The Gendered Experience of Online Learning in Higher Education: Challenges and Opportunities in the Post-Pandemic Era
(Pengalaman Pembelajaran Dalam Talian Mengikut Jantina di Institusi Pengajian Tinggi: Cabaran dan Peluang dalam Era Pasca-Pandemik)

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ABSTRACT

The spread of the COVID-19 virus has adversely affected almost all sectors including education. The implementation of online learning as an alternative to a traditional face-to-face learning approach is in dire needed to maintain the continuity of the learning process amidst the health crisis. However, the implementation of online learning in the aftermath of the COVID-19 pandemic is still debated due to its challenges to many parties. This study was conducted with the aim to understand the challenges of online learning experienced by students in higher learning settings. The study involved a sample of 160 students, collected using a simple random sampling technique at UKM. The data was obtained using a survey, and further analysis was conducted with the statistical software SPSS. Apart from the descriptive analysis such as frequency and percentage, the chi-square test of independence was also employed to assess the association of the challenges and gender. The finding indicated that out of the three main challenges, learning process and financial constraint were more prominent compared to the challenges from environment. The results also revealed that, in comparison to their male counterparts, a significant number of female students face several obstacles including difficulties in completing tasks, less conducive learning environment, a lack of focus, communication skills, family support, and limited financial assistance. The significance of online learning should be acknowledged in accordance with the demands of today's educational environment. It is imperative for educational institutions to develop a comprehensive strategy that focuses on enhancing student engagement and monitoring mechanisms that can improve the quality of online learning. In order to support students in purchasing their online learning equipment, it is essential for the government to allocate more objective financial assistance.

Keywords: E-learning, virtual learning, online learning, challenges, implications

ABSTRAK

Penyebaran virus COVID-19 telah menjejaskan hampir semua sektor termasuk pendidikan. Pelaksanaan pembelajaran atas talian sebagai alternatif kepada pendekatan pembelajaran bersemuka tradisional amat diperlukan bagi mengekalkan kesinambungan proses pembelajaran di tengah-tengah krisis kesihatan. Walaubagaimanapun, pelaksanaan pembelajaran atas talian susulan pandemik COVID-19 masih diperdebatkan berikutan cabarannya kepada banyak pihak. Kajian ini dijalankan bertujuan untuk memahami cabaran pembelajaran atas talian yang dialami oleh pelajar di persekitaran pengajian tinggi. Kajian ini melibatkan sampel seramai 160 orang pelajar dari Universiti Kebangsaan Malaysia (UKM). Data diperolehi menggunakan tinjauan, dan analisis lanjut dijalankan dengan perisian statistik SPSS. Selain daripada analisis deskriptif seperti kekerapan dan peratusan, ujian khi kuasa dua juga digunakan untuk menilai perkaitan cabaran dan jantina. Dapatan kajian menunjukkan bahawa daripada tiga cabaran utama, proses pembelajaran dan kekangan kewangan adalah lebih menonjol berbanding cabaran daripada persekitaran. Hasil kajian juga mendedahkan bahawa, berbanding lelaki, sebilangan besar pelajar perempuan menghadapi beberapa halangan termasuk kesukaran dalam menyelesaikan tugasan, persekitaran pembelajaran yang kurang kondusif, kurang fokus, kemahiran komunikasi, sokongan keluarga dan bantuan kewangan yang terhad. Kepentingan pembelajaran dalam talian harus diakui sesuai dengan tuntutan persekitaran pendidikan masa kini. Institusi pendidikan tinggi perlu lebih komprehensif dalam merangka strategi supaya dapat meningkatkan penglibatan pelajar dalam pembelajaran atas talian selain membangunkan mekanisma yang sesuai untuk memantau kualiti pembelajaran yang dilakukan secara atas talian. Sebagai usaha untuk membantu pelajar mendapatkan peralatan pembelajaran atas talian yang lengkap, kerajaan disarankan untuk menyalurkan bantuan kewangan yang lebih objektif.

