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EFFECTIVENESS OF E-LEARNING FROM ISLAMIC PERSPECTIVES ON THE COVID-19 PANDEMIC: THE CASE STUDY AMONG UNDERGRADUATE IN MALAYSIA

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ABSTRACT

This research paper aims to study the effectiveness and to explore Islamic perspectives of e-Learning during the Covid-19 pandemic. It focuses on the undergraduate business students, who have used online learning as a part of their learning method. This study uses 118 undergraduate business students from different higher-learning institutions in Malaysia. Later, the analysis is conducted using descriptive and cross-tabulation analysis. The findings show that during the emergency e-Learning, many of the students indicated the ineffectiveness of e-Learning due to the factors of unable or slow internet access or connectivity, working in a limited space and constraints of adapting new environment of online learning. Apparently, findings are also showing that instructors have played a big role in ensuring the effectiveness of e-Learning during the Covid-19 pandemic with various online assessment methods. This study provides a finding on the effectiveness of e-Learning during the Covid-19 pandemic among business students in Malaysia. It offers some new insights related to the effectiveness of e-Learning and helps the relevant policymakers to offer an appropriate intervention strategy in optimizing e-Learning in the future.

Keywords: E-Learning, Islamic Perspectives, Covid-19, Higher Learning, Malaysia

INTRODUCTION

In 2020, COVID-19 was declared as a global pandemic by World Health Organization (WHO). Due to the rapid growth in the number of infections caused by the COVID-19 outbreak, it has seriously affected the global economic sector. Higher education systems have been greatly impacted and forced to close, causing significant negative effects on students worldwide (Das et al., 2021). According to UNESCO (2020), this pandemic crisis affected education system, where more than 1.6 billion learners from majority of the countries were impacted due to the closure of education institutions.

The inability to attend physical classes that might affect their academic performance, hundreds of millions of students over the world have been and continue to be impacted by social isolation or self-isolation measures encouraged by their nations' governments. During the time of crisis like COVID-19, education institutions must find out alternative way of conveying the knowledge. In this regard, educational institutions should use e-Learning as a mechanism to keep the students engaged in their studies (Roman and Plopeanu, 2020). For instance, the Malaysian government has replaced face-to-face classrooms with an online learning platform to control the outbreak's spread and reduce the number of infections. It is also to ensure the continuation of the studies by students.

According to Maatuk et al. (2021), e-Learning refers to a formal learning system that uses electronic resources particularly computer technology and internet for the delivery of knowledge. The delivery of knowledge via e-Learning can take place inside or outside the classroom. Indeed, e-Learning is also considered to break the traditional way of teaching or delivery of knowledge and offer various advantageous in terms of more accessible, cheaper, and technology-based learning systems (DePetro, 2020)

Although e-Learning bring some significant impacts and benefits towards the delivery of knowledge, there are some factors can influence the effectiveness of e-Learning. The students are facing various issues related to the technical issue such as internet infrastructure, facilities, lack of an electronic device to access the digital world, and digital literacy (Aung & Khaing, 2015). Indeed, according to study by Obeidat and Al-Shalabi, (2020), most developing countries are experiencing a challenging situation to this transition to online education, as these countries are not well embraced or widely implemented online education compared to the developed countries. For example, the efficiency of e-Learning platform in Korea has been contributes by the proactive involvement of setting a wide-ranging infrastructure (Teo et al. 2020).

In lieu of this, this study aimed to examine the factors that can achieve the effectiveness of e-Learning program during this pandemic situation. It is important to study the factors that can contribute to the effectiveness of e-Learning programs during the pandemic situation because many educational institutions have shifted to online learning as a response to the pandemic. Without proper understanding and implementation of effective e-Learning practices, students may not be able to receive quality education and may experience various challenges, such as technical difficulties, distractions, and lack of engagement, which can affect their academic performance and progress. By identifying the key factors that can lead to the success of e-Learning programs, educational institutions and policymakers can make informed decisions and take necessary actions to improve the quality and accessibility of online education, especially during this challenging time.

