

THE EFFECTIVENESS OF ONLINE LEARNING DURING COVID 19 OUTBREAK AMONG STUDENTS IN NDUM

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Abstract

Due to the spread of the coronavirus, the worldwide higher education environment has shifted considerably in recent months. Online learning is a new style in any university throughout the world, and Malaysia must completely embrace it in order to maintain its educational system. The goal of this research is to investigate, identify, and explain the effectiveness of online learning among students at Malaysia's National Defence University (NDUM). A total of 162 participants were chosen from this study using probability sampling procedures. To acquire the relevant information from the sample, the researchers employed a questionnaire that was disseminated via Google Form to students at the National Defence University of Malaysia (NDUM). This study used descriptive analysis, Pearson correlation analysis, and multiple regression line analysis. The data was also analysed using the Statistical Package for Social Science (SPSS) version 23 software. The findings revealed that all of the independent variables, namely the learning environment, motivation, and technology use, have a strong positive connection. Furthermore, the findings suggest that there is a modest link between technology and online learning effectiveness, however there is a strong positive correlation between the learning environment, motivation, and online learning effectiveness during the COVID-19 epidemic. The outcomes of this study can assist universities and practitioners in emphasising students' needs, leading to a review of present online learning practises.

Keywords: Online Learning, Covid 19, Motivation, Technology, Learning Environment, NDUM

1. Introduction

The COVID-19 pandemic outbreak presents unprecedented threats to human security in many areas, not only to Malaysia but also to the whole world. When the COVID-19 virus landed in Malaysia in early January 2020, most Malaysians were unable to understand and never anticipated the severity of the SARS-CoV-2 virus. The Malaysian government began to panic when the number of positive COVID-19 cases increased significantly, with the first two deaths reported on 17th March 2020 [1]. Consequently, Malaysia turned inward to protect its territory, an approach undertaken by many other nations. The federal government reacted quickly and implemented public health responses to alleviate the mass panic and protect Malaysians, namely the Movement Control Orders (MCO), Emergency Ordinance Proclamation (EOP) and etc. The

COVID-19 pandemic outbreak had made life more difficult for many Malaysians during MCO [2], all governmental and private higher education institutions (IPTs) and skills training institutes in the country has to be closed. The closure order has had a significant impact not just on the general population but also on students [3]. As a result of the pandemic, institutions were forced to conduct all of their activities with students completely online while the student go online from their home [4].

Learning from home may be challenging due to a variety of variables that might cause students to lose attention, such as schoolwork, limited internet access, family concerns, and so on [5]. One of the issues that will occur is the students' knowledge of the topic, particularly when it comes to subjects that demand more calculation and understanding [6]. As a critical component of higher education, educators must be able to assist students with lectures, content delivery, and even evaluation systems. Online education entails the use of technology, in which students are constantly tasked with completing various activities and making judgments [7].

The most distinguishing feature of online learning is its convenience and flexibility for lecturers and students, particularly in terms of scheduling online learning regardless of location [8]. However, this is not the case in reality. The majority of students encounter numerous difficulties when it comes to online education. Creating assessments for face-to-face learning during online is difficult. The factor and home learning may influence the student's motivation. The faculty should encourage and facilitate active participation. Students must provide online courses and other services to encourage academic continuity. Next, not all students have access to technology and some of their parents cannot afford to have PCs and IT devices at home[9].Moreover, some universities lack the infrastructure or resources to offer immediate online learning [10].Therefore, the objectives of this study are as follow:

- I. To determine the level of students' effective online learning from home during Covid19 MCO.
- II. To determine the level of students' learning environment from home during Covid19 MCO
- III. To determine the level of students' motivation from home during Covid19 MCO
- IV. To determine the level of students' technology from home during Covid19 MCO
- V. To determine the relationship between students' learning environment, motivation and technology with effective online learning from home during Covid19 MCO.

