



Covid-19 catastrophe: Internet based learning and safety among foundation students of Universiti Utara Malaysia

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APA Citation:

Rathakrishnan, M., Singh, M.K.S., Raman, A., Dzakiria, H., & Don, Y.B. (2021). Covid-19 catastrophe: Internet based learning and safety among foundation students of Universiti Utara Malaysia. *Journal of Language and Linguistic Studies*, 17(4), 2142-2153. Doi: 10.52462/jlls.155
Submission Date:05/06/2021
Acceptance Date:25/08/2021

Abstract

In student-centered learning, UUM Foundation students (FS) must take a more active role in building knowledge. The goal of this research is to investigate the effectiveness of internet-based learning for UUM FS students during the Covid-19 disaster, as well as the ways in which students protect themselves when using the internet. University students have been obliged to go online due to the COVID-19 disaster and the introduction of Movement Control Order (MCO). During the COVID-19 tragedy, there were a number of hurdles that impacted the effectiveness of internet-based learning, including internet connectivity and budgetary difficulties. At this point, even student safety is crucial. The effectiveness of internet-based learning and safety among UUM FS are investigated in this study using a descriptive-normative approach. Physical data collection could not be done due to MCO. A multi-stage sampling procedure was employed to choose 130 pupils from a group of 200. In addition, Google Meet and WhatsApp were used to conduct interviews to obtain replies to questions about internet-based learning and safety. In comparison to before Covid-19, 119 percent of respondents (92 percent) spent more than 4 hours per day. During the Covid-19 disaster, 48 percent or 62 FS preferred Zoom app for internet-based learning, and 56 percent of FS evaluated themselves as having the highest level of safety. In an interview, FS stated that internet-based learning has numerous advantages, including the ability to submit assignments via the e-learning UUM portal, which he considers to be one of the best. FS are also less likely to become infected because they do not have to interact with other people. The study's findings revealed that internet-based learning is quite successful, according to FS. Students' safety is also ensured because they are not needed to leave their homes or places of residence in order to complete their studies. UUM FS must survive, be self-sufficient, and adjust to the changes despite the COVID-19 disaster.

Keywords: Covid-19 catastrophe; Internet-based Learning; Safety; Foundation Students

1. Introduction

During the Covid-19 catastrophe, internet-based learning has emerged as the primary means of rapidly disseminating knowledge to a broad audience, transcending time and space limitations. Internet technology has changed the pattern of group interaction and is well perceived, including business,

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economic, social, and cultural diversity. Internet-based learning has contributed to society, particularly among university students who are ultimately still in their cycle and full of curiosity (Zuheir, Soheil Salha & Bochra Kouraichi, 2021). The use of the internet has benefits, but its use needs to be determined by the provision of various facilities

The Malaysian government had implemented standard operating procedure (SOP) where it is a set of new policies to help the people to carry out routine operations during the pandemic. Meanwhile, the Education Ministry changed the education system from face-to-face classes to online to ensure students' safety from primary school, secondary school, and university. University Utara Malaysia (UUM) students, especially Foundation students (FS), are well aware of their circumstances. They must obey all the standard operating procedures (SOP) and follow what is suitable for their safety.

In students centred learning, UUM FS need to be more active in constructing the knowledge. FS should make sense and elaborate on the new information acquired in class individually or in the group. Furthermore, UUM Management Foundation Programme emphasizes Critical Thinking Skills (CTSS). It is incorporated into the curriculum to help develop a well-balanced individual, sensitive people, Internet literate, ability to communicate and think critically.

As internet-based learning had become a new norm and known as one of the most important platforms, foundation students need to take care of their safety and familiarise themselves with virtual learning using appropriate platforms (Puspita & Rohedi, 2018). They have to learn, submit the assignments and attend online classes. There are various types of e-learning, such as remote learning, blended learning, online learning and others. As there is much internet-based e-learning, each student may prefer their e-learning method and may be different (Mahalakshmi & Radha, 2020). During the Covid-19 catastrophe, the practical use of internet-based learning via video conferencing platforms such as WebEx, ZOOM, YouTube videos, Google Meet, Microsoft Teams, and others (Yustina, Syafii & Vebrianto, 2020) encouraged to support UUM foundation students' learning in any way possible. Internet-based learning is often associated with remote learning or blended learning. The practice of living in the new norm makes the FS well aware that their safety is being secured rather than living in the old standard where the students may expose to the viruses that might affect the students.

