

EFFECTIVENESS OF ONLINE TEACHING DURING PANDEMIC OF COVID-19 AMONG EDUCATORS IN HIGHER LEARNING INSTITUTIONS: AN OVERVIEW

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Abstract

The rise of pandemic Covid-19 worldwide has change the way we conduct things. Educators are among the group that impacted from this pandemic. The effectiveness of online lecture conducted among educators in Higher Learning Institutions has been questioned by stakeholders such as students, parents including the institutions it selves. Hence, the present study reviewed on the factors contributed towards the effectiveness and the mitigation strategies to be adopted by educators in facing challenges of conducting lectures, exams, consultations, and assessment via online. Various factors shall be considered in achieving the effective online learning in Higher Learning Institution. The announcement made by the government on MCO 3.0 recently has raised more concern among the stakeholders on the changes of virtual education. Due to this, the relevant tools in mitigating the problem and good assistance from various parties could give a positive enhancement towards online learning further discussed. Systematic review was conducted in collecting information relating to factors contribute towards effective teaching and ways to overcome its challenges gathered and further analyzed. This overview provides higher learning institutions with a check-list kit to conduct an audit for measuring their teaching and learning effectiveness during a crisis.

Keywords: *COVID-19; Higher Learning Institutions; teaching; learning*

1.0 Introduction

The World Health Organization has officially stated on Wuhan virus Covid-19 as a global pandemic. At the end of 2019 in Wuhan, China's high-tech business hubs witnessed an outbreak of an entirely distinctive coronavirus in the 21st century, which killed a few thousand Chinese in the fifty days of spreads and suffered thousands of other people. The novel virus was designated by Chinese scientists as the COVID-19 novel coronavirus. This COVID-19 spread globally later, in a shorter time. Due to COVID-19, many countries' economies are significantly affected. In addition, within a month, the epidemic altered working conditions across the globe. Later, almost 120 countries stopped studying face-to-face; and the higher education system opt to operates through e-learning. This pandemic creates serious threats to mankind all over the world. Educational activities such as teaching and learning at all levels are forced to change from traditional physical classroom into online platform. Traditional method of face to face teaching and learning have both been considered to be key elements in Higher Learning Institutions to achieve expected learning outcomes [1]. Due to the pandemic situation that hit the world, it has forced the Higher Learning Institutions to opt for online teaching.

Technologies, including artificial intelligence, have transformed the conventional way of education to the new way of learning. Various platforms were used as teaching medium such as blogs, learning portals, video conferencing, smartphone applications, and thousands of free websites for blended learning resources. Hence, e-learning could be portrayed under a wider concept of technology-based learning. Online courses are being offered by most of Higher Learning Institutions which could be within and outside campus, for students. The government has offered a lot of money for Higher Learning Institutions in Malaysia. Over the 2016-2023 forecast timeframe, the growth of the online education market is estimated to be 16.4 percent annually. Perhaps university teaching and learning models will be updated in 10 to 15 years with the rapid growth of the internet. Thus, relying on the use of E-learning platform for students are the best decision with the present situation. The changes of educators in delivering its subject matter to students has raised concerned on how effective the teaching method used by educators. Review of previous studies justify the current status of its effectiveness by identifying factors contributed and challenges faced among educators. There are different benefits when learning with the use of e-learning platforms, namely: minimal cost, using the emerging innovations, teaching materials are selected as required, access is unlimited, universal and develop the community [2].

Changes on traditional medium to online platform in educating has led to other problems such as mental stress among educators. There are four reasons that led to mental stress among educators in Malaysia after using online platform for lectures delivery [3]. Firstly, lack in training on how to use the platform before conducting any online classes is a major caused towards mental stress amongst them. Given the shortest possible period of training and planning, on the course delivery through university learning management system also contribute to educator's mental stress. Without weighing advantages and disadvantages, lack in planning and strategizing as well as limited time in exploring are all factors that contributes towards educator's mental stress. It can compromise the standard of teaching and learning.

