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The Impact of Covid-19 on Education System: Transformation of Virtual Learning

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Abstract

In general, technology has the potential to mitigate the impact of Covid-19 on the educational system, which is a critical step toward moving away from large crowds; learning at school, meeting the teacher and classmates; and toward the distance, learning methods to prevent the spread of viruses that harm human health and kill people. Meanwhile, technology has been perceived as displacing the learning process, which has never stopped and will never cease until now. School activities and meetings are temporarily halted to prevent the virus from infecting humans. Therefore, the study is conducted to review past literature on the adaptation of technologies and their impact on online teaching and learning classes. To improve the efficacy of online distance learning, academic institutions should provide free programs, software, and other online tools for all academic communities. Thus, comprehensive government involvement is required to ensure all individuals have access to high-speed Internet and other relevant services. Additionally, the reviews can give more insights for teachers and learners to practice interesting digital learning tools in their teaching and learning classes in the future.

Keywords: Education, Technology, The Internet, Virtual Learning

Introduction

Technology is the medium of everyday activities in modern societies (Lee, 2002) while the Internet is a network that can connect all smart devices which need permission to access any information (Bosamia, 2018). The benefits of using these platforms are undeniable. Apparently, social norms and societal structures, as well as corporate values, are also affected by the advancement of the Internet and technology (Holladay, 2017). Those have greatly expanded worldwide and linked to each other that could minimize difficulties that occur in our surroundings. The adaptation of technology and the Internet allows people to overcome many critical issues that arise such as the most current contagious disease, CoronaVirus disease (Covid-19) where there are countless circumstances that fall out around the world. This outbreak affects the economy, society, and health system as well as education institutions as a whole (Robinson et al., 2021). To deal with this situation, practically all countries have implemented a lockdown to slow the spread of this virus.

Malaysia's 8th Prime Minister Tan Sri Dato' Muhyiddin Yassin has declared a Movement Control Order (MCO) for Malaysian welfare itself. Looking beyond education, all schools and universities were forced to close as soon as MCO started. As a result, all academic institutions began offering open and distant learning programs to all of their students. Worldwide, the higher education sector is seriously being disrupted through the effect technological innovations have on markets and the way they work (Ali & Nasir, 2019). Multimodal teaching is becoming more common, curricula are evolving, and extensive online research and collaboration forms are emerging. (Economist, 2008). Furthermore, to meet the needs of learners, higher education institutions must align with digital technologies development and equip them with knowledge on practicing online educational tools (Galanti et al., 2020). Technology for education has improvised many information and tools at one's fingertips through the Internet. Using technologies may help everyone to get through all problematic situations such as doing assignments, interviews, research, and many more. Many believe that technology along with the Internet may improve education by communication between teachers and students, the flexibility of e-learning as well as make people easy to use technology and the Internet in education (Cohen, 2021; Robinson et al., 2021).

Due to this pandemic situation, the adaptation of digital learning tools is of paramount importance to ensure the online distance learning process runs well. Basically, the usage of technologies and the Internet is not new in our online learning system. However, there is a dearth of research that investigates the impact of online learning implementations especially among institutional supporters, teachers, and learners (Edwards & Robinson, 2019; Leary et al., 2020). Considering this, the study is conducted to review past literature on the adaptation of technologies and its impact on online teaching and learning classes. Perhaps, the reviews can give more insights for teachers and learners to practice interesting digital learning tools in their teaching and learning classes in the future.

Issues in Virtual Learning

According to Bavel et al (2020), 'physical distancing' was best fitted for the current situation. Online distance learning has been replaced now as a means for humans to socialize and interact with others (Bergman et al., 2020). To date, the education learning process must be continued despite how long schools need to close. Due to that, technology seems to be the answer, and is the effective way to solve the problem. However, how really technology might benefit the student and parents in the learning process at home? In general, Malaysian parents and students suffer budgetary constraints when it comes to purchasing a gadget and accessing the internet. This is due to a lack of gadget devices in the impoverished family and the need to share with a big number of family siblings. As a result, students suffer significant disadvantages in the educational system. The second important issue is the availability of internet access in urban areas as well as distant living areas. Indeed, according to Patrinos et al (2020), the Asian region and Europe have the basic internet connectivity capabilities to enable schools to deliver education utilizing technology.