The purpose of this paper is to study the effectiveness of internet-based learning for UUM Foundation Students during the Covid-19 catastrophe and to identify the way students take care of their safety during internet-based learning.

2. Problem Statement

The COVID-19 catastrophe has caused chaos all over the world. Movement Control Order (MCO) in Malaysia forced extensive internet-based learning to replace face-to-face education. Internet-based learning engaged students in learning platforms such as WebEx, Google Meet, and YouTube videos (Bergland, 2020). The new norm has caused frustrations and discomfort for the FS to adjust to new learning methods. A year has passed while conducted the research, and students are still engaged in online learning. Due to uncertainties of the MCO and time constraints, there was no evaluation made on how the online learning had affected the students.

COVID-19 catastrophe had a significant impact on UUM FS in their daily lives and changed their life to new norms. This catastrophe has forced university students to go online. Students (no matter gender) are not allowed to continue their studies throughout the institution of study face-to-face during this MCO period. UUM foundation centre has no choice but to make star evaluations using internet-based teaching and learning methods to ensure that the syllabus of lessons is best delivered. Even some of the FS are studying from home, the learning sessions continue. Hence, the foundation students cannot continue their blended learning as usual. There is a lot of online video conference that can access.

However, not all of them provide a good experience when using it. For example, not all applications can hold an unstable internet connection and cause a poor experience when using it, such as lagging problems and poor image.

There are various challenges during the COVID-19 catastrophe, such as internet access, financial problems and so on, which influence the effectiveness of internet-based learning. Even student safety is important at this time because students are susceptible to the covid virus. Foundation students are still unfamiliar with this new norm, and they are still expecting face-to-face classes as usual. The face-to-face course has a high risk of being infected with this pandemic face even if students follow the standard operation procedure (SOP) because, through the air, the virus can be transmitted. Thus, the research questions for this study are how effective internet-based learning is for UUM FS during the Covid-19 catastrophe and how the students take care of their safety during virtual learning. This paper concentrates only on one part of complete research done on Internet-based learning among UUM FS.

3. Literature Review

In University Utara Malaysia (UUM), promoting active learning among the FS have become an essential agenda in educating foundation students in the university. UUM Management Foundation Programme emphasizes its objective on using online knowledge incorporated into the curriculum to help develop a well-balanced individual, sensitive people, ability to communicate and think critically. Hence, to accommodate the importance of thinking maturely, students are encouraged to share and apply virtual learning during MCO. Therefore, internet-based learning is pertinently meaningful among foundation students.

Anderson (2003) identified six educational interactions involving learner-learner, learner-content, content-content, teacher-content, teacher-teacher and learner-teacher. In online learning or discussion, learner-teacher-content becomes a chain connection within one another. The interaction between teacher-content creates learning content and activity by teachers. In an online forum, the teacher will continuously monitor the content resources posted online to ensure learning goes on without disturbances (Illinois Online Network, 2003). Learner-peer interaction on online discussion improves asynchronous and synchronous communication using text and video. Learners' interaction provides new opportunities in a microenvironment, online computer-assisted tutorials and the learner's attributes development. Teachers are encouraged to apply their knowledge growth and discoveries to help students' online discussion in teacher-student interaction.

Although there are various platforms in virtual learning, the effectiveness of teaching and learning is vital to ensure that students gain in-depth knowledge according to the topics taught by lecturers. Thus, in a study, Astuti, Sari, & Azizah (2019) stress that the effectiveness of virtual learning depends on effective and safe teaching, especially during covid. Ochavillo (2020) considers that Covid-19 should be handled well by the responsible party so that students do not worry about their safety during the teaching and learning process. Students also need to take care of their safety so as not too involved in face-to-face learning.