Kata kunci: E-pembelajaran, pembelajaran maya, pembelajaran dalam talian, cabaran, implikasi

INTRODUCTION

The World Health Organization has declared the spread of COVID-19 as a pandemic in March 2019 which led to a lockdown which is a restriction imposed on the movement of people, the operation of businesses and also school closures. Malaysia government has implemented the Movement Control Order to prohibits a mass movement and all gathering at all places nationwide including school and higher education institution. According to Watermeyer et al. (2021), one of the immediate impacts of lockdowns is the enforcement of closing schools, colleges, and universities. This abrupt closure had a significant and immediate impact on the way education was delivered. Instead of the conventional face-to-face teaching and learning in physical classrooms, education shifted to virtual or online platforms. The transition involved the use of technology including computers, internet, and digital tools, while applications such as Zoom, Microsoft Teams, Webex Blackboard and Google Classroom were used as a platform to facilitate the transition.

Malaysia is known as a developing country that continues to promote the integration of e-learning, particularly within its tertiary education settings. According to Hairom (2020) Malaysia is one of the countries that reported having the highest search for the term 'Google Classroom' in the world. This finding serves as evidence of the active implementation of online teaching and learning in this country. At present, the implementation of e-learning continues, albeit on a diminished scale in comparison to its widespread usage during the pandemic era. It is important to note that the use of online learning as one of the pedagogies in education is becoming popular even though it is not as massive as during the pandemic. The integration of online learning in education provides many advantages including learning experience becomes more enjoyable especially with the use of digital classroom and the adaptation of interactive learning in classes.

The accessibility of online learning allows students to engage in the learning process from any location with internet connectivity, hence providing a more convenient and efficient learning experience. This advantage is particularly noticeable in a time-saving aspect, as students are free from the need to commute to and from physical classrooms. In contrast to common perception, online learning is often perceived as an isolated experience, however, a recent study reveals that a majority of students reported that online learning has actually enhanced their opportunities for social interaction, both with their peers and instructors (Rawashdeh et al., 2021).

The shift towards online learning presents multiple challenges, particularly in terms of the learning process and environment. These challenges are believed to differ between male and female students. For decades, technology and computer science have been perceived as male-dominated fields, creating a gender gap in comfort and familiarity with digital tools and platforms (Charles & Bradley, 2009). As a result, digital platforms for teaching and learning may feel more intuitive for male students, who are generally more familiar with these technologies. This study was therefore designed to identify the specific challenges students face in online learning and to compare these challenges between male and female students. This study is expected to provide valuable insights that can assist institutions and educators in the long run by formulating contingency plans and strategies for the successful implementation of online education in future.

LITERATURE REVIEW

Theoretical framework

The underlying theory used to explain the challenges of online learning is self-determination theory (Deci & Ryan, 1985) developed by Edward L. Deci and Richard M. Ryan in the mid-1980s. It is a psychological theory that focuses on human motivation and personality development where people have innated physiological needs that will affect their behavior and wellbeing. In order to encourage motivation among students in online learning, it is imperative to address three fundamental psychological needs: autonomy, competence, and relatedness. Students who are unable to achieve these three elements might face difficulties in their online learning adaptation process. Challenges in learning process such as failure to complete tasks, lack of focus and poor communication can affect student autonomy and potentially demotivated students. The second factor is competence, wherein financial constraints are perceived as a barrier for students to develop a feeling of competence in their studies. A conducive environment characterized by an enjoyable classroom, high students' engagement, and active interaction, has the potential to develop a sense of relatedness among students and positively influence their academic performance . Similarly, family support, which encompasses emotional encouragement, understanding, and a feeling of belonging within the family unit, will foster student motivation in their learning experience.

Online learning has been widely used in many disciplines particularly in healthcare related courses (Aloia & Vaporciyan, 2019; Sinclair et al., 2016) and it was then increasingly accepted at the higher education level, especially during covid (He & Yusop, 2020). In the battle to control the spread of the coronavirus, schools and other educational institutions were forced to migrate from face-to-face to full online learning. Teaching and learning using online platforms requires the use of the internet and other technological devices and can be conducted either synchronously or asynchronously (Dhawan, 2020; Usher & Barak, 2020). According to Singh and Thurman (2019), synchronous online learning involves real-time interactions between the teacher and the students, while asynchronous online learning does not necessarily stick to strict schedule for different students.

