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ONLINE LEARING DURING COVID-19 PANDEMIC: SURVEY AMONG UNIVERSITY STUDENTS TOWARDS USAGE OF VIDEO-BASED LEARNING

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ABSTRACT

The purpose of this study was to explore the use of video-based learning in online learning environments during the COVID-19 pandemic. This study uses a quantitative research method with a cross-sectional survey design. The study sample consisted of 306 students from four universities in Peninsular Malaysia. Data collection was done online using instruments based on the technology acceptance model. Descriptive analysis reporting the mean and frequency showed that respondents had a positive attitude towards the use of video in online learning. Based on the results of this study, it is suggested that the use of video in online learning be enriched and lengthened to support the aims of the curriculum. In

conclusion, video-based learning is an effective educational tool for improving students' performance during COVID-19.

Keywords: Covid-19 pandemic; Online learning; Attitude towards video-based learning

INTRODUCTION

The Covid-19 outbreak, which began in late 2019, has grown into a pandemic and spread worldwide. These situations have affected more than 622 million students in 188 countries when schools and universities were closed to prevent the spread of Covid-19 (UNESCO, 2020). The impact of school closures is likely to be experienced disproportionately by families subject to social inequities, and those with children with health conditions or special learning needs. Interrupted access to school-based resources, connections, and support compounds the broader societal impact of the pandemic (Dove, Wong, Gustafson, & Corneil, 2020). Recent research by Engzell, Frey, and Verhagen (2021), shown that that students made little or no progress while learning from home and suggest losses even larger in countries with weaker infrastructure or longer school closures.

As a result of COVID-19 school closures, governments have adopted alternative distance-learning solutions to ensure the continuity of quality education. Overnight change in instructional delivery systems also affect teachers and other education personnel which are on the front lines of ensuring the continuity of learning (Pokhrel & Chhetri, 2021; Vlachos, Hertegård, Svaleryd, 2020). Teachers may need to adjust their roles in order to ensure the effectiveness of distance learning solutions (Hall, Nousiainen, Campisi, Dagnone, Frank, Kroeker, Brzezina, Purdy, & Oswald, 2020; Miao, Huang, Liu, & Zhuang, 2020). Reply to this unprecedented situations, school and universities administrator opt to implement an online learning as a replacement to face to face instructions. Online learning is defined as "*learning experiences in synchronous or asynchronous environments using different devices (e.g., mobile phones, laptops, etc.) with internet access*" (Dhawan, 2020). Due to the advantages in delivering content in multimedia, the usage of video become prevailing in online learning compared to printed media. With an increase in the global Internet speeds, there has been a steady growth in the use of educational videos in different contexts and environments (Zainuddin, Mat Isa, & Sulaiman, 2021), however, such a growth is fragmented without any clear-cut implementation strategy either by the instructors or educational managers (Nagy, 2018). Video-based learning is defined as *the learning process of acquiring defined knowledge, competence, and skills with the systematic assistance of video resources* (Giannakos, Jaccheri & Krogstie, 2015). Many instructors in higher education are implementing video lectures in a variety of ways, such as broadcasting lectures in real time, augmenting recordings of in-class lectures with face-to-face meetings for review purposes, and delivering lecture recordings before class to *"flip the classroom*" and to provide hands-on activities during class time (Giannakos,

Chorianopoulos, Ronchetti, Szegedi, & Stephanie, 2014). The usage of video as a learning medium has grown exponentially in the Covid-19 pandemic learning situations (Abd-Shukor,Yahaya, Tamil, Botelho & Ho, 2021; Mirriahi, Jovanovic, Lim & Lodge, 2021; Danish, Johnson, Nicholas, Cross Francis, Hmelo-Silver et al., 2021; Gold, Pfirrmann, & Holodynski, 2020; Kim, Park & Lu, 2021; Mohamad, Mitrovic, & Neshatian, 2022;). This is due to video is suitable in all instructional environments and works with whole classes, small groups, and individual students (Seo, Dogson, Harandi, Roberson, Fels, & Roll, 2021; Smaldino, Lowther & Russell, 2019).