Internet-based learning, also known as online learning or e-learning, refers to purchasing information through electronic technology and media. In the primary language, the characteristic of e-learning is "discovery authorized electronically." Usually, e-learning is applied by using the internet, and students can obtain their learning materials online at any place and at any time (Arumugam, Mohan & Thannimalai, 2019). Internet-based e-learning is also a learning framework that relies on formal education, but it is called e-learning with the help of electronic assets. Although teaching courses are arranged inside or outside the study room, PC and Internet constitute an essential part of e-learning.

Previously, people did not wholeheartedly admit that this framework did not have the human factors needed for learning.

The COVID-19 has brought about schools closed the whole way across the world. Internationally, over 1.2 billion youngsters are out of the study hall (Dhruba & Prakash, 2020). Subsequently, training has changed drastically, with the unmistakable ascent of e-learning, whereby attempted distantly and on computerized stages. Examination recommends that internet learning has been appeared to build maintenance of data, and take less time, which means the progressions COVID-19 have caused may be staying put. Fitzpatrick (2001), who did a reach in India, indicated that students in India need to pay high fees to study online from international universities like Oxford from their home. He thus states that a shift is required from traditional to online techniques to attain multi-pronged advantages.

Students should note their readiness to use internet-based learning platforms such as Google Meet, Zoom, or WebEx because they are the main subjects to be delivered. At the same time, the lecturers are enthusiastic about providing various teaching materials (Hanum, 2013). However, if there is no participation from students, then the learning outcomes or learning objectives are want to be achieved cannot be conveyed perfectly. According to Bozkurt & Sharma (2020), effective internet base learning e-education consists of online teaching and learning, boosting several research works, principles, theories, and ethics concentrations on quality online course design, education, and learning. The byproduct of cautious design and planning of instruction with the application of an organized teaching model will confirm effective internet-based learning (Branch & Dousay, 2015).

4. Methodology

This research paper uses a descriptive-normative approach to identify the effectiveness of internet-based learning and safety among UUM foundation students. Due to MCO, the researchers could not apply physical data collection. Most of the students stay at their homes in different districts and states. Thus, the researchers made quantitative data gathering using a survey questionnaire in Google Forms online. For safety and health reason, the researcher also limited the number of the participation. Internet connectivity also became a challenge as not many students get good and effective internet access in some live-in rural areas. Statistical tools used were frequency count and percentage and probability sampling method-multi-stage sampling technique. From the population of 200 students, the researchers selected 130 students, adapting on sample based on Krejcie and Morgan's sample size calculation and consideration of other researcher's guidelines (Sekaran & Bougie, 2016).

The researcher also used qualitative research to develop detail from high involvement in the experience through an interview. This method describes the intensity of internet-based learning and safety on daily life among UUM FS in Management, both positive and negative impacts. The descriptive study provides information without any treatment to the sampling researched (Zayapragassarazan, 2020). In addition to the google form, this study also used Google Meet and WhatsApp messages to get their responses on internet-based learning and safety for interviews with the respondent.

The researchers obtain their primary data with the help of the respondents in a survey for two weeks. The study conducted in Google Form consisted of 7 multiple-choice questions that the respondents had to answer; however, this paper will discuss related questions to effective internet-based learning and safety. This study aims to identify the effectiveness of internet-based learning for UUM Foundation Students during the Covid-19 catastrophe and how students take care of their safety during virtual learning.

5. Analysis

About 130 FS respondents take part in this survey. All of the FS are familiar with Internet base learning and always use it. Most of the foundation students consider internet-based learning as the beginning of their life from morning to night. They use the internet in learning activities, for entertainment, for communicating. They use it all the time, before bed even getting out of bed during and before Covid-19 catastrophe MCO. Question one in the google form is how many hours per day do the foundation students spend on the internet before the Covid-19 catastrophe MCO? Question two is how many hours per day do the foundation students spend on the internet after the Covid-19 catastrophe MCO?