Challenges

Prior research indicated that a shift to online learning has been well accepted but faced with several challenges including high demand on self-regulation (Hong et al., 2021). According to Muhammad et al. (2009), online learning has the potential to disrupt students' time management because student were usually given ample time to complete their assignments. Without a strict schedule and less monitoring, students are prone to procrastinate in their task. Ahmad et al. (2019) indicated that university students need to manage time effectively because they spend a lot of their time completing assignments and projects especially when they have to study online which will eventually disrupt their daily routine. A study among university students in Pakistan showed that some of students were dissatisfied with online learning due to its disruptive impact on their everyday routines (Ali et al., 2020).

The pandemic has caused a rapid shift from working in a group of teams face to face into virtual teams which most of them were unlikely prepared. According to Herriott and McNulty (2022), one of the challenges of using online platform is from the aspect of communication and teamwork which were difficult to acquire compared to physical meeting. The unstable internet connection was a barrier that perceived as small but can cause huge impact on communication and teamwork (Wildman et al., 2021).

Likewise, student were generally dissatisfied with online learning especially in the aspect of communication (Tang et al., 2023). Nevertheless, their satisfaction could be improved through psychological support, motivation, and technical support (Sanusi et al., 2022). Adarkwah (2021) revealed that students consider online learning ineffective because it causes a lack of social interaction among students, poor communication, lack of ICT resources, and poor learning outcomes. Another study by Alawamleh et al.(2022) indicated that the vast majority of students still prefer physical classes instead of online classes due to several challenges including a decrease in communication levels between students and lecturers.

Compared to physical class, students reported to have lower concentration during online class. Muhammad et al.(2009), pointed out that less monitoring in online environment and distraction from the surrounding have increased the possibility of students to be less focused on their study. Distraction is not only from humans but can also be deriving from the unstable internet connection and other technical problems. According to (Jafar et al., 2022), the accessibility of internet coverage varies among students. Students who live in rural and remote areas usually have limited coverage.

Online learning requires students to have technological literacy and competency. Nevertheless, according to Barrot et al. (2021), the ability to use devices and the internet is a small challenge compared to creating a suitable learning environment at home. The problem with inappropriate environment included the noisy background and difficulty to maintain privacy from other household members (Pikoos et al., 2021).

Some students may have limitations in accessing devices and internet services due to less tech-savvy and lack of financial resources. Restrictions in resources such as the inability to buy digital devices and internet data plans, might result in educational disadvantages for individuals (Dhawan, 2020). Suryaman et al. (2020) found a similar result, which is lack of skills in using devices and inaccessibility to internet connection due to high cost of internet data plan posed significant barriers in online learning.

There has been a growing body of research examining the challenges experienced by students in the context of online education, particularly in the aftermath of the global COVID-19 outbreak. Previous researchers have identified many challenges through their investigations of various perspectives. For instance, Hammarlund et al. (2015) have examined challenges from both external and internal factors. In contrast, the research conducted by Liu et al. (2021) emphasized the analysis of individual challenges, particularly among students. Likewise, Basar et al. (2021) focuses on an investigation of specific obstacles associated with external factors. To fill the gap, this study was designed to investigate the gender-related challenges experiencing by students considering 2

aspects: internal factors, which are under the control of students, and external factors, which are difficult for students to control.

METHODOLOGY

Sampling and Data Collection

This study was conducted to understand the challenges of online learning from the perspective of students at the higher education institution setting. Data was collected through a survey using a set of questionnaires. The respondents were recruited from the Universiti Kebangsaan Malaysia (UKM) using a simple random sampling approach in order to ensure that each student of the population has an equal chance of being selected. This questionnaire was divided into four parts A, B, C and D. Part A consist of the questions related to respondents' background and also basic questions regarding the online learning applications; part B, C and D on the other hand, encompass items that pertain to the students' learning experience, learning environment, and financial aspects, respectively. This study used a close-ended type of question with measurement of Likert scale. Respondents are required to answer several statements given according to Likert scales ranged from1 to 4, whereby scale 1 refers to "Strongly Disagree", scale 2 refers to "Disagree", scale 3 refers to "Agree" and scale 4 refers to "Strongly Agree". The collected data was entered into Microsoft Excel before being transferred into the Statistical Package for the Social Sciences (SPSS) for analysis purposes.