During the early stages of the epidemic, everyone was shocked to adjust the technique of teaching and learning at home to ensure that students did not stop learning or fall behind in the educational system (MMOE, 2020). Limited technology application, infrastructure and internet network issues raised and faced by parents, students, and teachers. Kamaruddin et al (2020) claim that teachers were not effective in utilizing information technology because of technical issues and new concepts. Most educators have no prior experience with the new technical application and infrastructure. With this in mind, UNESCO (2020) predicts that

prompt technological training will be a necessity for instructors, making it important for them to use the virtual learning process to its fullest capacity. On the other hand, a strong sense of community among parents, teachers, students, and guardians is essential for doing virtual learning at home with positive constructive student participation (Sufian et al., 2020).

Despite the advantage of technology, online learning and student conversation have diverse effects, with inert student engagement in virtual classes (Simpson, 2018). By experiencing a lack of self-confidence, online classes are perceived as improper in meeting discussions in large groups of individuals (Nasir et al., 2018a; Nasir et al. 2018b). This is due to the student's fear in virtual learning or discussion for exchange information and experiences indirectly compared to a direct school class. Therefore, learning schedule outcome explanation prior to class begins as a way to overcome the challenges of the virtual class. Most students believed and fully relied on their effort and self-study during this challenging virtual class (Rovai & Downey, 2010).

Besides, the National Security Council (2020) asserts that high-speed data connectivity that is reliable and cheap has a positive impact on virtual learning achievement. This is due to a Microsoft company recording a dramatic spike in users from 12 million to 44 million per day worldwide (National Security Council, 2020). The Ministry of Higher Education must continue to promote virtual teaching and learning, as advised by (Ahmad, 2020).

The Transformation of Virtual Communication

Face-to-face communication has ceased to be effective during the Covid-19 pandemic since virtual interactions have taken over. As expected, everyone utilizes digital gadgets and transforms their communication into virtual relationships rather than face-to-face communication (Kemp, 2020). Hence, during the Covid-19 event, each institution takes the initiative to establish long-distance connections between teachers and students through the use of technologies and the Internet. It has the potential to assist pupils in learning and comprehending the syllabus that has been taught. The teachers can conduct online classes via any platform, including web programs or social media platforms such as Facebook, WhatsApp, or Telegram. It may have an effect on students' ability to sustain relationships and communication. Additionally, through social media platforms, students are able to ask questions regarding the topic that had been taught and do not delay carrying the conversation between teachers and students. Interestingly, students also can review the recording topic thousands of times in the future as their teachers' created videos regarding the syllabus and posted them on social networks. Some teachers use YouTube channels to make it easy for students to watch it wherever they want. Therefore, it is proved that online learning is the primary alternative of traditional learning that can be conducted remotely regardless of the location of the teachers and learners (Robinson et al., 2021). The sudden transformation to virtual learning seems applicable and required more effort from various parties including the government to provide support in terms of connectivity, facilities, and budgets for all students.

The Flexibility of Learning

According to the 2030 Agenda for Sustainable Development Goal 4 (SDG-4), it aims to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all (United Nations, 2021). The Internet must be effective in both formal and informal learning among all available education. It will bring more open-ended learning options to everyone. The flexibility of online learning could help the student to make their own schedule, as it will

enhance their educational performance. On the other hand, it is convenient for the learner who took the part-time study to get more flexible time to study. Usually, people who are currently taking a Master's Degree or Ph.D. might take this opportunity for their own good where they could split their own time to go work and study at a time. In addition, to be persistent, students would tolerate the technical problems they face and seek assistance when needed to succeed in online education. It also requires internal motivation, independence as well a strong sense of responsibility. For example, University Teknologi MARA (UiTM) has provided facilities of financial assistance to buy Internet that amounted to RM30 for students that have financial problems subject to the terms and conditions.

Furthermore, students are not only depending on one resource where they could find other resources through the Internet. They can access many websites to gain more information regarding their assessments that have been given since there are unlimited resources. This could bring advantage on learning at their own pace which may help to reduce students' pressure. The tasks that have been given to the students have required them to complete them in a face-to-face classroom. This could not give any space for them in order to ask questions or maybe the students could not understand what lecture has been taught since it is going too fast. By allowing study at students' pace, they will slowly grasp the information and lead to achieving better grades. For example, students could repeatedly play the videos that have been placed on digital media such as YouTube, Google Classroom, etc. Hence, the flexibility in e-learning gives a huge impact on students where it brings more benefits rather than drawbacks.