e-Learning in Malaysia has gained significant momentum in recent years, especially since the outbreak of the COVID-19 pandemic. The Malaysian government and educational institutions have taken initiatives to promote e-Learning and online education to ensure that students can continue their studies

despite the pandemic situation. The use of technology in education has been encouraged and supported through various policies and initiatives, including the Ministry of Education's e-Learning policy and the Malaysian government's National Broadband Initiative, which aims to provide high-speed internet access to all citizens, including those in rural areas. According to a report by the Malaysian Ministry of Education in 2020, there were over 5.5 million students enrolled in educational institutions in Malaysia. Out of these, around 3.3 million students were affected by the COVID-19 pandemic and were required to participate in online learning. The report also indicated that there was a significant increase in the use of digital learning platforms in Malaysia, with a reported 30-50% increase in the number of students using online learning platforms since the implementation of Movement Control Order (MCO) in March 2020. Additionally, a survey conducted by Malaysian Communications and Multimedia Commission (MCMC) in 2020 showed that the internet penetration rate in Malaysia had reached 89.2%, with 87.4% of households having access to the internet.

However, there are still challenges to implementing effective e-Learning in Malaysia, such as the lack of access to proper technological infrastructure and internet connectivity in some areas, which can affect the quality of online learning for students. Additionally, there may be a lack of training and resources for teachers and students to adapt to online learning, as well as issues with privacy and safety in online environments. The effectiveness of e-Learning can be studied by examining factors such as student engagement, academic performance, satisfaction, and retention rates. Additionally, the impact of various e-Learning tools and technologies on student learning outcomes can be evaluated. By identifying gaps in the current understanding of e-Learning effectiveness, researchers can focus on addressing these gaps to improve the overall quality of e-Learning programs. This may involve exploring new technologies, instructional design strategies, and learning management systems to optimize student engagement and success in online learning environments.

LITERATURE REVIEW

Concept of e-Learning

Researchers and institutions have varying definitions of e-Learning due to its constantly evolving nature and diverse perspectives (N.D. et al., 2012). E-Learning can be broadly categorized into two types: synchronous delivery, which involves real-time interaction in an online classroom, and asynchronous delivery, which consists of material provided by the teacher such as videos and audio recordings that can be downloaded and watched at a later time (Obeidat et al., 2020).

e-Learning refers to the utilization of electronic devices and online networks for long-distance education, revolutionizing the way knowledge is acquired through technology in the modern world. Moore (2010) defines e-Learning as the use of web-based or web-distributed technology tools, which may include CD-ROM, Internet, audio, and videotape delivery. The primary objective of e-Learning is to employ various tools to disseminate knowledge and skills globally. Additionally, according to Arkorful and Abaidoo (2015), e-Learning involves the use of modern multimedia technologies and the Internet to enhance learning quality by providing greater accessibility to facilities and services, as well as enabling remote collaboration and communication.

Effectiveness Of e-Learning Among the Students

In recent years, e-Learning has experienced significant growth, with students worldwide utilizing it to stay connected. However, according to Obeidat et al. (2020), the focus should be on improving and enhancing the effectiveness of this mode of learning. To achieve this, future research and developments

should focus on designing e-Learning systems that go beyond current limitations and promote wider use and adoption.

The use of e-Learning in a learning environment provides a flexible approach to learning that is not constrained by time or location, making it convenient for users (C.Y. Yang et al., 2017). One critical factor in determining the effectiveness of e-Learning is having a proper infrastructure in place (Sfenrianto et al., 2018). However, there are several challenges that need to be considered, such as internet connectivity (Selvanathan, 2020) and access to electronic devices (Asio et al., 2021) for e-Learning. Kapenieks et al. (2015) note that rural areas left behind urban areas in terms of internet speed and reliability. Lack of connectivity can cause students to miss classes and have difficulty accessing online classroom activities, as found in a study by Sathishkumar et al. (2020).