Second factor is on readiness in facility such as subscribing home internet networks is an issue. Some educators are using their telephone network to plan for teaching, provide online tutorials and stay linked with students. Limited data subscribed also affecting in terms of its efficiency and quality of educator's performance [4]. Thirdly, in terms of preparing exam questions for instance, educators have to change the exams set that can accommodate on online learning environment. It can be done through conversion of the final exams to coursework, for example, examinations or take-home. Yet, educators have raised concerned in the context of "What about laboratory and practical tests? How can the educators alter the work-integrated learning that is part of the evaluation contained in the degree course? Will the appraisal adjustment still be the case? Can the learning outcomes be achieved?".

Fourthly, relating to online grading examination, as many educators are found and diagnosed with computer vision syndrome, as educators have to use machines to read and provide input remotely for long hours [5]. In addition, since the pandemic outbreak, answering endless questions from students via email has become a regular routine [6]. All of the above caused the educators a great deal of anxiety, fear and tension. Nonetheless, due to insufficient infrastructure and funding to sustain online learning, there are universities and colleges in Malaysia that are caught flat-footed. This raises the question of how students, especially those who are being offered a scholarship or loan, will complete courses on time. The infrastructure gap between West and East Malaysia is immense, even though Malaysia has over 80 percent Internet penetration. For example, people living in Sabah and Sarawak (East Malaysia) face slower speeds whereas in some areas there is no Internet access at all. Meanwhile, for those living in the capital city (West Malaysia) enjoy up to 800 megabytes per second of high-speed Internet. Overall studied has found that Malaysia is still lacking in providing quality internet connection to support online study throughout Malaysia [7].

Among the major challenges faced by Higher Learning Institutions students were lacking of proper interaction and contact with students and educators [8]. The abrupt change from conventional classrooms and face-to-face learning to online learning has resulted in students having a radically different learning environment. In contrast to online learning or distance education, conventional classroom learning has been more successful. It can therefore be argued that online learning in underdeveloped countries, where most students are unable to access the internet due to technological and monetary problems, cannot yield successful results. Students not only need to know how to deal with fast-paced online classes to ensure a successful and fruitful online programme, but they also need to have a competent computer and technical skills to learn from online lectures provided by educators.

2.0 Literature Review

2.1 Factors contribute towards effectiveness in online education

Singh and Curley [9] in his study used by ranked the efficiency of educators in using online platforms based on the courses thought by educators, as the faculty members believes that the effectiveness of one in delivery the subject are also depending on the course thought by educators. In his study, educators are also concerned and founds that educators are not preferred in using online platforms especially on regards of academic integrity of online courses its selves, mechanisms need to further identify further to address an attempt of cheating and plagiarism relating to online assignments and examinations. Due this, trust is one of the factors that help educators to deliver and conduct online classes effectively [10]. In addition, study conducted suggested on frequent meet among educators especially in higher education in evaluating and planning the courses. This will assist the higher education to be part of the support system relating to defective course design and delivery [11], [12]. Revisit on curriculum are also needed, to ensure the effectiveness of online courses delivered by educators.

2.2 Impact on educator's workload during pandemic-19

The global spread of the COVID-19 pandemic disease has had several effects that could impact the general health of individuals [13]. On the one hand, the virus itself produces personal circumstances in which human emotions such as fear, concern, panic, anxiety, or depression-related distress may occur more frequently among individuals, in addition to the symptoms of the disease. As such, a spike in depression and stress levels between the first days and the third week of the lockdown was observed in recent research on the psychological effect of this pandemic disease on the general population. In addition, anxiety has been correlated with disrupted sleep in several studies. People around the world have found themselves dealing with new fields of expertise. Some of them have absolutely stopped their work and will have to face their future with confusion in short; others have noticed that their working hours have improved and challenging circumstances have been addressed (e.g., health and social workers, or product suppliers).

Educator well-being levels can also be improved by face-to-face and online professional development interventions aimed at fostering flexibility and autonomy, coaching in learning communities, and the development of emotional control. Many existing health strategies, however, are either tokenistic, reactive, or intended for entities that are not colleges. With just a week's notice, many educators were expected to move their classes to completely online formats, under the promise that this type of emergency schooling will not last forever [14].