Analysis

This study uses a descriptive analysis to describe the demographic of the respondents which has been tabulated and calculated as a percentage. The purpose is to make a comparison between categorical variables for each demographic variable. The bar graph was also included as another analysis tool as it provides clearer picture to explain the preferences of online platform among students. Next analysis was the Chi-Square test of Independence that was performed to determine the association of two categorical variables. In this study the chi-square test was conducted to determine the association of each challenge with gender.

RESULTS

Demographic analysis results showed that there are more female respondents than males, most of respondents were less than 28 years old and a large proportion of respondents were in 2nd or 3rd year of study. The majority of students were studying for bachelor's degrees, while FEP has the highest number of students recruited. Most of the students involved in this study were in the excellent category based on the CGPA of 3.50 and above. The percentage of students living in rural and urban was not too different even though the data showed that students from urban areas were 15% higher (Table 1). The most frequently used online platforms by students were Google Meet (129 students) and Microsoft Teams (132 students), while the least used was Cisco Webex (23 students) (Figure 1).
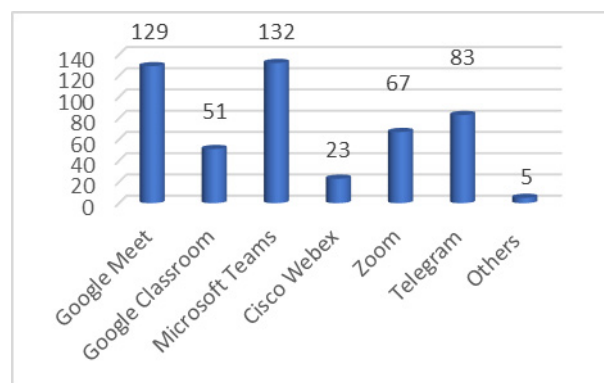

FIGURE 1. Preferable online platform (person)

TABLE 1. Demography of respondents

Variables	Frequency (n)	Percentage (%)
Gender		
Male	49	30.6
Female	111	69.4
Age		
18 – 22	70	43.8
23 – 27	83	51.9
28 – 32	3	1.9
>33	4	2.5
Year of Study		
Year 1	16	10.0
Year 2	52	32.5
Year 3	69	43.1
Year 4	23	14.4
Degree		
Bachelor	149	93.1
Master	9	5.6
PhD	2	1.3
Faculty		
FEP	78	48.8
FKAB	17	10.6
FPEND	7	4.4
FPI	10	6.3
FSSK	13	8.1
FST	22	13.8
FTSM	9	5.6
FUU	4	2.5
CGPA		
>3.50	89	55.6
3.00 – 3.49	62	38.5
2.50 – 2.99	8	5.0
2.00 – 2.49	1	0.6
<2.00	0	0
Residential		
Urban	92	57.5
Rural	68	42.5

Note: FEP: Faculty of Economic and Management; FKAB: Faculty of Engineering; FSSK: Faculty of Social Sciences; FF: Faculty of Farmacy; FPEN: Faculty of Education; FST: Faculty of Sciences and Technology; FPI: Faculty of Islamic Studies; FUU: Faculty of Law; FPER: Faculty of Medicine; FSK: Faculty of Health Science; FDent: Faculty of Dentistry; FTSM: Faculty of Technology and Science Information.

Table 2 displays the outcomes of the reliability test for the variables representing the three challenges encountered by students when transitioning to online learning. According to Cronbach alpha's values, the items used in this study were reliable to represent all the challenges faced by students including learning process, environment and financial problem.

TABLE 2. Cronbach's alpha for the variables of online learning challenges

Variables	N	Items	Cronbach's α	Mean
Learning process	160	7	0.863	3.01
Environment	160	3	0.896	0.94
Financial	160	3	0.789	1.53

Table 3 demonstrated the challenges faced by students in their learning experience using online platforms. According to the result, the highest obstacle in learning process was difficulty in focusing during online classes (67.5%), followed by difficulty in being punctual (51.3%), communication problems (44.4%) especially with lecturers and struggle to complete the given tasks (42.5). A few students have problems attending classes (28.1%) and working in teamwork (25.0%).