Research has shown that poor home internet connectivity can significantly affect e-Learning success. Students with internet connectivity issues at home are 10% more likely to be ineffective in their studies (Roman & Plopeanu, 2021). Additionally, a lack of computer skills can hinder a student's ability to follow online lessons, which can cause frustration and impede their learning progress, as noted by Sri Gustani (2020). Low-income families are often unable to afford electronic devices and stable internet connections, leading to students not having the necessary equipment to participate in online learning effectively (R. Asio, 2021). According to Adawwiah (2022), insufficient equipment and unstable internet access can affect the effectiveness of the online learning process. Students who have access to high-speed internet and all necessary electronic devices are more likely to be satisfied and motivated to use e-Learning.

Having a designated study space is crucial for students who are studying from home during the pandemic. A quiet and safe environment that allows for focused learning without distractions is essential. According to a study by Bhaumik & Priyadarshini (2020), having a personal space is an important requirement for students in online learning to avoid disruptions and maintain concentration during online classes. Similarly, Das et al (2020) highlight the importance of having a dedicated study space to ensure students can learn without distraction.

Transitioning from a traditional face-to-face classroom to an online learning platform can be challenging for some students who are not used to this mode of learning. However, studies by Gamage et al (2015) have shown that interactions, collaboration, and motivation are key factors that can lead to a successful transition to online learning. Additionally, Nhatuve (2021) suggests that using suitable materials and strategies to promote interaction, engagement, and motivation can increase the effectiveness of e-Learning. Clear feedback and proper instruction in using technology and strategies from the teacher can also encourage student participation in online classrooms. The author highlights the importance of teacher training and support in ensuring effective online learning experiences.

Muthuprasad et al. (2021) emphasized the significance of having a well-organized assessment structure, including quizzes and assignments, to enhance the learning experience. Poorly structured online assessments can be confusing and uninteresting, leading to a lack of motivation among students. In line with this, Meşe and Sevilen (2021) found that students' motivation in e-Learning is affected by unsatisfactory course content and materials, inadequate self-discipline to follow the course, and poor communication between teachers and students. These factors can negatively impact students' engagement and their overall learning experience.

Motivation is essential for successful online learning, and engaging students in creative and interesting ways can help keep them motivated and focused on their studies. Research has shown that the use of interactive technologies, such as gamification, simulations, and virtual reality, can enhance student motivation and engagement in online learning (Dicheva et al., 2015). Additionally, providing

opportunities for student choice and autonomy in their learning, as well as clear goals and expectations, can also contribute to their motivation and success in e-Learning (Ryan & Deci, 2020).

The effectiveness of e-Learning can be improved by effectively addressing barriers such as infrastructure, working space, and adaptability during distance learning. A key factor in successful e-Learning is assessing students' satisfaction with their learning experiences (Strong et al., 2012), and enjoyment of online learning can be a motivating factor for students to acquire new knowledge and have a positive e-Learning experience (Gustiani, 2020).

Islamic Views on Technology - The Case Of e-Learning

In Islam, the acquisition of knowledge is highly encouraged, and the use of technology to facilitate learning is seen as a means of fulfilling this obligation (El-Tahawy, 2008) . E-Learning has become an increasingly popular way to access education and gain knowledge. According to Samin (2012), he emphasizes the importance of adapting to modern times and using technology to spread knowledge. He mentioned that the use of modern technology has able to reach out to people, to educate, to empower, to inform, to get closer to them, and to be able to communicate better. Indeed, the use of technology in education should be viewed as a tool to enhance learning, rather than a replacement for traditional methods.

Sheikh Salman Al-Oadah, a Saudi Arabian Islamic scholar, has praised e-Learning as a means of gaining knowledge in a flexible and convenient way. He has stated that "E-Learning has provided many people with access to knowledge that was previously difficult to attain". On the other hand, Sheikh Muhammad Salih al-Munajjid, a Saudi Arabian Islamic scholar and founder of the IslamQA website, has written extensively on the topic of e-Learning. He has emphasized the benefits of e-Learning, such as the ability to access a wide range of resources and the flexibility it provides for learners. However, he has also cautioned against relying too heavily on e-Learning and neglecting the importance of in-person interaction.