Table 1. Hours Per Day Foundation Students Spend on The Internet-Based Learning Before Covid-19 Catastrophe MCO

	Frequency	Percent	Mean	Stdev
Less than 2 hours a day	8	6%	43.33	31.18
2-4 hours	55	42%		
More than 4 hours a day	67	52%		
Total	130	100%		

Table 2. Hours Per Day Foundation Students Spend on The Internet-Based Learning After Covid-19 Catastrophe MCO

	Frequency	Percent	Mean	Stdev
Less than 2 hours a day	0	0%	43.33	65.76
2-4 hours	11	8%		
More than 4 hours a day	119	92%		
Total	130	100%		

Table 1 and Table 2 indicated the hours per day 130 respondents spend on the internet before and during the COVID-19 catastrophe MCO. Sixty-seven respondents, or 52%, answered that they spent more than 4 hours a day before the COVID-19 disaster MCO. However, during MCO, 119 respondents or 92%, responded they spent more than 4 hours a day. Fifty-five respondents, or 42%, answered they spend 2-4 hours. Eight or 6% of respondents answered they spent less than 2 hours a day on the internet before the COVID-19 catastrophe MCO. At the same time, during MCO, there are only eleven respondents or 8% spend 2-4 hours, and no one or 0% answered they spend less than 2 hours a day on the Internet during MCO. The mean for the two questions is 43.33, but the standard deviation before Covid-19 is 31.18 and 65.76 during Covid-19, which shows vast differences between the duration.

The third question presented in google form is about the effectiveness of internet-based learning in providing information, knowledge and the frequency of learning platforms either during teaching-learning sessions during the COVID-19 catastrophe. The internet is a tool to learn as foundation students get the latest news about learning and obtaining assignment references. One hundred thirty respondents use the internet in daily life during the Covid-19 catastrophe MCO to attend online classes such as Zoom and WebEx. On top of that, they also use it to obtain information to do their assignment. They also used the internet to get the latest news about COVID-19 cases every day.

Table 3. Effectiveness of Internet-Based Learning in Providing Information and Knowledge During COVID-19 Catastrophe

	Frequency	Percent
Never	10	8%
Rarely	16	12%
Often	60	46%

Always	44	34%
Total	130	100%

Table 3 shows that from the 130 respondents, 60 respondents or 46% answered they often use internet-based learning to get information to do assignments and acquiring new knowledge during COVID-19 catastrophe MCO. Forty-four respondents, or 34%, responded that they always use internet-based learning to be more communicative, collaborative, creative and critical thinking and seek information during MCO. Sixteen respondents, or 12%, answered that they rarely use internet-based learning to learn and seek information during MCO, and 10 or 8% of respondents responded never use the internet-based knowledge for other use unless for online classes during COVID-19 catastrophe MCO.

In the fourth question, the foundation students were asked which teaching methods they preferred and considered appropriate to enhance teaching and learning based on inter-based knowledge.

Table 4. Preferred Internet-Based Learning Application During COVID-19 Catastrophe

Internet-Based Learning Application	Frequency	Percent
UUM online	21	16
Google meet	13	10
Zoom	62	48
Webex	25	19
Facebook Live	9	7
Total	130	100%

Table 4 shows that 48% or 62 FS preferred the Zoom app when conducting internet-based learning during the Covid-19 catastrophe—followed by the WebEx application, where 26% of the students use it. The last one is the Google Meetings app, where only 25 Foundation students or 19% prefer WebEx as their internet-based learning application. Only nine students choose Facebook Live, which comprises 7% of the total foundation student respondents. Compare to the Zoom application. Only twenty-one respondents prefer UUM online. The differences of forty-one respondents show that only 16% of the foundation students find that UUM online is suitable for teaching and learning. However, 13 respondents or 10% of the total respondents, feel that Google Meet makes learning and understanding the teaching content easier.