2.Literature Review

The global epidemic of COVID-19 produced drastic changes in almost every aspect of life and work, and higher education was no exception. With Malaysia introducing a movement control order (MCO) on the 16 March 2020, to combat the spread of Covid-19, the Malaysian Ministry of Education (MOE) has implemented learning from home. By using the internet, lecturer and students can be in different places at the same time lecturers can produce online teaching resources that students can access at any time[11]

Online learning, often known as E-learning, is a modern kind of education that replaces traditional face-to-face instruction[12]. E-learning may transmit and distribute materials in a variety of formats, including e-mails, slideshows, videos, PDFs, and Word documents[13]. Users can also participate in live online classes, communicate with teachers through messaging,

and participate in a chat forum. E-learning is a bridged technique that allows you to feel as if you're in a classroom [14].

The learning environment is the location where students learn under a variety of settings [15]. These factors may influence students' sense of well-being, classroom connections, teamwork, efficiency, and health. One of the problems for management is to provide a stimulating learning environment for its students. This is due to the fact that the quality of the learning environment influences students' motivation and performance [16]. According to [17] when an individuals are confronted with a novel learning environment and a high degree of learner control, they exhibit negative behaviours.

Motivation is defined as a factor that drives a student to want to learn more than their peers[18]. The participation of students in learning activities is critical, both internally and externally [19]Intrinsic motivation is a type of inner energy that stems from individualism and encourages interest, self-requirement, self-determination, self-regulation, and learning autonomy[20]. External motivation refers to outside influences that promote and excite learners[21]. Extrinsic motivation is an external element that improves learner behaviour, learning themes, teacher-learning tactics, teacher-learning procedures, student-teacher interactions, and so on. External motivation is one of the effective method of motivating students to attain academic goals [22]. Additionally, motivation writings demonstrate that five critical motivating factors of online courses, learning processes, teacher roles, involvement and attention, the environment or technical infrastructure for online courses, and time management are critical in motivating students during their online studies. All of these variables may be characterised as extrinsic motivators for students in an online learning environment [23].

The 21st is frequently referred to as a technological age. Today, technology plays a significant part in our lives.This is because technology has made our jobs significantly easier and more efficient[24]. The impact of technology can be felt in virtually every industry, one of which is education [25]. The role of technology in education is fourfold: it is part of the curriculum, an instructional delivery method, an aid to instruction, and a tool to enhance the entire learning process[26]. Technology has made teaching more participatory and aggressive. Corporate and academic education are vital. In the former, workers are educated or trained to perform things differently [27]. In the latter, education is designed to arouse pupils' curiosity. In either scenario, using technology can help pupils learn and remember topics. The utilisation of current equipment, technology, and tools promotes student learning and involvement [28]. With the help of technology, they find it more engaging and full of interesting regions and knowledge transfer becomes simple, convenient, and effective[29].

3.Research Methodology

The purpose of this study was to investigate, identify, and explain the effectiveness of online learning among students at NDUM. This study employed a quantitative approach using a set of questionnaires. The selection of respondents was done via probability sampling. All respondents were recruited voluntarily and informed of the objectives of the study. This study involved a sample size of 162 students in NDUM. The questionnaire instrument used consists of five (5) parts namely (i) Part A: Demographics of Respondents, (ii) Part B: Level of Learning Environment, (iii) Part C:

Level of Motivation , (iv) Part D: Level of Technology and (v) Part E: Level of Effectiveness of Online Learning. A five-point Likert scale was used (5 = strongly agree - 1 = strongly disagree).

4. Research Findings and Discussion

Descriptive statistical methods were used by the researchers to describe the information obtained from respondents, processed, analyzed, and evaluated by referring to the mean and frequency of methods used. Table 1 shows the interpretation scale used for the mean of this study.