There are some Quranic verses that support the idea of using resources in a responsible and beneficial way, and promoting human welfare through the acquisition of knowledge and development of beneficial technologies (Al Hazani, 2018). For instance, "And do not waste [anything], for indeed, He does not like the wasteful." (Quran 6:141). This verse emphasizes the importance of avoiding wastefulness, which is in line with the Islamic obligation of using resources in a responsible and beneficial way. By developing sustainable technologies and reducing waste, we can fulfill this obligation and promote human welfare.

In addition, in Quran, Allah SWT mentions "Read! In the name of your Lord who created, created man from a clinging substance. Read! And your Lord is the Most Generous, who taught by the pen, taught man that which he knew not." (Quran 96:1-5). This verse emphasizes the importance of seeking knowledge and education, which is a fundamental obligation in Islam. By using technology to access information and facilitate learning, it can fulfill this obligation and promote human welfare through the acquisition of knowledge and skills (Al-Hazani, 2018). These Quranic verses support the idea that using resources in a responsible and beneficial way, acquiring knowledge, promoting healthcare, fostering communication, and reducing environmental impact are all important aspects of promoting human welfare in Islam, and that technology can be a valuable tool for fulfilling these obligations.

METHODOLOGY

Research Design

The present study uses a quantitative approach to achieve the main objectives of this study. The quantitative instruments used in this study are by means of survey questionnaires which are obtained from business students at higher tertiary institutions. It is to examine the factors that can achieve the effectiveness of e-Learning program during this pandemic situation. This methodology enables the researcher to attain systematic and comprehensive results of the study.

Measurement Instruments

For this study, the constructs and items used were taken from existing literature and modified to fit the study's objectives. The scale items were rated on a five-point Likert scale, ranging from strongly disagree (1) to strongly agree (5). In order to understand the behavior of the student in term of usage of technology, dichotomous data is also being used (Yes/No). The items were adapted from various sources, including Thakur (2014) and Roman & Plopeanu, (2021). The questionnaire consists of 3 sections which include demographic (section 1), e-Learning and pandemic situation (section 2), and technology (section 3).

Data Collection Procedure and Sample

This study uses the convenience sampling method. A survey using self-administered questionnaire was used to collect data. This procedure took place in September 2021- November 2021. The respondents are among the business students at higher tertiary institutions in Malaysia. The questionnaires were distributed online by using Google Form through social media platforms such as WhatsApp, Instagram, and Facebook. From the total 200 surveys distributed, only 118 have been completed and used for the analysis purposes.

Data Analysis

This research analyzed the data gathered using Statistical Package for Social Sciences (SPSS) software v26. Univariate and bivariate analyses which include descriptive statistics and cross tabulation analysis were conducted in order to meet with the objectives of the study.

RESULTS

Research Findings and Discussions

Descriptive Analysis

The survey questionnaires were distributed through Google Forms, which were shared on social media platforms like WhatsApp, Instagram, and Facebook. A total of 118 respondents participated in the survey, comprising 68 male respondents (57.6%) and 50 female respondents (42.4%). These respondents belonged to six different business courses, including Bachelor of Business Management (33 respondents or 28%), Bachelor of Business Administration (37 respondents or 31.4%), Bachelor of Accounting (29 respondents or 24.6%), Bachelor of Economics (17 respondents or 14.4%), Bachelor of Marketing (1 respondent or 0.8%), and Bachelor Office Management (1 respondent or 0.8%). In terms of the academic year of the respondents, the majority were in year 4 (34.7%), followed by year 3 (32.2%), year 2 (21.2%), year 1 (9.3%), and year 5 (2.5%). Regarding residence, more respondents lived in urban areas (64 or

54.2%), while fewer lived in rural areas (54 or 45.8%). Table 1 provides more details on the respondents' demographic characteristics.