The usage video as a teaching aid has become part of normal practice in higher education (Madariaga, Nussabaum, Gutiérrez, Barahona, & Meneses, 2021; Seo, Dodson, Harandi, Roberson, Fels, Roll, 2021; Yilmaz, Cinar, Altintas, Guler, & Utkan, 2021), however the dramatically extensive use of video in the learning environment during Covid-19 epidemic had a diverse impact. Students are overwhelmed with the movement order control and this distresses a socio-emotional and physiological aspect of the students (Amran & Jamaludin, 2021). In line with this challenge, this study was piloted in order to understand students' perceptions of the use of video in online learning.

METHODOLOGY

The study employed a cross-section quantitative survey research design. The respondents in this study are full time students from four institutions who learn using an online learning method during a Covid-19 pandemic. Data collection using an online questionnaire which distributed among the participants through a social media network. Questionnaire used in this study is based on the technology acceptance framework and adapt from Pal & Patra (2021).. The questionnaire has two section, namely demographic section and attitude towards video-based learning. All items in attitude towards video-based learning is measure using a five-point Likert scale ranging from 1—"Strongly Disagree," 2—" Disagree," 3—"Neutral," 4—"Agree" to 5—" Strongly Agree". Participant of the respondent in this research is voluntary. This instrument were translate into the Bahasa Melayu and distributed among the target participants using an online form. 306 return the questionnaire completely. Data collection was carried-out between August to October, 2021. The instrument validation and reliability tests were performed in order to attain the righteousness of measures and with the aim to incorporate a sufficient representative set of items within the questionnaire. For the validity of the instrument, two senior computing lecturers were asked to check on the content validity of the items as they are the experts in computing technology. Procedure of Cronbach Alpha analysis was used to measure instrument reliability. The result of the reliability coefficient indexes obtained showed that the Cronbach Alpha values for Perceive Usefulness (.86), Perceive Ease of Use (.85) and Behavioural Attention Toward Use (.82). was reasoned reliable. As stated by Hair, Anderson, Babin & Black (2010), the alpha with the value of more than 0.70 or higher is acceptable. Thus, this instrument has fulfilled the basic requirement of validity and reliability for a survey study. A

version of 23 SPSS software and Microsoft Excel were used to analyse the quantitative data in this study.

RESULTS AND DISCUSSION

Table 1 show the demographic data of the participants in this study. Total participants are 306 students from four difference institutions. The demographic data of the participants comprised a gender, age, living area, total family income, technology use access internet and duration access to online learning within a week of study.

Table 1: Demographic Data Of The Participants

Demographic		Frequency	Percent
Gender	Male	76	24.8
	Female	230	75.2
	Total	306	100%
Age	19	196	64.1
	20	76	24.8
	21	21	6.9
	22	10	3.3
	23	2	0.7
	27	1	0.3
	Total	306	100%
Family Income	Below RM 2500	105	34.3
	RM 2501 – RM 4850	81	26.5
	RM 4851 – RM 10,970	90	29.4
	RM 10,971- RM 15,040	19	6.2
	More Than RM 15,040	11	3.6
	Total	306	100%
Access Internet Using	Notebook	150	49.0
	Smart Phone	156	51
	Total	306	100%
Duration online class every week	Below than 3 days	5	1.6
	More than 3 days	160	52.3
	Daily	141	46.1
	Total		100%

Based on the demographic profile of the respondents in Table 1, the majority of the respondents (75.2%, n=230) were female and only 24.8%, n=76 was male. In terms of family income, majority of the respondents were from B40 (family income below than RM 4850.00), yielding 51.8% (n=186), followed by M40 (family income between RM 4851- RM 10,970), 29.4% (n=90) and T20 (family income more than RM10, 970), 9.8% (n=30). Majority of the respondent access internet using their mobile phone (51%, n=156), and computer notebook (49%, n=150). Most of the

participant attend online learning more than 3 days per week (52.3%, n=160), followed by everyday (46.1%, n=141) and below three days only 1.6% (n=5). In term of the age, most of the respondents age is below than 22 years (95.8%, n =293).