Eventually, the implementation of online distance learning can leverage the adaptation of Industrial Revolution (IR 4.0) technology in most universities (Sani, 2018). Thus, from universities' perspective, there is a need to redesign their courses that encourage social interaction while nurturing self-governing skills from academicians and learners (Robinson et al., 2021). The sudden transformation towards virtual learning incurred chaotic situations at first, however, a supportive learning environment with strong involvement from academic institutions will result in better preparation for teachers and students to adapt these changes in their educational practices.

Education Life is Easy with Technology and the Internet

The powerful medium for information is the Internet. The Internet has allowed the market without the typical barriers traditional institutions faced upon establishment (Graves, 2001). Technologies and the Internet make people's lives easier vitally for education. It allows students to focus more and help them to become productive also for getting better knowledge from their lecturers. Although this pandemic Covid-19 gave a lot of challenges to everyone, they could deal with it by relying on technology with various platforms.

Nowadays, many online learning applications can be explored such as Kahoot! Quizlet, Plickers and many more. It brings entertainment and at the same time, students are able to increase their achievement. Moreover, both private and public schools in Osaka Prefecture are having distance learning where the lecturers assign homework for students where they can easily access it using digital education technology. Additionally, university students could access their student web in order to exercise their Microsoft Office 365. It is easy for them to make use of the software that is provided by the university for assignments, live videos, also

a sticky note and many more. For example, University Teknologi MARA (UiTM) is providing this useful application in iStudent and it is applying to UiTM students only which outside students should use their own student web itself.

Furthermore, education and the Internet may be effortless with e-resources. Electronic resources provided by the university are equipped with license agreements that have restricted use to currently enrolled universities' students, faculty, and staff, and users who are walk-in physically in the library. The online resources have copyright laws and the terms of the license between the university and the publisher. E-resources could provide a multiple access network and it is accessible for 24 hours/ 7 days a week and can be accessed by multiple same users at one time. The flexibility of electronic resources may allow them to analyze the publisher's content without restriction. The information provided is legal and unlimited where the material is included of mixed media such as images, videos, audios, animations. The more we explore the Internet the more we get the benefits. The e-resources consist of online databases such as ProQuest, Emerald Insight, Scopus and others.

As a result, the usufruct that has been granted could make life easier for students to learn more and increase their dedication to learning. Besides that, technologies and the Internet can give drawbacks, yet students must take initiative to eliminate it, so it will be challenging in order to improve students' skills and abilities in their education. Students must be in a happy and joyful environment since it can generate motivations, interests, and happiness for students.

Conclusions

Due to the overwhelming cases of Covid-19, most educational institutions around the world are unable to conduct face-to-face learning processes. The huge transformation towards online learning has taken place as the primary medium to ensure the continuity of teaching and learning process. With the adaptation of technology and the Internet, online distance learning can be carried out effectively with numerous free online applications such as Kahoot! Quizlet, Plickers and also social media platforms that consist of WhatsApp, Telegram, Facebook and others. The purpose of this study is to review past literature on the adaptation of technologies and understand its impact on online teaching and learning process. Apparently, to ensure the efficiency of the virtual teaching and learning process, academic institutions need to review all their courses to ensure the syllabus contents are aligned with the need of online distance learning. Additionally, the enhancement of knowledge on digital learning tools is necessary to encourage the variability of teaching tools that can increase the interest and attention of students. Besides, educators should maximize the effectiveness of online learning by considering the sociocultural contexts (Mellieon & Robinson, 2020). Despite the technology challenges, E-learning also enhanced students' understanding and provided development in IT skills, specifically in terms of immediate access to information (Ali & Nasir, 2019) through diverse technology applications explored by students and teachers. Thus, students and teachers are performing using effective learning methods. Hence, each individual must be prepared with mental, ability and resources in teaching and learning exchanges process (MMOE, 2020). According to MMOE (2020), digital communication and IT skills are two factors that impact the students' task performance at home, however it depends on the individual's capabilities. Therefore, to ensure the success of online distance learning not only relying on the ability of the teachers and educators, however, the academic

institutions should support this online learning by providing free applications, software and other online tools for all academic communities. Hence, full engagement from the government is necessary to ensure the Internet connection, speed and also other related facilities are accessible to all citizens.

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