Table 1
Demographic Analysis of the respondents (n=118)

Items	Categories	Frequency	Percentage (%)
Gender	Male	68	57.6
	Female	50	42.4
Study Courses	Bachelor of Business Management	33	28.0
	Bachelor of Business Administration	37	31.4
	Bachelor of Accounting	29	24.6
	Bachelor of Economics	17	14.4
	Bachelor of Marketing	1	0.8
	Bachelor Office Management	1	0.8
Academic Year	Year 1	11	9.3
	Year 2	25	21.2
	Year 3	38	32.2
	Year 4	41	34.7
	Year 5	3	2.5
Residence	Rural	54	45.8
	Urban	64	54.2

Table 2 displays the results of the survey on the current status of using electronic devices for academic purposes among the 118 respondents. The majority of respondents (112 or 94.9%) reported using smartphones for academic purposes, followed by 95 respondents (80.5%) who use laptops, 70 respondents (59.3%) who use PCs, and 62 respondents (52.5%) who use tablets. However, 53 respondents (44.9%) reported not having the necessary technological infrastructure to use for online learning.

Table 2
University Student's Devices That Being Used During Online Classroom

Items	Categories	Frequency		Percentage (%)
Electronic devices mainly used in online teaching activities	Laptop	Yes	95	80.5
		No	23	19.5
	PC	Yes	70	59.3
		No	48	40.7
	Smartphone	Yes	112	94.9
		No	6	5.1
	Tablet	Yes	62	52.5
		No	56	47.5
	Don't have the necessary technological infrastructure	Yes	53	44.9
		No	65	55.1

Table 3 presents a cross-tabulation analysis of the relationship between students' residence area (rural/urban) and the problems they encountered while using online platforms for academic purposes. The results show that students in rural areas faced more difficulties with e-Learning compared to their urban counterparts. For example, 41 (52.6%) respondents from rural areas reported poor internet access and were dissatisfied with their internet connectivity during online learning, while only 13 (32.5%) reported satisfactory internet access. This issue may be due to the lack of updated infrastructure in rural areas compared to urban areas. Furthermore, 36 (54.5%) respondents from rural areas reported not having the necessary technology infrastructure, such as a computer or other electronic devices, for online learning, while only 18 (34.6%) reported having the necessary technology.

In contrast, students in urban areas faced different challenges with e-Learning, including a lack of time, as reported by 42 (53.2%) respondents, and a lack of adequate workspace, reported by 46 (52.3%) respondents. Urban students face more space-related problems compared to rural students because most urban areas are more crowded and compact than rural areas. Additionally, the cost of education was reported to be lower in urban areas, with 37 (55.2%) respondents reporting this, compared to rural areas. However, both rural and urban students reported similar levels of stress related to the pandemic, with 40 (50%) respondents from both areas reporting this issue.

Table 3

Cross-Tabulation (students encountered the following situations in the online study and the residence area (rural/urban)

			Residence	
			Rural	Urban
I do not have satisfactory internet access	Yes	Count	41	37
		%	52.6%	47.4%
	No	Count	13	27
		%	32.5%	67.5%
I do not have the necessary technological infrastructure (computer) for online teaching	Yes	Count	36	30
		%	54.5%	45.5%
	No	Count	18	34
		%	34.6%	65.4%
Lack of time required (due to other family obligations)	Yes	Count	37	42
		%	46.8%	53.2%
	No	Count	17	22
		%	43.6%	56.4%
Stress due to the danger of the coronavirus pandemic for me or those close to me	Yes	Count	40	40
		%	50.0%	50.0%
	No	Count	14	24
		%	36.8%	63.2%
Lack of adequate workspace	Yes	Count	42	46
		%	47.7%	52.3%
	No	Count	12	18
		%	40.0%	60.0%
I have lower costs for education	Yes	Count	30	37
		%	44.8%	55.2%
	No	Count	24	27
		%	47.1%	52.9%

Table 4 displays a cross-tabulation of the preferred learning methods among students from six different business courses, including classroom learning, hybrid learning, and online learning. The results indicate that out of the 118 respondents, the highest preferred learning method is still traditional classroom learning, with 100 students (84.7%) selecting it as their preferred method. The Bachelor of Business Management and Administration courses had the highest number of respondents, with 30 students (30%) selecting traditional classroom learning. This could suggest that these students prefer face-to-face instruction, which they believe can help them better understand certain subjects compared to online learning.

