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COVID-19 PANDEMIC EFFECTS IN TEACHING AND LEARNING METHODS DURING MOVEMENT CONTROL ORDER (MCO)

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ABSTRACT

World Health Organisation (WHO) has declared COVID-19 as a pandemic disease. The number of infected people with COVID-19 has increased abruptly over the world. Many countries have declared lockdown and Movement Control Order (MCO) to control the transmission of the virus. The most affected ministry is the Education Ministry whereby all schools, colleges and universities have been instructed to close. Teachers and lecturers were advised to conduct their classes through non face to face or e-learning methods. Although it was sudden decision made by government and quite difficult to be faced or accepted by all instructors, everybody has to accept this is as the new norms. Several methods and technologies have been introduced to help the instructors delivering their lectures effectively to students. The instructors were also encouraged to make use of available technologies and implement free resources that are accessible from the Internet without incurring additional expenses so that the instructors and leaners are not burdened and stressed. Understanding the lectures delivered to the learners and effectiveness of the technology used are among the important elements in online teaching and learning (T&L) methods. This paper shares the experiences of several instructors applying the best practices of teaching and learning (T&L) technologies during the Movement Control Order (MCO) period.

Keywords: *e-learning, T&L, MCO*

Introduction

With the advancements in Information and Communication Technology (ICT) in industries and other sectors, the education sector has no exception in the explosion of the information age (Chow & Shi, 2014). Education sector has started to change the methodology of teaching delivery methods from face to face to e-learning methodology (Wu, 2016). Various e-learning application have been developed to provide comprehensive as well as effective teaching and learning options among instructors and learners (Sarabadani, Jafarzadeh & ShamiZanjani, 2017). Good e-learning

applications are able to influence the learners to be actively involved in virtual classrooms and enhance their knowledge, skills, proficiency and thinks creatively or critically (Fazlollahtabar & Muhammadzadeh, 2012).

E-learning can be defined as the use of modern computer devices, system applications and communication technology to provide teaching and learning contents to learners (Beqiri, Chase & Bishka, 2010). E-learning can substantially benefit the university to save cost in physical teaching and learning buildings or infrastructures, electricity and air conditioning utilities, appointments of the new recruitments of academic or administration staffs and students' physical accommodation (Bhuasiri, Xaymoungkhoun, Zo, Rho & Ciganek, 2012). Through e-learning, learners are able to access the digitised resources such as books or articles at anytime and anywhere using the computers or mobile devices connected to the Internet (Kilburn, Kilburn & Cates, 2014). Indirectly, e-learning helps international learners' mobility to travel across boundaries to gain knowledge and skills as e-video conferencing and meeting provide full academic services to the foreign learners. Furthermore, e-learning mode completely controls the mood and rhythm among learners' study flexibility anytime and anywhere provided they have a proper studying plan, disciplined and continuously motivated (Bhuasiri et al., 2012).

In 2020, e-learning becomes the main tool for teaching and learning due to pandemic of coronavirus disease 2019 (COVID-19) spreading worldwide. All sectors were affected including education institutions such as schools, colleges or universities. As of 1 June 2020, the statistics as reported by World Health Organisation (WHO) showed that 5,939,234 were infected by the virus with the total deaths of 367,255 (WHO, 2020). The situation shows that the pandemic is extremely dangerous. The Education Ministry has instructed all instructors at schools, colleges and universities to change their teaching and learning paradigm from the traditional face to face method to nonface to face or e-learning methods. All physical classes were not permitted and the instructors must conduct the class virtually using available infostructure.

This paper discusses some experiences of innovative and creatives' ideas in teaching and learning methods practiced among instructors during the Movement Control Order (MCO) as ordered by the Malaysian Government to control the COVID-19 pandemic virus. Overall, the

quality of e-learning service depends on the impact of learners' satisfaction and loyalty during critical situations including world disaster. Although the situation is either critical or hazardous, the emerging of new inventions and innovations in e-learning technology or application are able to create new norms among learners attracted to the contents and continuously to follow the lesson in critical situations. This paper further explains the literature review or some works related to the topic. The following section shares some examples of application applied during the Movement Control Order (MCO). Finally, the last part of this paper addresses the overall conclusion.