Question five in google form (Figure 1) indicated that the FS respondents need to rate the effectiveness of internet-based e-learning for their safety during the pandemic Covid-19. They must rate from number 1 to 5, which the highest number means they agree with the effectiveness of this internet-based e-learning. Based on the response, most foundation students indicated that Internet-based learning has a high level of safety for themselves and consider that this method is the best during Covid-19. Seventy-three respondents, or 56%, rated the highest safety level. In comparison, thirty-eight respondents or 29%, rated safety level four. Comparatively, Level 2 and 3 selections are not much different. There is only one respondent difference between levels 2 and 3. Ten respondents choose Level 2 as they consider internet-based learning an opportunity for students to take care of their safety. Nine respondents choose level 3 because they feel safety precautions need individual discipline.

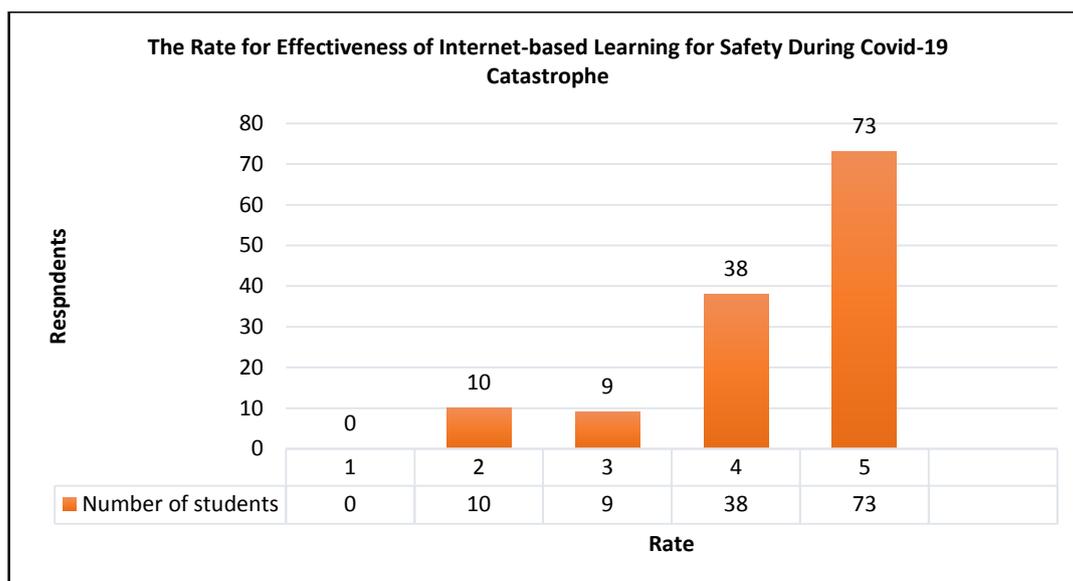


Figure 1. The Rate for Effectiveness of Internet-Based Learning

Interview section

The researchers conducted an interview using Google Meet with the chosen respondents in April 2021. Two respondent's interview feedbacks are shown below in this paper. Respondent 1 indicated that internet-based learning uses WebEx, the online learning platform used by all UUM FS. The respondents also agree to transform the learning method to entirely internet-based e-learning as the Covid-19 cases increase rapidly. However, the respondents disagreed that UUM can simultaneously do blended learning to guarantee UUM Foundation students' safety. For question three, all of them have their own opinion on what other security can be related to while doing this internet-based e-learning.

Respondent 1:(Google Meet: Interview Session: 11 May 2021)



Figure 2. Respondent 1: Interview Session through Google Meet

Respondents 1 stated internet-based learning is an excellent way to avoid covid. The respondent prefers using e-learning as a platform to do classes instead of face to face.

Respondent 2: (Google Meet: Interview Session: 11 May 2021)



Figure 3. Respondent 2: Interview Session through Google Meet

Another two respondents were selected to answer the question through WhatsApp messages. Respondent 1 indicated that she uses internet-based learning as it brings many benefits to the FS. Submitting assignments through the e-learning UUM portal is considered one way to stay safe from the Covid-19 virus. She argued that students do not have to meet people and can reduce the infection successfully. She rated 5 in the effectiveness of internet-based e-learning as she is interested in this type of learning and found that this is the effective way for the student.