The hybrid learning method was the second most preferred approach among the 118 respondents from six business courses, with 92 respondents selecting it. This approach allows students to combine traditional classroom instruction with online learning. Among the six courses, Business Administration students were the most enthusiastic, with 30 (32.6%) selecting hybrid learning as their preferred method. On the other hand, online learning was the least popular, with 88 respondents citing technical difficulties as the primary issue. Table 3 indicates that many respondents were dissatisfied with their internet connection or lacked the necessary equipment to participate in online classes. Among the Business Administration students, 30 students (34.1%) were the most dissatisfied with online learning.

Table 5 reveals that many students primarily used several platforms for online teaching activities. Among the platforms, the highest number of respondents, 110 (93.2%), used Zoom, followed by 109 (92.4%) selecting Google Classroom, 107 (90.7%) using email, 102 (86.4%) utilizing the university platform, and 95 (80.5%) using other platforms. The least popular platform was Skype, with only 52 (44.1%) respondents selecting it. These applications allowed students to continue their studies flexibly and stay connected regardless of time and place. Zoom was the most popular choice among students, offering several benefits such as video recording and ease of accessibility. In contrast, Skype was the least preferred platform, possibly due to its limited benefits compared to other platforms.

Table 4.

Cross Tabulation (relationship between business course student and their preferred learning method)

			Business course						
			Bachelor of Business Management	Bachelor of Business Administration	Bachelor of Accounting	Bachelor of Economics	Bachelor of Marketing	Bachelor Office Management	Total
Classroom learning	Yes	Count	30	30	26	13	0	1	100
		%	30.0%	30.0%	26.0%	13.0%	0.0%	1.0%	
	No	Count	3	7	3	4	1	0	18
		%	16.7%	38.9%	16.7%	22.2%	5.6%	0.0%	
A hybrid learning	Yes	Count	26	30	23	12	0	1	92
		%	28.3%	32.6%	25.0%	13.0%	0.0%	1.1%	
	No	Count	7	7	6	5	1	0	
		%	26.9%	26.9%	23.1%	19.2%	3.8%	0.0%	26
Online learning	Yes	Count	23	30	22	11	1	1	
		%	26.1%	34.1%	25.0%	12.5%	1.1%	1.1%	88
	No	Count	10	7	7	6	0	0	
		%	33.3%	23.3%	23.3%	20.0%	0.0%	0.0%	30

Table 5.

Platforms were mainly used for online teaching activities

Items	Categories	Frequency		Percentage (%)
Platforms were mainly used for online teaching activities	University / faculty platform	Yes	102	86.4
		No	16	13.6
	Zoom	Yes	110	93.2
		No	8	6.8
	Google Classroom	Yes	109	92.4
		No	9	7.6
	Skype	Yes	52	44.1
		No	66	55.9
	Email	Yes	107	90.7
		No	11	9.3
	Others	Yes	95	80.5
		No	23	19.5

Table 6 displays the relationships between gender and the effectiveness of online learning and lecturer. Both male and female respondents were asked to share their views on the effectiveness of online learning during the pandemic situation and whether lecturers played a significant role in achieving effective online learning. The responses were categorized as strongly disagree, disagree, neutral, agree, and strongly agree. The response rate for both effective online learning and effective lecturer increased from lower to higher, following this order of categories.

According to the table, both male and female respondents had a similar response across the five Likert scales. Both genders strongly agreed that online learning is effective during the pandemic, with 33 out of 68 male students and 24 out of 50 female students selecting this option. This may be attributed to the availability of multiple platforms for online learning, providing students with the flexibility to learn at their own pace and convenience.