Less than half of students encountered environmental challenges with approximately 37.5% of students admitted to not having a conducive environment that can support effective online learning, while 30.6% of students were challenged with the lack of family support, especially parents who have less empathy towards the task burden given to their child. In addition to the unsupportive environment, lack of equipment which was 25.6% also presents a significant barrier for students.

The highest barrier to online learning reported by students was related to financial assistance, with 80.6% of students admitted that they were embarrassed to get financial help from their parents to buy online learning equipment. The chi-square test of independence indicates that there are differences between male and female students in challenges related to communication, task completion, maintaining focus, accessing a conducive environment, receiving family support, and obtaining financial assistance.

TABLE 3. The relationship between the challenges encountered in online learning and gender.

Variables	Total N = 160		Male N = 49		Female N = 111		Chi-square
	n	%	n	%	n	%	(P)
Learning process							
Class attendance	45	28.1	13	26.6	32	28.8	0.089(0.766)
Task completion	68	42.5	16	32.7	52	46.8	2.802(0.094)*
Teamwork	40	25.0	9	18.4	31	27.9	1.657(0.198)
Communication	71	44.4	16	32.7	55	49.5	3.392(0.047)**
Focus	108	67.5	28	57.1	80	72.1	3.454(0.063)*
Learning pressure	68	42.5	17	34.7	51	45.9	1.761(0.184)
Punctuality	82	51.3	22	44.9	60	54.1	1.141(0.286)
Environment							
Conducive environment	60	37.5	13	26.5	47	42.3	3.626(0.057)*
Family support	49	30.6	10	20.4	39	35.1	3.470(0.062)*
Learning equipment	41	25.6	10	20.4	31	27.9	1.009(0.315)
Financial							
Part-time job	61	38.1	18	36.7	43	38.7	0.058(0.810)
Financial assistance	129	80.6	34	69.4	95	85.6	5.710(0.017)**
Financial dependence	54	33.8	17	34.7	37	33.3	0.028(0.867)

Note: *** significant at 1 percent; ** significant at 5 percent; * significant at 10 percent.

DISCUSSION

The study findings indicated that students encountered significant challenges in their learning experiences, especially when it comes to maintaining concentration during online classes. About 67.5% of the respondents admitted the fact that they struggled to focus during these classes. The findings were supported by Abdul Aziz et al. (2020) that indicated face-to-face classes allow students to focus more than online because students are monitored directly in physical classrooms. A long durations of online classes may contribute to a decline in students' ability to maintain concentration on their learning process.

Students also reported that it was difficult to being punctual due to online classes (51.3%). The failure to make it to work in time may probably be related to the weakness in self-regulation, as time management is a significant process within self-regulatory mechanisms. According Wolters and Brady (2021), students carry the responsibility of efficiently managing their time to actively engage in activities that facilitate them to accomplish their academic goals.

The outcome also highlighted the barrier from financial constraints. About 80.6% of students were reported to be embarrassed while seeking financial support from their families to fulfil their online learning requirements. According to Aini et al. (2022) most students feel ashamed to ask for money from their parents because they refused to burden their parents. This finding was in line with the study conducted by Ghazali (2012) which indicated that financial reasons were a significant barrier to online learning because some students were unable to afford online tools and devices.

The findings of this study indicate that a higher proportion of female students experience challenges in completing the online tasks compared to their male counterparts. This finding inconsistent with the outcomes of a prior study conducted by (Feng et al., 2016), which claimed that men allocated less time to do homework compared to female student. According to studies conducted by Yu (2021) and Morante et al. (2017), female students generally demonstrate higher degrees of self-regulation and intrinsic motivation compared to their male counterparts. This finding shows that female students may have better organizational skills and a higher commitment to their studies when compared to male students.

