Students' Perception on Using Teaching Video in Online Learning During COVID-19 Pandemic

Ng Set Foong
ngsetfoong061@uitm.edu.my
Faculty of Computer and Mathematical Sciences
Universiti Teknologi MARA Cawangan Johor, Kampus Pasir Gudang, Malaysia

Azianti Ismail
azianti106@uitm.edu.my
Faculty of Mechanical Engineering
Universiti Teknologi MARA Cawangan Johor, Kampus Pasir Gudang, Malaysia

Norbaiti Tukiman
norbaiti289@uitm.edu.my
Faculty of Computer and Mathematical Sciences
Universiti Teknologi MARA Cawangan Johor, Kampus Pasir Gudang, Malaysia

ABSTRACT
Since the outbreak of COVID-19, many higher educational institutions are shifting the conventional learning approach towards online learning to reduce the close contact in face-to-face classroom teaching. This paper examines student's perception on using teaching video in online learning. Through this paper, twofold of objectives are carried out; (i) to investigate students' experience in using teaching video in online learning and (ii) to investigate students' preference on the characteristic of the teaching videos for their online learning. The online google form questionnaire was distributed through stratified random sampling to the groups of students who had practical experience in using teaching video in online learning. The data was analyzed using descriptive analysis by quantitative method. The findings show that majority of the students found that recorded teaching videos allow them to self-pace their learning. Most of the students prefer a short video that is less than 15 minutes, and they prefer their own lecturer voice rather than computer narration in the teaching videos. Overall, the students agreed that recorded teaching videos provided by their lecturers could assist them in their online learning.

Keywords: online learning, teaching video, COVID-19, teaching method

1. INTRODUCTION

Recently, many higher learning institutions have adopted online learning in order to reduce the close contact in the face-to-face classroom. Since the outbreak of COVID-19 among the community in the world, many countries have implemented the policies such as movement control order and social distancing. These are the policies that can help to break the chain of the virus spreading before the vaccine is available to the community. While the community is breaking the chain of virus spreading, the continuation of learning in higher education institutions cannot be broken. As a result, online learning has become an alternative to continue the lesson while enforcing movement control order and practicing social distancing. With the advancement of technology, the communication between the lecturers and the students as well as the discussion among the education community becomes possible and easy although all of them do not physically stay at the same location.

When higher learning institutions are forced to a sudden shift from the face-to-face classroom to online learning, there are two common online teaching methods adopted, that are using teaching video and live streaming class. For teaching video approach, lecturers pre-recorded the teaching in the form of teaching videos. Then, an online discussion can be conducted through social media after students watched the videos.

For live streaming class approach, it is conducted using an online video conferencing platform. Lecturers and students meet virtually at the same time at the video conferencing platform. The lecturer presents the teaching to the students during the live streaming class session. With the availability of free online video conferencing platforms such as Google Meet, Zoom, Cisco Webex, Microsoft Teams, and Facebook Live, teaching through live streaming has become reality. Smooth live streaming requires a higher speed of internet.

By considering the differences in terms of internet connection speed among students, using teaching videos to conduct online classes allows flexibility. For students who have good internet connectivity, the video can be streamed directly from the online platform. However, for students who do not have high internet connection speed, the videos can be first downloaded to their electronic device at a time that is convenient to them. Then, the students can watch the video offline. Students who stay at the different geographic locations would have different levels of internet connectivity and connection speed. Therefore, this teaching method can cater for different backgrounds of students.

In this paper, a study on the online teaching method, that is using teaching video in online learning is focused. The advantages of using recorded teaching videos are studied. In order to investigate the students' view on using teaching video in online learning, twofold of objectives are carried out: (i) to investigate students' experience on using teaching videos in online learning and (ii) to investigate students' preference on the characteristic of the teaching videos for their online learning. The results of this paper are important for educators who wish to use teaching videos as part of online learning in the future. The educators could make their teaching videos based on the characteristic of the teaching videos that are preferred by the students.

2. LITERATURE REVIEW

Teaching videos has become an essential component in online learning (Hansch, Hillers, McConachie, Newman, Schildhauer, & Schmidt, 2015). Back then before YouTube made a debut, Martin, Evans, and Foster (1995) reported that an experiment in using videos as part of the innovation in teaching a component of management accounting has resulted in the increased level of critical and reflective learning among students. The innovation has also reduced the formal student and lecturer contact time. The pre-recorded teaching video that is saved as a digital file allows viewers to broadcast, pause and playback. This feature has used the advantage in technology that enables students to view the teaching video repeatedly as if they attended lectures numerous times. This could enhance their understanding of the lesson.