Table 2: Show Part B Of The Questionnaire Which Measure Participant Perspective Towards Video-Based Learning

Item	M	SD	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Perceived Usefulness							
Menggunakan pembelajaran berasaskan video dalam talian meningkatkan prestasi pembelajaran saya	3.54	.76		6.9	41.2	42.8	9.2
Menggunakan pembelajaran berasaskan video dalam talian membolehkan saya menyelesaikan tugasan pembelajaran saya dengan lebih cepat	3.54	.80	.7	7.2	40.2	41.5	10.5
Menggunakan pembelajaran berasaskan video dalam talian menjadikan pembelajaran saya lebih produktif.	3.40	.79		11.8	43.8	37.3	7.2
Menggunakan pembelajaran berasaskan video dalam talian meningkatkan prestasi pembelajaran saya	3.68	.87	1.0	7.8	29.4	45.8	16
Menggunakan pembelajaran berasaskan video dalam talian membolehkan saya menyelesaikan tugasan pembelajaran saya dengan lebih cepat	3.80	.73	.3	2.9	28.4	53.6	14.7
Perceived Ease of Use							
Secara umumnya, pembelajaran berasaskan video dalam	3.91	.71	.3	2.3	21.2	58.8	17.3

talian adalah mudah digunakan.							
Mempelajari cara menggunakan pembelajaran berasaskan video dalam talian adalah mudah bagi saya.	3.73	.73	.3	2.0	35.6	48.7	13.4
Interaksi saya dengan pembelajaran berasaskan video dalam talian adalah jelas dan boleh difahami.	3.45	.79	.7	9.2	42.5	39.9	7.8
Mudah untuk saya bermain dan menonton video yang digunakan dalam pembelajaran berasaskan video dalam talian.	3.40	.71	.3	2.6	15.7	60.1	21.2
Secara keseluruhannya, saya mendapati pembelajaran berasaskan video dalam talian mudah digunakan.	3.83	.72	.3	1.6	28.4	53.6	16.0
Behavioural Attention Towards Use							
Saya percaya bahawa menggunakan video kuliah untuk pembelajaran dalam talian adalah idea yang baik.	3.84	.74	.3	2.6	27.1	52.9	17.0
Saya percaya bahawa menggunakan video kuliah untuk pembelajaran dalam talian adalah dinasihatkan.	3.72	.69		1.3	37.3	49.3	12.1
Saya percaya adalah lebih baik saya menggunakan video kuliah semasa belajar dalam talian daripada menggunakan bahan bacaan sahaja (cth.,	3.79	.88	.7	5.9	29.7	41.2	22.5

buku teks atau slaid kuliah).							
Saya menggunakan pembelajaran berasaskan video dalam talian untuk memperkayakan pengetahuan saya.	3.67	.71	.3	1.3	28.4	57.8	12.1
Saya menonton video kuliah kerana ia membantu saya dalam pembelajaran saya.	3.80	.67		1.3	17.6	62.1	19.0
Secara keseluruhannya, saya ingin meneruskan penggunaan pembelajaran berasaskan video dalam talian.	3.99	.65	.7	3.6	33.7	46.1	16

Table 2 explains participant perception towards using a video in online learning during a Covid-19 pandemic. Most of the participant agree that online video-based learning improves their learning performance (M=3.54, SD=.76). Finding from this study is support the previous study which state that students has a positive attitude towards video-based learning (Mikalef, Pappas, & Giannakos, 2016; Turan & Cetintas, 2020). This result also gives a clear direction that using a video in online learning is appropriate and can help them to learn better than printed materials. Students also agree that online video-based learning enables them to accomplish their learning tasks more quickly, make learning more productive, and be useful for them. All these results show that using a video in online learning is a good idea. Therefore, the instructor should encourage to design and produce more video-based learning in order to help students learn during pandemic Covid-19. University administrators should provide a special grant for lecturers and instructors to create and use video-based learning. Moreover, producing an instructional video should be adopted as the instructors' key performance indicator. According to Nilson and Goodson (2014), a best principle should expenditure in order to create an effective instructional are scaffold for an active learning, give students feedback that is prompt and targeted toward improving their competency in the desired performance, and creating a supportive environment for learning by aligning outcomes, learning activities, and assessments, incorporating early assessments that build student confidence, teaching students how to learn the material, clearly explaining expectations for performance, and building choice and reflection into the learning process. An effective video based learning also should be incorporated a well establish interaction features such as information control encompasses zooming, searching, and sorting, filtering, and key size, touchable area size, and location of interactive elements (Punchoojit & Hongwarittorrn, 2017). All this