Related Works

Student centred-approach is applied by most universities and colleges to provide and enhance the best educational services for learners (Stodnick & Rogers, 2008). To provide the best educational services with student centred-approach through e-learning platform, the appearance of facilities, equipment and personnel collectively compliment each other (Parasuraman, Zeithaml & Berry, 1988). E-Learning has become a must in the education sector and caters the demand of modern-day learners. Infusing technologies in the classroom will stimulate and enhance leaners' interaction and improve the understanding curve. The advancement of E-learning technology extends further possibilities of learning going beyond the traditional ways of teaching domain whereby e-learning allows easy access to materials, flexible space, time and pace of study, comprehensive interaction and communication as well as immediate feedback are some of the advantages that make the learning process effective (Arora, 2015).

The COVID-19 has led all schools and universities to be closed worldwide. As a result, the education teaching methods has changed dramatically to e-learning mode whereby teaching is undertaken remotely on the digital platforms. This sudden shift of traditional physical classroom teaching approach to online learning methods can give positive impact to the learning curve of the learners (Koedinger & Mathan, 2005), which will affect almost 1.2 billion learners over the world. Since the COVID-19 started spreading worldwide, the tools such as language apps, virtual tutoring, video conferencing tools and online learning software have been widely accessed by learners. Universities and schools have instructed their instructors to apply available technologies such as the mobile devices and apps to continue the teaching process.

The major issue in e-learning is to determine the most comprehensive and appropriate technology to the nature of the subject matters to be delivered to learners effectively. In addition, providing optimum learning opportunities for the learners is also another important aspect that need to be given a serious attention. Various affordable technologies have been identified to support educational purposes. These include online surveys or quizzes generated for testing purposes or used as a learning tool that can be created through the Learning Management System (LMS) or web-based survey tools such as SurveyMonkey or Google Forms. The use of web-based application tools allows for automatic grading and feedback given directly from the targeted respondents (BuzzettoMore & Ukoha 2009). Sophisticated software tools or open source compact disc (CD) complete with Closed-Circuit Television (CCTV) for online examination could replace the traditional examination and does not require many invigilators or the Information Technology (IT) Officer to invigilate the examination (Fluck, Pullen & Harper, 2009). Costagliola, Fuccella, Giordana and Polese (2009) have studied learners' behavioural patterns to monitor the learners' strategies during online tests or examination using data visualisation. This survey allows teachers to enhance and improvise the assessment given to the learners.

Email is a common asynchronous communication tool for one to one or one to many online communications. Email allows the transmission of text, files, images and other graphics tools. The advantages of email include immediacy and flexibility of message transmission, easy to use, secure and reliable, as well as the ability to connect and to be contacted (Dawley, 2007). However, it has some drawbacks, which are lacks of physical verbal communications if the instructors and leaners continues using emails as their major platform for teaching and learning. Another asynchronous communication tool is the discussion forum, which allows the members or participants to post or share views and respond immediately. Discussion forum is the most comprehensive platform whereby it encourages leaners' participation, interaction and dynamic collaboration through non face to face activities (Goold and Coldwell, 2005). Short message service (SMS) is also another method of asynchronous communication tool that has been widely used in the early 20's. Nowadays, SMS technology has been taken over by the widely used asynchronous communication tool called WhatsApp. WhatsApp allows the transmission of texts, files, graphics, videos, sounds and variety of attachments files beyond the ability of emailing technology.

Digital repository covers different contents of Learning Management Systems (LMS) and the search engine indexes. Digital repository typically implemented in higher education such as universities and at established collages. It is created from the combination of in-house and third-party resources and incorporates online bibliographic databases that provide abstracts and indexing to the world's scientific and technical papers in various disciplines (Atkinson et al., 2009). Bibliographic databases, of which there are more than 100, include PubMed, IEEE Xplore, Scopus, Web of Knowledge, Web of Science and Google Scholar are easily accessible through institutional libraries. E-Portfolio is a type of digital repository that facilitates the leaners and instructors to collect, reflect, share and present the learning outcomes through the digital medium of platform. E-Portfolio has been used widely in teaching English language for communication skills development context (Cheng and Chau, 2009).

Electronic Grading System is a comprehensive tool for teaching and managing students' grading systems such as reporting and tracking students' progress, overall details grading and plagiarism detection. Online plagiarism software like Turnitin is one of the demanding tools embedded in the electronic grading system especially at higher education to encourage the students in making proper reference and construct their own word to produce genuine assignments ethically (Dahl, 2007).