Ever since then pandemic started, the workload of the educator has been increased than usual compares to face-to face classes. The coordination for course materials, the preparation of online teaching materials and the monitoring of student involvement can be additional activities. It leads to a condition where, as a result of the use of associated ICTs, educators are encouraged to work faster whenever and wherever. Techno-overload occurs when, educators are forced to adapt in maximizing the usage of ICT, where it led the educators to work harder and longer. It can result in job exhaustion and other health issues for them. A significant number of cumulative trauma injuries involving the hands, wrists, elbows, ribs, shoulders, lower back and cervical spine areas are caused or contributed to by poor occupational design, uncomfortable and repetitive body movements and other ergonomic hazards. With the use of ICT, teaching and learning systems are becoming more dynamic than traditional approaches where classroom face-to-face exists. The incorporation of ICT into the teaching and learning process poses numerous complicated issues. Educators need to familiarize with the use of media or software. It could be seen that the task has pile up from time to time. There must be a consideration in settings and teaching time that must be shared with the media or application itself. It may lead to vague roles of educator, overwhelmed, nervous, and depressed. This can impact job performance in the long run [15].

2.3 The need for reliable support system in delivering Online Teaching.

To provide a more productive means of conducting and handling OTL, educators are forced to use social media channels. For instance, Microsoft Office360 can be used by educator to allow his students to have a better learning experience. This app provides its users with a "one-stop-center" involving Microsoft Teams, Office, SharePoint, OneNote, OneDrive, etc. During the MCO time, the library at the HEIs must take a fast and reactive approach to meet the needs of learners and educators. There has been a huge increase in the use of online library services during this time. The library has been designed to serve online with more services. This provides a portal for digital e-resources to be accessed by educators and students. Having purchased and enhancing the plagiarism program is important for those involved in writing tasks, programs and theses. A Turnitin Software investment, for example, will handle the quality of the works that have been created by users. According to Hillman and his friends [16], learners cannot interact with content if they are not able to interact with the interface. Furthermore, Instructional class module training for educators found to be useful and added new knowledge, skills, and instructional strategies for educators in conducting lectures.

2.4 Impact of Covid-19 towards Educators in higher learning institutions

Universities or higher learning institutions is the best institutions in increasing soft skills. Attending classes, packed schedule, students' activities and meeting academic advisors physically raise the social skills among students. The pandemic-19 has change 360° in a way of conducting things in many institutions. The new norms of doing things virtually have somehow, increase the stress level not only among students but also to educators. The changes forces educators to adopt with changes in delivering the knowledge contents as well as to equipped students with new soft skills by turning into technology savvy. There are evidence shows a major impact towards educators in Higher learning institutions which is shifting a normal educational form from face -to face to online learning. Shifting in education from traditional classroom learning to online-based learning creating a tremendous change for educators specifically. Study conducted in India shows most educators are well prepared and likely to be in online mode and main of the reasons are due to the flexibility of the teaching time and location [17].

On the other hand, educators also complained that co-curricular activities are hardly to be execute and assessment will be a lacking as face-to face assessment unable to be executed [18]. However, there are also educators in some of the countries are facing difficulties in terms of familiarity in conducting classes online. Due to this, it has led to high stress level among educators [19]. The reachable towards educators at almost 24 hours per day as things can be communicated online also an impact in terms of educator's mental health. Many educators faced anxiety and panic owing to the numerous implications for many lectures, marking exams and conducting exams online. In addition, lack of self-discipline, suitable learning materials, or good learning environments were serious issues when they are self-isolated at home [20]. The effectiveness of the online learning is also an issue in a country such as Malaysia, Singapore, Thailand, and Indonesia that started to embrace the use of digital platforms to facilitate teaching and learning nearly ten years ago. Some educators highlighted that they are easily distracted during a lecture by doing on internet or talking to friends on messaging applications without any repercussions. Some educators are referring semesters during the pandemic are charity to students as they are not able to assess students rigidly due to many limitations that the educators are facing.

