in the age range of 18 to 24 years old with the mean age for UPM undergraduate students' was 22.3 years (± 1.61 SD). In terms of years of study, more than half of students (56.2%) were currently in second year, and the majority of students were in the social science stream.

Table 1
Students profile (N=203)

| Variables | n (%) | Mean | SD. |
|--|------------|-------|------|
| Age (years) | | 22.32 | 1.61 |
| 18 -24 | 197 (97.0) | | |
| 25-34 | 6 (3.3) | | |
| Sex | | | |
| Male | 166 (81.8) | | |
| Female | 37 (18.2) | | |
| Year of Study | | | |
| First | 12 (5.9) | | |
| Second year | 114 (56.2) | | |
| Third year | 39 (19.2) | | |
| Fourth year | 38(18.7) | | |
| School of Business and Economics | 36 (17.2) | | |
| Faculty of Human Ecology | 100 (49.3) | | |
| Faculty of Computer Science and Information Technology | 27 (13.3) | | |
| Faculty of Forestry and Environment | 35 (17.2) | | |

The descriptive findings indicate most of the students (91.1%) were categorised as having high anxiety. Based on the STAI score, analyses show that 91% and 88.9% of students were classified as having high levels of state and trait anxiety respectively. The mean score for state anxiety was 52.1 ($\pm 6.0SD$) and 51.3 ($\pm 6.3SD$) for trait anxiety (Table 2). The majority of students indicate a high level of access, and moderate level of satisfaction toward interaction, response and result. In terms of academic engagement, the finding also indicates that more than half of students (63.1%) were categorised as having a moderate level and only 36.9% were categorised as having a high level of academic engagement.

Table 2

Score of Anxiety and Students' Satisfaction towards online learning (N=203)

| Variables | Mean | SD. |
|---|------|-----|
| Satisfaction toward online learning (Access) | 32.0 | 5.6 |
| Satisfaction toward online learning (Interaction) | 23.2 | 2.9 |
| Satisfaction toward online learning (Response) | 27.3 | 6.0 |
| Satisfaction toward online learning (Result) | 24.2 | 3.1 |
| Trait Anxiety | 52.2 | 6.3 |
| State Anxiety | 52.1 | 6.1 |

Multiple regression analysis showed that two factors were found to have significantly predicted students' academic engagement namely state anxiety and response in satisfaction towards online learning ($\beta = 0.486$ $p < 0.001$). The result revealed that the overall model explained 34% of the variance towards academic engagement among studied population. Subscale "Response" was the most important variable that influences academic engagement among respondents ($\beta = 0.486$, $p = 0.000$) and followed by state anxiety ($\beta = 0.167$, $p = 0.000$), (see Table 3). The overall regression was statistically significant and fitted the regression model where $R^2 = 0.34$, $F = 16.864$, $p = 0.001$.

Table 3

Linear Regressions Analysis of Academic engagement (N= 203)

| | S.E | Beta, β | p-Value |
|---------------|--------|---------------|---------|
| State Anxiety | 0.015 | 0.167* | 0.017 |
| Trait Anxiety | -0.007 | - 0.077 | 0.282 |
| Access | 0.081 | 0.106 | 0.134 |
| Interaction | -0.115 | - 0.070 | 0.247 |
| Respond | 0.353 | 0.486** | 0.000 |
| Result | -0.282 | - 0.064 | 0.295 |

Note: * $p < 0.05$, ** $p < 0.01$, β = Beta Coefficient, S.E= standard Error

This indicated that aspect response was the strongest unique predictor among other variables. In other words, the perceived level of online learning satisfaction related to response tends to increase the student academic engagement, while high levels of state anxiety experienced by students may result in decrease the academic engagement.

Discussion

Present study investigated the determinants of academic engagement among local undergraduate students in UPM. In this study, the local undergraduate students reported experiencing higher levels of state anxiety. These findings are supported by previous studies which highlighted that university students' experienced higher frequency of anxiety compared to the general population (Cao et al., 2020; Odriozola-Gonzalez et al., 2020). The finding also revealed that there is a significant relationship between anxiety and student academic engagement. Previous literature supports the finding of this study, that the epidemic's negative emotions, such as anxiety, had an impact negatively on cognitive engagement mediating effect on learning engagement (Yang et al., 2021). Thus, it proved that anxiety brings effect to student academic engagement. In contrast, previous studies had suggested that, even for students studying online, there was not much change in student behavioral emotional and cognitive engagement (Wester, 2021). Several earlier studies have shown that mental health issues among students increased significantly during the covid-19 pandemic lockdown (Msherghi et.al., 2021; Akat and Karatas, 2020; Singh et al., 2020). Furthermore, a few studies have suggested that exposure to the covid-19 pandemic has resulted in increased mental health concerns in students, including anxiety, sadness, and moodiness (Samji et.al., 2022; Dong et al., 2020; Elmer et al., 2020).

Furthermore, this study showed a positive relationship between satisfaction toward online learning and academic engagement among local undergraduate students in UPM. The higher satisfaction would increase better engagement in academic activities. Moreover, the moderate satisfaction toward online learning among local undergraduate students in UPM has resulted in moderate engagement in academic activities. This finding is supported by Peacock & Cowan (2019), establishing a sense of belonging in an online environment is more challenging than in an in-person class which were almost unavailable during COVID-19. Adding to that, research also shows that there was a significant change in emotional involvement, largely driven by a very significant drop in students' attitude toward the learning activities (Sundarasan et al., 2020). The shift to online learning influenced students' perceptions of the class's value (Bruggeman, et al., 2022; Stephens and Morse, 2022; Brown, et al., 2021; Aristovnik et al., 2020).

Thus, the current study has contributed to the existing literature on the field of student academic engagement. The current study was an effort to investigate the most common mental health and online learning issues faced by students nowadays. The psychological wellbeing aspect such as anxiety and satisfaction towards online learning should be encountered as crucial determinants in order to encourage student engagement in online learning.

However, this study has few limitations. Firstly, the data collected to conduct this study are limited to only one university and therefore this study cannot be generalised to populations. Secondly, present study focuses on the cross-sectional design and unable to

perform causal inferences between variables. It is suggested to have a larger sample size from different universities to allow more relevant results for future study. Lastly, other variables, such as loneliness and depression, might be included in future studies.

Conclusion

In conclusion, the level of anxiety and satisfaction toward online learning were found to be significantly associated with academic engagement during COVID 19 pandemic among local undergraduates' students in UPM. Generally, satisfaction towards online learning and the level of anxiety experienced by students play an important role to increase their level of academic engagement. These findings are supported from the previous literature. Thus, the current study has contributed to the existing literature on the field of student academic engagement. The current study was an effort to investigate the most common mental health and online learning issues faced by students nowadays. The psychological wellbeing aspect such as anxiety and satisfaction towards online learning should be encountered as crucial determinants in order to encourage student engagement in online learning.

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