The subsequent observations was also contradict to prior study which is the ability of female students to maintain concentrate during class lower than male counterparts. According Liu et al. (2021), female students show a higher level of concentration during the learning process compared to their male counterparts. There was significant difference in the level of engagement between female and male students whereby female students had higher levels of engagement by actively participating in class discussions (Pryor et al., 2013). One possible explanation for the disparity in results could be attributed to the potential difference in computer skills between female and male students. Research has provided evidence suggesting that males demonstrate a higher level of proficiency in using digital technologies, while a significant number of females may require assistance from the experts in order to successfully accomplish tasks(Vázquez-Cano et al., 2017).

On the other hand, more female students was found to encounters difficulties in communication which is consistent with prior study that demonstrated lower scores in interpersonal communication skills among female students compared to their male counterparts (Ariyani & Hadiani, 2019).

Female students are more likely to express concerns about a less conducive learning environment perceived as less stimulating, possibly due to their more sensitive nature. According to Carrier (2007), female students have higher levels of sensitivity to environmental factors that can impact their learning outcomes. Compared to male, female students have a higher susceptibility to environmental disturbances, particularly noise exhibit by the surroundings (Aligolbandi et al., 2015).

Likewise, in comparison to male, female students were more likely to experience a lower family support especially from parent. Some parents may have the belief that when their children are engaged in remote learning, it presents a great opportunity to request them completing household chores, particularly in the context of female students. According to a study conducted by (Reich et al., 2014), engaging in household chores has been found to interrupt students' study timetables and place significant burden on them.

The study revealed that female students faced more challenges in terms of financial assistance compared to their male counterparts. This probably explained by Kugler et al. (2021) rthat male students have more opportunities to gain extra financial resources through temporary jobs, in contrast to women who have limited options. Therefore, the challenge of female students in obtaining financial aid is more significant than that of men.

CONCLUSION AND RECOMMENDATIONS

The integration of online learning into the education system should be advocated due to its concordance with the advancement of digital technology. Nonetheless, there are many issues and challenges yet need to be addressed. Students need to have a strong sense of self-discipline, especially related to time management, to organize projects and assignments when engaging in online classes that have very little supervision. They have to master technology to assist them in completing their tasks and become more focused on their learning experience. Students also encouraged to set up an appropriate learning environment to enhance concentration during classes. In order to address communication challenges, it is imperative for students to adopt a proactive approach within the classroom setting, utilizing available technological resources to engage in social interactions with both peers and instructors. Teachers can also encourage students to utilize a variety of communication platforms, such as WhatsApp, email, and so on to increase communication between them. Remote learning requires students to have higher organizational skills because they are susceptible to distractions in comparison to traditional classroom settings.

Educational institutions and instructors also hold a significant role in addressing challenges within the learning process. Each institution should formulate effective strategies to foster student engagement comprehensively, ensuring that students feel their learning progress is closely monitored, even in remote learning environments. The presence of family support is very crucial not only to create an effective learning environment at home but also allows for a comprehensive understanding of students' requirements, including the avoidance of unnecessary household chores that could interfere their time of studying. The broad use of online learning has been necessitated by the COVID-19 pandemic, despite the fact that not all individuals are mentally and financially prepared for this mode of education. There is an urgent call for the government to meet the demands of students, particularly through the provision of financial assistance. Hence, the government has the opportunity to alleviate the burden by providing financial aid for students to purchase online learning equipment and resources. By cultivating collaboration from all stakeholders, online learning has the potential to enhance student learning outcomes and produce more active and progressive students in future.

The results indicated that many female students faced more difficulties with online learning compared to male students. Hence, to address challenges in the learning process, especially for female students who often struggle with task completion, communication, and focus during online learning, institutions can intervene by implementing programs that teach effective time management skills. To improve communication among students, especially female students, instructors should frequently organize group discussions with smaller, gender-specific groups at the initial level to create a comfortable environment that can boost their confidence in participating in discussions. Parents need to be informed about the differences between online and traditional face-to-face learning, as well as the types of support students require to succeed with online learning at home. This is important to ensure that parents do not burden their daughters with household chores, allowing them the necessary time and focus to succeed in their online studies.

This study provides a foundation for potential future research. By identifying these challenges, future studies can investigate their effects on students' well-being, exploring both the academic and emotional impacts that may arise from these obstacles.

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