Pre-recorded teaching videos are used in various fields of courses such as dentistry, English, Engineering courses, Mathematics, and other fields of studies (Smith, Rafeek, Marchan, & Paryag, 2012; Wang, 2015). The lecturer pre-recorded the teaching videos and students learn the lesson from watching and following the instruction in the teaching videos. Then, online discussion among the lecturers and the students could happen after the students watched the teaching videos.

The findings based on a study done by Brecht (2012) showed that video lectures especially for tutorials had improved student performance by having better grades and reduced failure rates in financial accounting. Fraser and Finn (2015) have applied video recording as part of the virtual learning environment in teaching fashion design. They found that flexibility of the delivery has encouraged the students to explore independently other topics of video recording readily available on the platform. Limitless access to video recordings through YouTube has promoted the growth of knowledge and self-paced learning among the students.

The Technology Acceptance Model (TAM) is introduced by Fred Davis and Richard Bagozzi. This model can be used for foreseeing video technology usage and their learning satisfaction regarding the usage which include perceived ease of use and usefulness (Nagy, 2018). Teaching video is a visual media that featuring moving pictures and sound. The feature of moving pictures and sound in the video are two great elements in teaching. Students can understand better if the flow of the lesson is presented in sequence with the voice is being played in the background as an explanation. The moving images can also help students to visualize a process and see how something works (Hartsell & Yuen, 2006; Wijnker, et al., 2019).

Comparing to static learning materials such as books or websites, the teaching videos can make the students feel connected with the lecturer during online learning because a familiar voice is being heard. Scagnoli, Choo, & Tian (2019) have done a study on the students' perception of using teaching video in online classes. It is reported that the teaching video can enhance the students' feeling of engagement with content because of the students' control of the media and the instructors' presence.

3. METHODOLOGY

During the COVID-19 pandemic, the students stay at different geographical locations. The survey was done during the COVID-19 pandemic where all the face-to-face classes shifted toward online learning. The communication between the students and lecturers is also online. In order to investigate students' perception of using teaching video in online learning, an online self-administered questionnaire was distributed to students through Google Form.

The participants in this survey study are diploma students from Universiti Teknologi MARA Johor Branch Pasir Gudang Campus. Online survey was used because it is time saving, paperless and it is easier to reach the students who stay far apart. Stratified random sampling is used in this study as the questionnaire was administered to the groups of students who had practical experience in using teaching video in online learning. In this survey, there are a total of 99 respondents consists of students from Diploma of Civil Engineering, Diploma of Mechanical Engineering, and Diploma of Electrical Engineering. There are 72% of male respondents and 28% of female respondents. The age of respondents ranging from 18 to 23 years old. The questionnaire consists of 13 questions and the data collected from the questionnaire are nominal and ordinal data. The nominal data are such as gender (male and female) while the ordinal data are such as the Likert-type scales (strongly disagree, disagree, neutral, agree, and strongly agree).

4. RESULT AND DISCUSSION

A total of four questions in the questionnaire are designed to investigate students' experience on using teaching videos in online learning. The first question under this section asked when did the students watch the teaching videos assigned to them. The result is shown in Table 1. There are 22.2% of the respondents watched the videos daytime during online class hours while 7.1% of the respondents watched the videos outside of class hours during the daytime. There are 14.1% of the respondents chose to watch the videos at night. However, more than half of the respondents (56.6%) responded that they have the flexibility to watch the videos either daytime or nighttime.

With more people owning smartphones and able to access the internet, producing teaching videos has become common among the lecturers. With these free online websites and social media, the accessibility of teaching videos is fast and convenient.

Table 1

The time when students watch teaching videos

Time to Watch Teaching Videos	Percentage of Respondents
Daytime during class hours	22.2%
Daytime outside of class hours	7.1%
Nighttime	14.1%
All of the above	56.6%

The second question is about the students' opinion on whether learning with recorded teaching videos allows them to have self-paced learning. The result is shown in Table 2. There are 30.3% of the respondents strongly agreed that they can study with the teaching videos at a time that is convenient to them. There are another 58.6% of the respondents agreed with this opinion. Hence, the majority of the respondents (88.9%) agreed that recorded teaching videos allow them to have self-paced learning. Students can use their smartphones, tablets, laptops, or even smart TVs to view the teaching videos at any time and anywhere that is convenient to them. This feature allows students to self-pace their learning on a specific topic within a designated time frame assigned by their lecturer. The individual control of pacing is the advantage of using teaching video in online learning (Hartsell & Yuen, 2006).