Table 1 Interpretation of Mean Scale

Mean value	Interpretation Mean
1.00 – 2.33	Low
2.34 – 3.67	Moderate
3.68 – 5.00	High

Source: [30]

4.1 Level of students' Effectiveness online learning from home during Covid19 MCO.

As demonstrated in Table 2 ,the analysis of students' level of effectiveness online learning from home during Covid 19 MCO. From the analysis, the researchers found that the highest average value was 4.06 which stated, " I can use whatever selected online learning application ". The present student generation, dubbed the 'Z Generation,' was born and nurtured in an Internet and Information and Communication Technology (ICT) period and is frequently exposed to the advancement of computer-based technology and electronic equipment. [31]. Meanwhile, the lowest item referred to " I can understand what I learn from online learning " with an average value of 3.47. Overall, the average value of students' level of effectiveness online learning was 3.74 which was at a high level.

Table 2 Level of students' effectiveness online learning from home during Covid19 MCO

No	Item	Score Mean	Level
1	I can use whatever selected online learning application	4.06	High
2	I find it easy to follow the module contents when learning online	3.69	High
3	Any assignment given by the lecturer is easily submitted through the selected application	3.92	High
4	I have no problem in answering the quizzes that has been given through online	3.74	Moderate
5	I have no problem to answering the final exam paper that has been given online	3.78	High
6	I can understand what I learn from online learning	3.47	Moderate
7	I will not face any problem to apply what I learn from online learning	3.54	Moderate
	Total	3.74	High

4.2 Level of students' Effectiveness online learning from home during Covid19 MCO.

Table 3 illustrate the analysis of students' level Learning Environment from home during Covid 19 MCO. From the analysis, the researchers found that the highest average value was 4.02 which stated, " I have the necessary equipment such as computers, telephones and network to perform my assignments at home". Meanwhile, the lowest item referred to " I have a quiet learning environment to stay focused in the my online learning " with an average value of 3.51. Overall, the average value of students' level of Learning Environment was 3.75 which was at a high level.

Table 3 Level of students' Learning Environment from home during Covid19 MCO

No	Item	Score Mean	Level
1	I am happy with my workspace when learning from home	3.70	High
2	I have a conducive study space away from family distractions to perform my study at home	3.58	Moderate
3	I have a comfortable study space such as tables and chairs to perform my assignments at home	3.82	High
4	I have the necessary equipment such as computers, telephones and network to perform my assignments at home	4.02	High
5	I have a safe place to do online learning	3.89	High
6	I am able to adapt myself with the online learning environment	3.76	High
7	I have a quiet learning environment to stay focused in the my online learning	3.51	Moderate
	Total	3.75	High

4.3 Level of students' Motivation from home during Covid19 MCO.

Based on Table 4, the result of the analysis of students' level of Motivation from home during Covid 19 MCO. From the analysis, the researchers found that the highest average value was 3.98 which stated, " I always complete my assignments on time". A person who was highly motivated to study may devote himself or herself to the task with enthusiasm, and desire. In the other hand, students with poor motivation, were lethargic and did not want to accomplish any of the lesson's duties [32]. Meanwhile, the lowest item referred to " I really enjoy online classes " with an average value of 3.68. Overall, the average value of students' level of motovation was 3.80 which was at a high level.

Table 4 Level of students' Motivation from home during Covid19 MCO

No	Item	Score Mean	Level
1	I really enjoy online classes	3.68	High
2	I am focused on my assignments and tasks given	3.69	High
3	I will ask questions when I don't understand	3.67	High
4	I always complete my assignments on time	3.98	High
5	I often refer to lecturers when I have problems in completing my assignments	3.81	High
6	I made my own notes to better understand the lessons I had learned	3.85	High
7	I am always punctual for online lessons	3.89	High
8	I always participate in discussions with lecturers during online classes	3.85	High
	Total	3.80	High

4.4 Level of students' Technology from home during Covid19 MCO.

Based on Table 5, the result of the analysis of students' level of Technology from home during Covid 19 MCO. From the analysis, the researchers found that the highest average value was 3.61 which stated, " I am able to download and use the necessary learning application such as Microsoft Teams, Zoom, Google Classroom and others for learning ". The usage of online meeting application was not only able to transform traditional modules, programme fees, and classrooms into an online version, but it also led to a very flexible teaching and learning environment [33].Meanwhile, the lowest item referred to " I have had training to use the necessary applications and technology in performing my assignment and learning from home " with an average value of 3.34. Overall, the average value of students' level of motovation was 3.95 which was at a high level.