principle is recommended to be used in designing and producing an online learning video.

Data analysis also showed that the students perceived video-based learning as easy to use (M=3.91, S.D=.71), and their interaction with online video-based learning is clear and understandable (M=3.75, S.D=.79). This result firm that university students have sufficient skills to use video-based learning efficaciously. This finding is encouraging for the instructional designer and university technology specialist to create many attractive video-based learning contents across many subjects. Attractive elements are important in order to conserve continuous video usage among the students. Wang and Huang (2015) outlined four guideline in producing an attractive user interface design in educational apps, namely visibility, ease, efficiency,and enjoyment. Mohamadhassan, Mitrovic and Nesthatian (2022) proposed using personalized nudges for directing students towards critical thinking and self reflection to encourage constructive engagement in video based learning. Meanwhile, Abd Shukor, Yahaya, Tamil, Botelho and Ho (2021) suggested to use the contemporaneous subtitle of the presenters' dialogue, text bullet points and summary text pages in video based learning. Note taking features in video based learning also important to facilitate students' learning in video based learning environment (Chen, Wang & Huang, 2021). Seo, Dodson, Harandi, Roberson, Fels, and Roll (2021) suggest element of reflect, flag, skim, search, orient, and segmenting are important in supporting students engagement when using a video based learning. In conclusion, a video based learning designer must consider user interaction elements when producing a video based learning. The navigation button, as well as cognitive-emotional engagement aspects like nudges, presenters' dialogue, and the summary page, are vital in ensuring that students utilize the video in their learning. Finally, the study revealed that students have a positive attitude towards the usage of video in online learning. Students believe that using lecture videos for online learning is a good idea and advisable. The majority of the students also agree using a lecture video when learning online is better than using only reading materials (e.g., textbooks or lecture slides). This outcome could be used as evident for university management and instructor or lecturer to intensification the usage of video-based learning during Covid-19 pandemic.

CONCLUSION

This study is based on the technology acceptance model, with the aim of studying students' attitudes towards the use of video in learning during the COVID-19 pandemic. The factors studied are the perception of usefulness and the perception of ease of use, as well as the attitude towards the use of video in learning. The findings of the study show that students think the use of videos is beneficial in helping learning during the COVID-19 pandemic. Videos are also easy to use for learning. In addition, the findings of the study also demonstrated that students have a positive attitude towards the use of videos in learning.

LIMITATION AND FUTURE DIRECTION

This study employed a cross-section quantitative survey approach. So, it is recommended to extend this study using a longitudinal survey approach. In a longitudinal study, a single group of people is followed over the course of several months or years, and data related to the characteristic(s) under investigation are collected at various times (Leedy & Omrod, 2015). Other limitations of this study are only gathering data from the university students. Therefore, the generalizations of the findings from this study should be applicable among university students. Grounded on this point, it would be heartening to magnify this study into primary and secondary school students. Adjacent to the students, this study also can be replicate and use data among the instructor or lecturer. Besides that the study only involves students from Malaysian universities who was used video-based learning during Covid-19 pandemic. Therefore, generalizations from this study only possible to the population which have a certain degree of similar demographic background. A part from video based learning, its was suggested for instructional designer and online educators to study the efficacy of other educational technology media, i.e. virtual reality (Said, Umar, Muniandy, Desa, & Fahri Hanafi, 2015), interactive whiteboard (Huan Chin & Noraini, 2019), and educational games (Muhammad Fadzil & Fadhil, 2019) in delivering a online learning.

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