Photo Sharing is one of the potential communication tools for learners to open for dialogue, communication and learning. Flickr is a website that enables learners to upload, publish photos or images online, which can be shared publicly or privately. Users can make annotations, leave comments and have ongoing discussions about the images. The discussion generated by the group will remain visible in Flickr for future reference. This communication tool is widely used in the fashion or art fields (Buffington, 2008). Podcast or contraction of iPod and Broadcast as well as Streaming files are audio and video files in MP3 or MP4 format that can be downloaded or played in real time from the Internet through computer or mobile devices. This technology is widely used in distance learning program in which the instructors will record their lectures and share the files via Podcast or Streaming. Furthermore, it demonstrates versatility, efficacy and sustainability of students' motivation to engage the students in the learning process (Buffington, 2008).

Shared document is an application that enables the learners to store, edit, retrieve and review documents virtually. Documents retrieval can be accessed by multiple users provided they are given special privileges. Google Docs is a web browser that allows learners to access group's document to edit and save it at anytime and anywhere (Southavilay et al., 2009). This application is extremely convenient particularly to the learners at higher education whenever the instructors adopt the Gmail (Google mail) as their email system. Social networking applications such as Facebooks, Twitters, Instagram, WhatsApp and Tumblr are popular communication tools among learners and instructors. Informal discussions about a subject matter or topic are discussed and elaborated dynamically among the learners compared to the traditional face to face discussion in the physical classroom (De Villiers, 2010). Social network encourages the learners to express their views and assist them in improving their communication skills, skills of reading and writing, as well as developing their critical thinking and confidence level (Godwin, 2007).

Synchronous communication is a face to face communication technology that applies texts and videos and is supported by video, multimedia, desktop and documents sharing. Chat rooms, instant messaging and video-conferencing are examples of synchronous communication that are widely used in higher educational institution. The remote learners especially those who are engaging to distance learning program are required to use the synchronous tools whenever the face to face environment is not possible. A study conducted by Rutter (2009) stated that these tools can encourage the learners to work and learn independently, corporately and smartly in managing their time, pressure and office workloads (Bliesener, 2006).

Wikis is a collection of web pages that allows the users to create, edit and delete the web contents at any time and from anywhere. This application is particularly used to structure content, create links and track the history of contributions, which is suitable for group projects that require the group members to work collaboratively (O'Leary, 2008).

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Implementation

Shifting the traditional methods of Teaching and Learning (T&L) to the new norms such as new online web applications and technologies due to COVID-19 Pandemic requires a lot of patience especially from senior instructors and learners to accept the new way of education paradigm. The training centre has conducted a lot of training to all instructors to assist them in e-learning class. Basic communication tools, preparation of online test and storage sharing technology have been introduced to the instructors through online training and series of sharing sessions. The introductory training really helps the instructors to create more creative and attractive classes for the learners.

Most lecturers in Universiti Teknologi MARA (UiTM) Pulau Pinang branch use the Google Meet and Cisco Webex for teaching purposes. Both are the communications tools or video conferencing applications for online seminar (webinars) or workshop conducted over the Internet. The following Figure 1 shows the examples of communication tool.