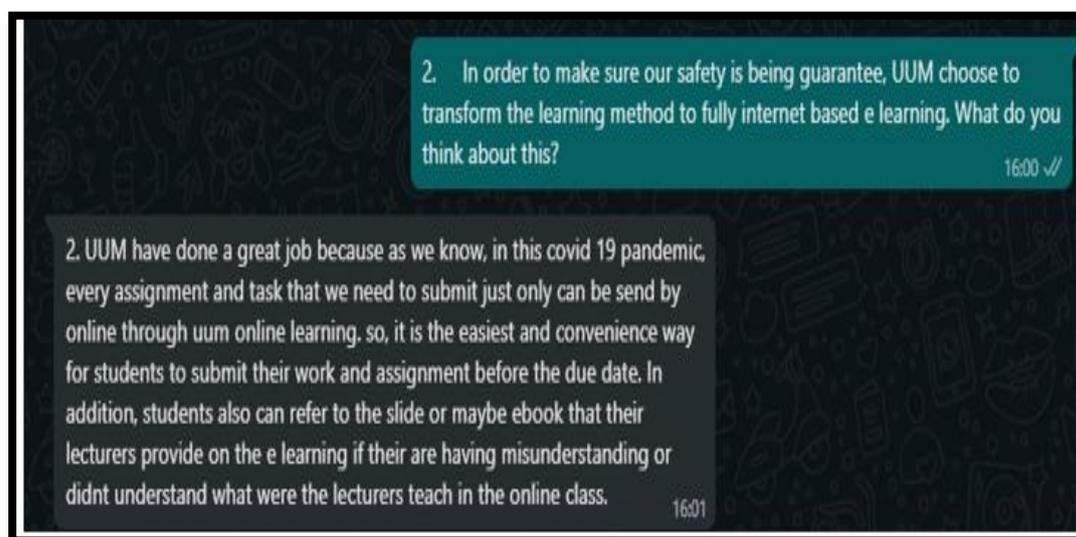


Figure 4. Respondent 1: Interview Session through WhatsApp Message

Compared to the opinion of respondent 1, respondent 2, argued that some students might take advantage during online assessment, procrastinate during class and other cases. Sometime internet-based learning experiencing a lot of technical problem, less class engagement, boring way of presentation and make the whole learning session less productive and bring an ineffective outcome. However, she agrees that the students can decrease the risk of being infected as they do not have to go out frequently.