Similarly, having an effective lecturer was found to be crucial for students' understanding of course material, with 32 out of 68 male students and 33 out of 50 female students strongly agreeing with this statement. While a small proportion of respondents strongly disagreed, the majority recognized the importance of an effective teaching style in boosting motivation and enhancing learning outcomes for students in the online classroom.

Table 6.
Cross-Tabulation (Effective online learning and lecturer with gender)

		Gender	
		Male	Female
effective online learning	Strongly disagree	4	3
	Disagree	5	5
	Neutral	8	4
	Agree	18	14
	Strongly Agree	33	24
Total		68	50
		Gender	
		Male	Female
effective lecturer	Strongly disagree	3	1
	Disagree	8	5
	Neutral	13	4
	Agree	12	7
	Strongly Agree	32	33
Total		68	50

Table 7 indicates that students are highly concerned about the COVID-19 pandemic, with a mean score of 7.83 out of 10. This suggests that they are very worried about the current situation that is affecting the world. Table 8 shows the cross-tabulation between the current issue situation and gender. The study found that many students are experiencing depression, anxiety, worry, lack of hope, stress, and loneliness during the pandemic while using online learning. In terms of depression, 57.4% of male respondents and 46% of female respondents reported that their condition had worsened during the pandemic.

For anxiety, 44.1% of male respondents and 28% of female respondents reported that their condition was the same as before. Regarding worry, 61.8% of male respondents and 52% of female respondents reported that their condition had worsened during the pandemic. In terms of lack of hope, 44.1% of male respondents reported that their condition was the same as before, while 30% of female respondents reported that their condition had worsened.

For stress, 55.9% of male respondents and 44% of female respondents reported that their condition had worsened during the pandemic. Finally, for loneliness, 36.8% of male respondents and 44% of female respondents reported that their condition had worsened during the pandemic. Overall, male respondents seemed to be more affected by the current issues of depression, worry, stress, and loneliness, with a higher proportion reporting that their condition had worsened during the pandemic.

Table 7
Concerned about the Covid-19 crisis

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Concerned about Covid 19	118	3	10	7.83	1.686
Valid N (listwise)	118				

Table 8.

Cross-tabulation (current issue situation that students face during this pandemic and toward the gender

		Current Issue Situation				
Issue	Gender	Worse than before	The same as before	Better than before	Not at all affected	It is not my case
Depression	Male	39 (57.4%)	13 (19.1%)	8 (11.8%)	4 (5.9%)	4 (5.9%)
	Female	23 (46.0%)	7 (14.0%)	8 (16.0%)	10 (20.0%)	2 (4.0%)
Anxiety	Male	14 (20.6%)	30 (44.1%)	19 (27.9%)	5 (7.4%)	0 (0.0%)
	Female	13 (26.0%)	14 (28.0%)	11 (22.0%)	9 (18.0%	3 (6.0%)
Worriness	Male	42 (61.8%)	16 (23.5%)	5 (7.4%)	4 (5.9%)	1 (1.5%)
	Female	26 (52.0%)	6 (12.0%)	14 (28.0%)	2 (4.0%)	2 (4.0%)
Lackofhope	Male	22 (32.4%)	30 (44.1%)	10 (14.7%)	3 (4.4%)	3 (4.4%)
	Female	15 (30.0%)	10 (20.0%)	9 (18.0%)	11 (22.0%)	5 (10.0%)
Stress	Male	38 (55.9%)	15 (22.1%)	10 (14.7%)	5 (7.4%)	0 (0.0%)
	Female	22 (44.0%)	9 (18.0%)	13 (26.0%)	3 (6.0%)	3 (6.0%)
Loneliness	Male	25 (36.8%)	24 (35.3%)	11 (16.2%)	1 (1.5%)	7 (10.3%)
	Female	22 (44.0%)	7 (14.0%)	7 (14.0%)	10 (20.0%)	4 (8.0%)

The study reveals that having a reliable technological infrastructure is crucial for students to engage in e-Learning. Internet access is a fundamental part of online learning, and a cross-tabulation analysis was conducted to examine the relationship between students' residency and their experiences with online learning. The results show that students living in rural areas encounter more challenges in accessing good internet connections (52.6%) than those living in urban areas (47.4%). However, the majority of students in urban areas (67.5%) still face issues with getting good internet access. These findings support previous studies by Roman & Plopeanu (2021) and V.Sathishkumar et al. (2020), which demonstrate that students who lack proper internet connectivity are likely to face challenges in their academic pursuits.