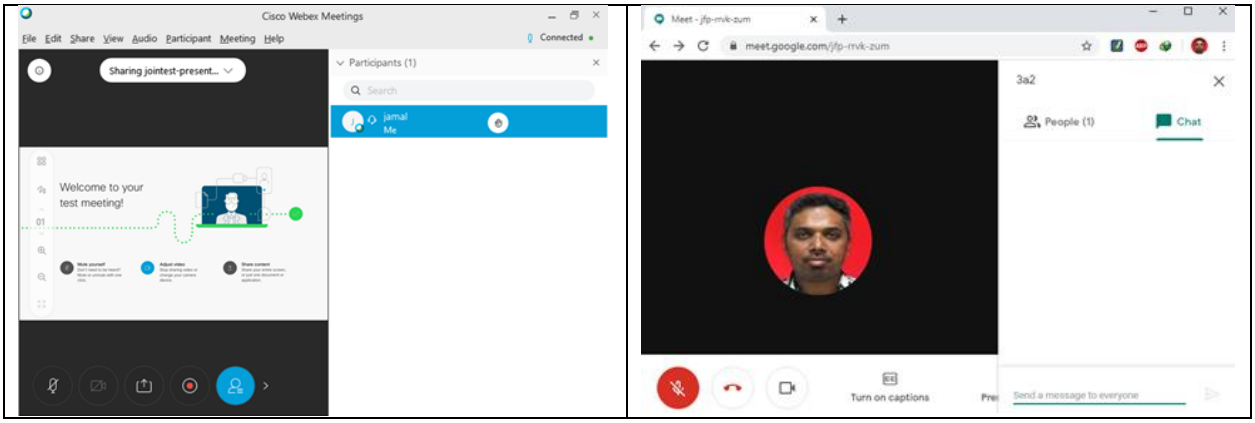

Figure 1: Cisco Webex and Google Meet as Communication Tools

Google Meet and Cisco Webex are registered by UiTM and freely accessible by authorised instructors and learners. Both communications tools provide comprehensive features to the instructors and learners for an effective communication. The instructor who conduct the class is able to allow the registered learners to join the class. Once the permission is given, the instructor will be able to deliver the lecture through these communication tools. The communications tools provide basic features for effective teaching delivery such as camera viewing of instructor and

learners faces, sound or voice of both parties and the screen views or shared presentations or collaboration on documents to all recipients. Besides, the communications tools allow the instructor to record the video of screen views and sound of lectures to be shared among the learners. In addition, the learners are able to send text messaging to the group of webinars for sharing ideas or asking question to the learners.

Google Meet allows up to 100 participants. Meanwhile, Cisco Webex is a more powerful tool or video conferencing software as it allows maximum up to 1000 participants in one session. Both communication tools are compatible on any devices such desktop, laptop, Android, iPhone or iPad and require additional basic devices including microphone to capture sound or voice and camera to record video. The layout of the screen views or meeting is adjustable to display the most active content to the participants as the administrator or instructor of the communication tools can easily pin, mute or remove participants. Nevertheless, for privacy reasons, the audio of participants cannot be easily unmuted; they must be asked to unmute their audio themselves. Another good feature of these communication tools is that users who register through the Gmail account will be automatically updated on the meeting date in their e-Calendar. They will be able to join the meeting or workshop or their class directly from the e-Calendar with the link provided. On the security aspects, all videos, sounds and text messaging are encrypted in transit by default between the clients and Google. As an example, from Google Meet, it employs an array of anti-abuse measures to keep meetings safe including anti-hijacking features and secure meeting controls. It also supports multiple 2-step verification options including security keys.

Both WhatsApp and Telegram are among the common messenger applications used by the instructors and learners if other applications of communication tool fail to be used or connected to Internet. The following Figure 2 shows some examples of messenger tool.