Table 2

Students' opinion on whether learning with recorded teaching videos allows self-paced learning

Students' Opinion	Percentage of Respondents
Strongly agree	30.3%
Agree	58.6%
Neutral	7.1%
Disagree	2.0%
Strongly disagree	2.0%

The third question is about the students' learning behavior during online learning using teaching videos. Table 3 shows the result. More than half of the respondents (56.6%) will pause halfway to write down their notes while learning with the recorded teaching videos. Only 9.1% of the respondents watched the video from start to end nonstop. There are another 34.3% of the respondents will have both of the behavior when watching the teaching videos. This shows that students took the advantage of technology as recorded teaching video is a digital file that allows students to pause, playback, forward, and repeat. Students are experiencing a new way of learning in this new era of education.

Table 3

Students' learning behavior during online learning using teaching videos

Students' Behaviour when Watching Teaching Videos	Percentage of Respondents
Pause the video halfway to write down notes	56.6%
Watch the video from start to the end nonstop	9.1%
Both of the above	34.3%

The fourth question in the questionnaire asked about whether the students repeatedly watch the teaching video. Table 4 shows that about three quarters of the respondents (73.7%) watch the teaching videos more than two times while 19.2% of the respondents watch the videos two times. There are only 7.1% of them watch the video one time. This shows that students could repeatedly learn and do revision from the recorded teaching videos to enhance their understanding of the lesson.

Table 4

Number of times students watch teaching videos

Number of Times	Percentage of Respondents
Watch the video one time only	7.1%
Watch the video two times	19.2%
Watch the video more than two times	73.7%

Another six questions in the questionnaires are aimed to investigate students' preference on the characteristic of the teaching videos for their online learning. The first question under this section asked about students' preference on the length of teaching videos. Table 5 shows the number of respondents who responded to this question. There are 71.7% of the respondents prefer the maximum length of the teaching videos to be 10 minutes. Another 25.3% of the respondents prefer teaching videos to be within 11 to 15 minutes. Only 3% prefer teaching videos that are longer than 15 minutes. This shows that the majority of the respondents prefer short videos.

Table 5

Students' preference on the length of teaching videos

Preference on the Length of Teaching Videos	Percentage of Respondents
1 - 10 minutes	71.7%
11 - 15 minutes	25.3%
> 15 minutes	3.0%

The second question is about students' preference on voice over in the teaching videos. The result from the survey found that all the respondents prefer their lecturer voice in the recorded teaching videos. None of the respondents prefer computer narration in the teaching

videos. This result shows that no matter how advance is the current technology, education still needs a human-to-human relationship. The students will feel connected with the lecturer when a familiar voice is being heard during online learning.

The third question under this section asked whether students prefer live streaming class sessions or teaching videos provided by their lecturers for online learning. The result is shown in Table 6. Among the respondents, 35.4% of them prefer teaching videos provided by their lecturers while 9.1% prefer to have a live streaming class session. About half of the respondents (55.6%) like to have both the teaching videos and live streaming class sessions when learning is shifted toward online learning.

Table 6

Students' Preference of Online Class

Preference of Online Class	Percentage of Respondents
Live streaming class session	9.1%
Teaching video provided by their lecturers	35.4%
Both of the above	55.6%

The fourth question asked about students' internet connectivity for a live streaming class session. During the COVID-19 pandemic, some live streaming classes were conducted using online video conferencing platforms such as Google Meet, Cisco Webex, and Microsoft Teams Meet. Therefore, students also have experience in live streaming class sessions. The result of this question is shown in Table 7. There are 31.3% of respondents answered that they had a very smooth live streaming class session using their internet facility. The majority of the respondents (67.7%) answered that sometimes they experienced not very smooth live streaming class sessions. There are only 1% of respondents answered that it was very difficult for them to have a live streaming class using their internet facility. Smooth live streaming requires a higher speed of internet. The level of internet connectivity and speed would determine which learning methods suit the different backgrounds of students.