Apart from internet access, electronic devices are also crucial for a successful e-Learning experience as they enable students to interact in online classrooms. The study's results suggest that most students possess the required technology, with smartphones being the most popular device (94.9%), followed by laptops and computers. Tablets do not seem to have a significant impact on the learning process. These findings align with those of a study conducted by R. Asio (2021), which also reported that the majority of students attending classes used smartphones.

Furthermore, it is important to have a comfortable and safe working space that respects the privacy of the student during online learning. The results indicate that 88 out of 118 students do not have an appropriate space at home. This can be a significant distraction to students' focus during the learning

process, as noted by Priyadarshini (2020). The study also found that male students are more affected by depression, worriness, stress, and loneliness, as their current issue situation has worsened compared to before.

The adaptability of students to shift from traditional learning to online learning during the pandemic situation can be challenging. In a survey of 100 students, most of whom were from the Bachelor of Business Management and Administration program, classroom learning was preferred over hybrid and online learning. However, online learning has proven effective during the pandemic, with 57 students strongly agreeing that it helps in their learning activities.

Moreover, an effective lecturer is crucial for students to understand and communicate effectively, with 65 students strongly agreeing that the way the lecturer teaches in the online classroom is important in attracting and boosting their motivation to learn. Similar findings were reported by Nhatuve (2021) and Gamage et al. (2015).

In light of these findings, school management and government officials should consider the best course of action for delivering effective learning with a sound academic approach.

CONCLUSION

The research conducted on 118 undergraduate business students at higher tertiary institutions in Malaysia provides a comprehensive understanding of the effectiveness of e-Learning during emergencies and the benefits it offers. In the early period of pandemic, many students were faced challenges with internet access.
In some areas, especially in rural areas, there was inadequate internet infrastructure. This has resulted in slow or unreliable internet connections, making it challenging for students to participate in online learning effectively. Therefore, the government needs to upgrade or maintain the infrastructure to provide students with stable and high-speed internet connectivity for online classroom activities. Despite these challenges, students are satisfied with e-Learning, even though they encounter technical problems.

Additionally, the study found that smartphones are an effective tool for e-Learning due to their easy access to free applications. To ensure all students can continue their studies, the government or academic institutions should provide or sponsor electronic devices to those who do not possess the necessary equipment. Private space is also crucial for students to focus during online learning without being distracted by family members or surrounding noise. This may explain why students prefer classroom learning over hybrid or online learning, where they can interact with their lecturers in person, without any technical or distraction issues.

Moreover, the study emphasizes the critical role of lecturers in the effectiveness of e-Learning. Lecturers should be trained in technology and strategy skills to encourage student participation and engagement in online learning. Effective communication and task strategies will motivate students to use e-Learning without any difficulties, and timely feedback from the lecturer will aid in their progress. Therefore, it is essential to invest in lecturer training to ensure effective e-Learning experiences for students.

RECOMMENDATIONS FOR FUTURE RESEARCH

In order to improve the accuracy of the analysis and reduce bias, it is recommended that future research expands the sample size of certain subgroups, such as university students. This study only included 118 students higher tertiary institutions in Malaysia who were enrolled in 6 business courses, so it would be beneficial to conduct similar studies at other disciplines. Additionally, conducting interview sessions can provide the opportunity for researchers to ask additional questions or explore new areas of inquiry. Future research that targets specific subgroups may provide a more detailed understanding of effective e-Learning for those groups.

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