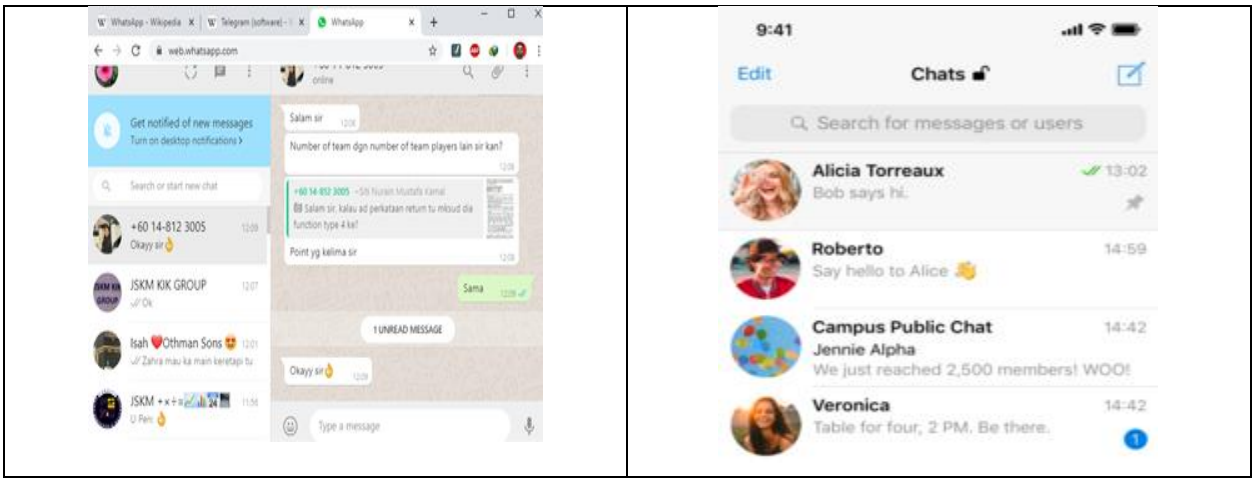

Figure 2: WhatsApp and Telegram as Messenger Tools

WhatsApp and Telegram are the freeware applications of cross-platform messaging and Voice over IP (VoIP). Both allow the users to send text messages and voice messages, make voice and video calls, share images, documents, user locations and other media. WhatsApp client application runs on mobile devices and is also accessible from the desktop computers, as long as the users' mobile device remains connected to the Internet while they use the desktop app. A survey conducted by Learning Centre of UiTM demonstrated that almost 95% of students have WhatsApp installed on their mobile phone. This messenger application becomes the most selected messenger application as the positive feedbacks given were in terms of compatibility, convenience, data encryption security, storage capacity, support on a variety of multiple files and images attachment, connectivity and popularity. Telegram's client-side code is an open-source software, but the source code for recent versions is not always immediately published, whereas its server-side code is closed-source and proprietary.

One of the instructor’s tasks is to prepare the online assessments to learners. Google Forms and Google Drive are the convenient platforms used to conduct online tests or quizzes and submission of the assignments. The Google Forms provide various question templates such as short and long questions, multiple choice questions and questions that require special files to be uploaded. Each form has a specific setting either open to public or privately to specific users.

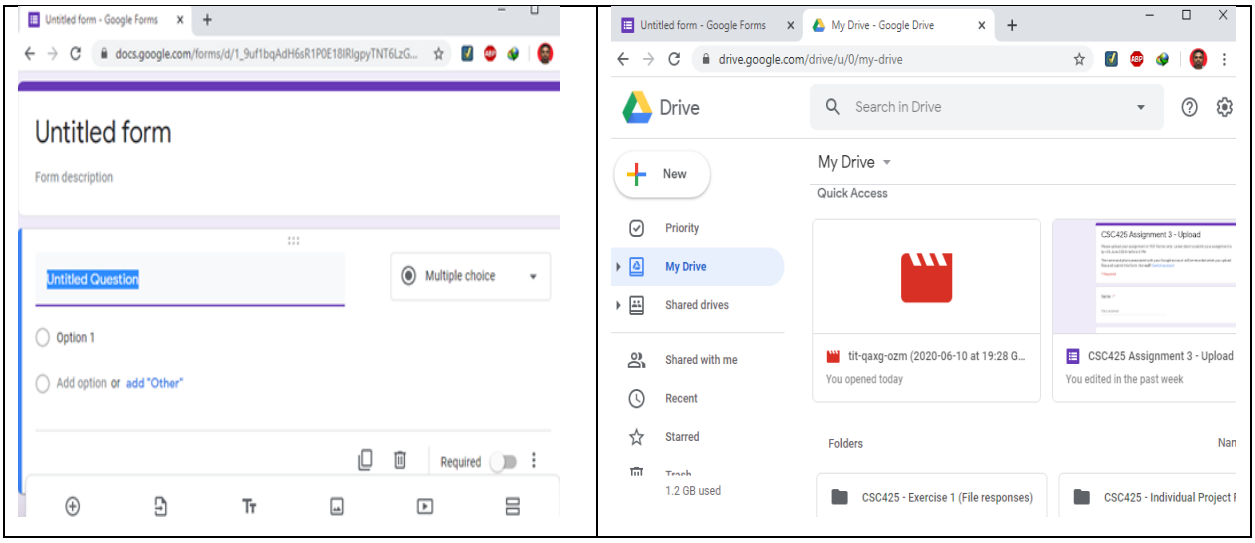

Figure 3: Google Forms and Google Drive

The responded answers or data through the Google Forms are stored in the Google Drive and only accessible by the administrator. Thus, only the instructor is able to examine the answers given by the learners from the Google Drive together with the uploaded files. The marking of the assessments will be done on the computer and not using the conventional way or marking as practiced before. Most instructors use the mouse to examine or mark the assessment. Meanwhile, those who have iPad devices are able to use a special pen for marking and easily putting annotations. On the other hand, learners are able to access their assignment that have been marked by their instructors from the Google Drive, which can really save printing cost as well as encourage the paperless concepts and practice of document sharing among authorised users.

Conclusion

E-Learning can help instructors to conduct virtual classes with the learners. E-Learning can be effective if the instructors can create creative and innovative class using a variety of tools that are easily retrieved by the learners. Another aspect that need to be considered is sustenance of momentum and interest of students' enthusiasm continuously without feeling bored and tense. E-Learning should be continuously improvised in a dynamic strategy so that the teaching and learning curve can be improved linearly.

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