Table 7

Students' internet connectivity for the live streaming class session

Internet Connectivity for Live Streaming Class Session	Percentage of Respondents
Very smooth	31.3%
Sometimes experienced not very smooth	67.7%
Very difficult to have a live streaming class	1.0%

The fifth question under this section asked whether students appreciate the teaching videos provided by their lecturers. The result is shown in Table 8. A total of 93% of respondents are positive about this opinion. They strongly agreed or agreed that recorded teaching videos provided by their lecturers could help them in their online learning. The rest of the respondents

are either neutral or being negative on this opinion.

Table 8

Students' appreciation of teaching video provided by lecturers for their online learning

Students Appreciate the Teaching Video	Percentage of Respondents
Strongly agree	46.5%
Agree	46.5%
Neutral	1.0%
Disagree	4.0%
Strongly disagree	2.0%

The last question asked whether students would watch again the teaching videos in the future after they finish the course. Table 9 shows the number of respondents who responded to this question. There are 38.4% of the respondents answered they will definitely watch again the teaching videos in the future while 59.6% of the respondents answered maybe they will watch it again. Only 2% have no interest to watch again the teaching videos after they finish the course. The recorded teaching video is a visual media with moving pictures and narration by their lecturers. Students could recall the lesson by watching again the videos even after they have finished the course. Hence, this could be a great reference for students who need to revisit the knowledge in the future.

Table 9

Students' preference to watch again the teaching videos in future

Students Watch Again the Teaching Videos in Future	Percentage of Respondents
Definitely	38.4%
Not sure, maybe	59.6%
Maybe not	2.0%

5. CONCLUSION

This study adopted the online teaching approach where lecturers pre-recorded the teaching in the form of teaching videos and followed by online discussion after the students watched the videos. The study was done during the COVID-19 pandemic where higher learning institutions have shifted to online learning.

In this study, the results show that students are experiencing a new way of learning in this new era of education. Students took the advantage of technology as recorded teaching video is a digital file that allows students to pause, playback, forward, and repeat. Hence, they could repeatedly learn and revise the recorded teaching videos to enhance their understanding of the

lesson. As students have the flexibility to watch the teaching videos anytime, students found that this mode of learning allowed them to self-pace their learning. Some students need more time to understand the lesson during online learning. In the study by Tukiman et.al (2020), it is reported that some students spent more time adapting to online learning because they are still in the process of exploring new technology and tools in online learning. Furthermore, many students would not have a very comfortable and conducive study environment at the place they stay. Hence, teaching video provides the flexibility for students to learn at their pace and at a time that is convenient to them.

The results in this study also show that most of the students prefer short teaching videos that are less than 15 minutes. The students also prefer their lecturer voice rather than computer narration in the teaching videos. Therefore, it is recommended to educators who would like to use the teaching videos as part of the online learning approach, can consider producing teaching video that is not lengthy and recorded with their voice. According to some studies (Bradbury, 2016; Mautref, 2019), the maximum attention span of adults is about 20 minutes. Therefore, each learning element could be broken into smaller pieces. This could help students to remain focus and interest in online learning.

In a conclusion, recorded teaching videos provided by the lecturers could help students in their online learning, especially during the COVID-19 pandemic. The teaching video could be a great reference for students who need to revisit the knowledge in the future. However, teaching video is not the only online learning method that can suit all students with different preferences and learning styles. Some future research could be done in incorporating various teaching and learning tools in this teaching approach. The tools are such as (1) Game-based learning: using a game in learning as it can increase students' interest to study. (2) Gamification: using reward to motivate students to complete works or achieve higher performance. (3) Collaborative learning: it is an educational approach that encourages learning through grouping together to solve problems, learn new concepts, or complete tasks. It is hoped that this paper could give an insight of using teaching videos as part of the online learning approach to other educators.

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About the Authors

Ng Set Foong is a senior lecturer in the Faculty of Computer and Mathematical Sciences, Universiti Teknologi MARA Cawangan Johor, Kampus Pasir Gudang. She is interested in incorporating various techniques in teaching and learning that will help students to increase their understanding of their lessons.

Azianti Ismail is a senior lecturer in the Faculty of Mechanical Engineering, Universiti Teknologi MARA Cawangan Johor, Kampus Pasir Gudang. She has a passion for teaching and learning through the application of 21st-century tools to cater to the needs of the Gen Z learning style.

Norbaiti Tukiman is a senior lecturer in Faculty of Computer and Mathematical Sciences, Universiti Teknologi MARA Cawangan Johor, Kampus Pasir Gudang. She actively involved in research in the application of mathematics and statistics in the various field especially in teaching and currently interested in teaching methodology approach to attract and help students learning in the online environment.