Table 5 Level of students' Technology from home during Covid19 MCO

No	Item	Score Mean	Level
1	I have a good internet connection to do my learning at home	3.56	Moderate
2	I have the necessary technology such as computers, tablets, laptops and telephones to do my learning from home	3.48	Moderate
3	I have a strong internet connection to perform video conferencing and online communication	3.60	Moderate
4	I have the experience to use technology to do my learning from home.	3.60	Moderate
5	I have had training to use the necessary applications and technology in performing my assignment and learning from home	3.34	Moderate
6	I am able to download and use the necessary learning application such as Microsoft Teams, Zoom, Google Classroom and others for learning	3.61	Moderate
	Total	3.95	High

4.5 The relationship between students' learning environment, motivation and technology with effective online learning from home during Covid19 MCO.

The relationship between learning environment(X_1) , motivation(X_2) , technology(X_3) , and effectiveness online(Y) learning , was investigated using Pearson product-moment correlation coefficients (r). By referring to Table 6, it was found that there was a relationship between Learning Environment and Effectiveness Online Learning is ($r= 0.697$). The positive correlation Coefficient of 0.697 being the score for communication is on increase alongside with effectiveness online learning. By referring to [34] that if students have no difficulty learning connectivity in any context, the system will have a competitive advantage. One of the managerial tasks is to provide an energising learning environment for its students. This is because the quality of the learning environment has an effect on students' motivation and performance [35]. It established that each individual must take responsibility for creating and locating a space that provides a high-quality, comfortable, and safe environment.

Besides that,the relationship was found between Motivation (X_2) and effectiveness online learning (Y) was ($r= 0.690$). The relationship indicated a moderate positive linear relationship between them. This shows that scores for motivation increases together with the scores for effectiveness online Learning. The participation of students in learning activities is critical, both internally and externally. Intrinsic motivation is a type of inner energy that stems from individualism and encourages interest, self-requirement, self-determination, self-regulation, and learning autonomy. According to [36], organisation must employ a combination of learning approaches to get the correct content in their plans to the right people at the right time.The desire to meet these demands is a motivator for someone to achieve anything, including labour.Commitment on the part of students is one of the

keys to academic achievement. Academic commitment on the part of students will result in beneficial outcomes such as improved student performance[37]

Furthermore, the relationship between Technology (X₃) and effectiveness online learning (Y) also showed positive linear correlation was (r= 0.473). The results show that there is also a positive relationship between those two variables and the relationship is low. In order for students to improve, the faculty needs to think about the virtual classroom and use technology to help them learn and it will be more effective if proper training has been given [38]. Without effective and appropriate use of technology, it will create gaps in the process of exchanging knowledge. It further states that a lack of technological infrastructure will reduce student enthusiasm while also making online learning inefficient [39].

Table 6 The Relationship between students’ learning environment, motivation and technology with effective online learning from home during Covid19 MCO

Variables			Y	X ₁	X ₂	X ₃
Y	Effectiveness Online Learning	R Sig. (2-tailed)	1			
X ₁	Learning Environment	R Sig. (2-tailed)	.697**	1		
X ₂	Motivation	R Sig. (2-tailed)	.690**	.699**	1	
X ₃	Technology	R Sig. (2-tailed)	.473**	.563**	.625**	1

5. Conclusion

In conclusion, the research found that significant findings between the learning environment, motivation, technology, and the success of online learning are obvious. All variables exhibited a strong correlation. It is widely believed that the most successful method of achieving efficacy in online learning is through improved student learning in their studies. For the theoretical and practical contribution, on this study provides the academics and the practitioners a platform for other studies in the same area, specifically in the context of higher education in Malaysia. This study will enlighten practitioners, students and academics who wish to understand more about the benefits of online learning as a medium of instruction for impacted students. Online education as a medium for learning may be more accessible to colleges or institutions. The research findings will be used to make recommendations on how to improve the learning process.

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