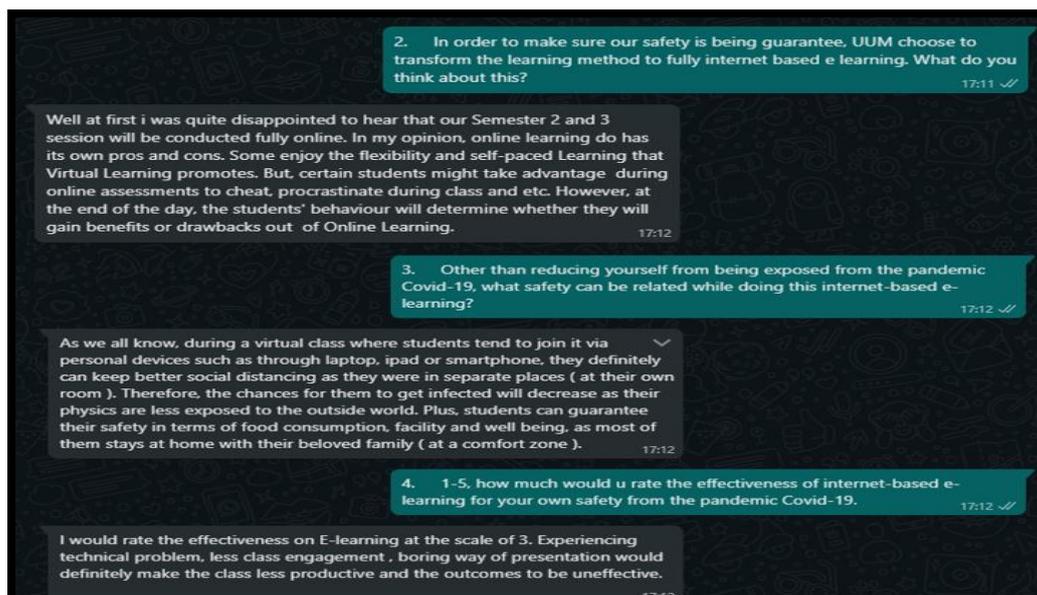


Figure 5. Respondent 2: Interview Session through WhatsApp Message

6. Finding and Discussion

According to Dhruba & Prakash (2020), learning effectiveness is influenced by the instructional method embedded in the media presentation rather than the media itself. But according to the survey, the choice of media is essential for internet-based learning. This method is important because the application tools affect the use of data during learning. The findings also suggest that students who have high skills in computer application may conduct internet-based learning efficiently no matter what application tools they use. In short, choosing the proper application may have a positive impact on students'

Using internet-based learning during the Covid-19 catastrophe for all students is challenging. Although the FS has the best apparatuses set up without easy access at their home and adequate prep and training for themselves, it will be hard to replicate a conventional learning style or in-person students' learning experience. This study expects UUM foundation students to work out and concentrate on the most proficient method to set up a suitable internet-based learning condition: adjusting their current educational programs or planning a fresh out of the plastic new one from the beginning. Effective internet-based application devices for internet-based learning convey information successfully, encouraging conversation and complete assignments (Moate, Chukwuere, & Mavhungu, 2017).

The finding of this study also shows that students are interested directly or indirectly in internet-based learning. Arsat, Amin, Latif & Arsat (2017) researched engineering students and showed that internet-based learning helps a lot in their studies in student-centred learning. The FS spend more time using internet-based learning during Covid-19 MCO compared to before MCO. Internet-based learning is not only used in teaching and learning but also for economic and social matters. The amount of time allotted during the Covid-19 catastrophe shows that FS use internet-based learning in many things.

From the findings of the study, FS found that internet-based learning is very effective. The use of various learning applications such as Zoom, Webex, Google Meet, and Facebook turned out to provide a variety of inspiration and enthusiasm for them to learn. Internet-based learning is vital for FS because they can submit their assignments and discuss with the lecturer in a face-to-face class. Thus, despite being a Covid-19 catastrophe, students do not lag in their learning. In addition, the students stay safe

because they do not have to leave home or residence to continue their studies. In addition to maintaining health, the student can monitor their safety from the Covid-19 virus. Although sometimes internet-based learning is boring and confusing, this method ensures students' health and safety.

Based on the descriptive-normative approach, tedious student feedback that internet-based learning positively impacts teaching and learning sessions. The feedback proves that students are highly committed and efficient to learn through internet-based learning during the MCO. This finding is similar to Dhruva & Prakash (2020) research they did in Nepal on online higher education during Covid-19. Since FS vary in their ability to settle on practical learning, they sometimes may see less significant instructional segments because of the over estimation of their ability. It led the FS students to lose sight of the actual level of knowledge and understanding of the subject learned through internet-based learning even they don't realize their safety is already taken into account.

7. Conclusion

In conclusion, the COVID-19 catastrophe has affected UUM Foundation students. They have to undergo new norms through online classes, virtual activities and submit their assignments online. The foundation students need to be survival, independent and try to adapt to the changes. At least from the catastrophe situation, they have to learn how to use video call platforms such as Google Meet, WebEx, Google Classroom, and other applications.

This study focuses on the effectiveness of internet-based learning for UUM FS during the Covid-19 catastrophe. It identifies how students take care of their safety during internet-based learning. The findings show that internet-based learning is very influential among the FS, and most of the FS were satisfied with the safety precaution.

8. Acknowledgment

The authors would like to thank and appreciate the support of University Utara Malaysia for providing a university grant, and this article is part of the conditions to meet the university grant requirements.

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