2.5 Mitigating the Challenges on Educators

Researchers from other countries highlighted on factors that able to mitigate the challenges faced by educators. Some of the findings shows that online learning requires facilities that able to support online teaching. This implies facilities such as computers, laptops and internet connection are a necessity to lessen the challenges among educators. Developing countries such as Malaysia, may have some difficulties in terms of getting internet connection especially, rural areas. Therefore, by providing an internet access facility, absolutely will assist educators in delivering process as well the content preparations. Unavailability of the facilities resulted high expenses among the educators in terms of preparing and delivering their teaching materials [21]. Lacking in terms of frequent network and lacking in IT skills in operating teaching facilities are other barriers that can be solve with a proper training among the educators [22]. Training or manuals in using one teaching platforms are needed to lessen the stress level among the educators. Therefore, highspeed internet access, compatible hardware and software for computer or smartphones, synchronization of time between educators and learners, usage of plagiarism software on online submission, managing psychological and financial obstacles [23].

2.6 Applying supports among educators towards effective online teaching

There is an increase of online modes of study which subsequently contribute to the need for professional educators. The effective support system will ease the burden of adopting to online teaching. In developing institutional expertise for online teaching, a cautious approach needs to apply on relating to training and workload of the educator. Due to the range of responsibilities and abilities applied in online environments, successful online learning involves a more versatile approach to the creation of skills. In intensive online environments, where there is less available time to acclimatize to new tools and operating environments, the ability to efficiently interact, navigate technology, and produce and analyse content becomes particularly essential. A number of online resources, programmes, and applications are used for online learning systems, which put new demands on the technological competence of instructors. In online courses, modes of communication also vary, with a greater emphasis on asynchronous communication methods. Student relationship formation often varies in online environments, and the essence of how relationships are initiated and sustained in online settings is not easily equivalent to face-to-face training at all times. Of course, when teaching online, evaluation and feedback are also provided in various ways through asynchronous methods [24].

2.7 Acknowledge and support mental health needs among educators

The present paper has reviewed many of the challenges among educators and factors that assist on the mitigation on the challenges faced by them. Students are not the only ones facing mental health challenges or trauma due to the pandemic. Psychological and socio-emotional distress among educators, may lead to burnout. Therefore, by acknowledging and look for sign among educator's burnout is important. Educators themselves may have had their own traumatic experiences, as well as concerns about their health and the health of their loved ones. The additional strains of supporting students and fulfilling the university performance index which does not limit to lecture, consultation, research projects, collaboration, innovation among educators has led them experiencing stress that can exacerbate their own. Healthy educators will assist a positive progression among students. Hence, spotting educators sign on burnouts such as high rates of absenteeism, fatigue, behavioural changes as well as drastic appearance changes on weight and declining groom or hygiene. Universities should offer resources to educators to support their own wellness. The wellness programs, such as virtual run, webinar on mental health, managing stress and mental health will assist educator's development opportunities.

2.8 Universities prioritize safety and communicate about it among educators

Educators that are returning from face-to face to online lecture adopting the maximum level of blended learning. Studies conducted by national educators from NPR. More than 3/4 of educators are worried about risking their own health. The fact that nearly 2/4 educators in higher learning institutions are considered high risk due to their age could be a contributing factor that adds to the stress. Some started to consider early retirement to avoid the risk. Therefore, communication and empowering educators to communicate relating to their health is another supports university may provide among their educators to minimize the risk. Unfortunately, there are reporting shows that only minorities of educators believe that raising the concern does not make any difference to the university's management levels.

2.9 Facilitate peer collaboration among educators

During this time of uncertainty and change, peer collaboration is needed in order to reduce educator's stress. Physical distancing does not mean educators isolation. Educators may facilitate among them with virtual connections for collaboration, problem-solving, and resource sharing. In addition, educators also able to do following up virtual development trainings provided by universities to upgrade skills from time to time. Conducting educators-facilitated virtual discussion may boost up educator's confidence level in educating and assisting students in study and research supervisions. The opportunities to bring educators working hand-in hand will help to strengthen the community, increase knowledge, and provide a network of supports from other universities as well as from industries. The ability in facilitating peer collaboration among educators will help them to reduce their stress.

3.0 Methodology

The literature search for the review was conducted from 2017 - 2021. The following scientific databases were searched: google scholars and ProQuest. In the search query, five sets of search terms covering the main concepts of the study's focus (identifying competences that teacher educators need to integrate technology in their teaching) were combined:

1. Educators workload and effective teaching
2. Educators support systems and effective teaching
3. Educators Mental health and effective teaching
4. Educators Safety and effective teaching
5. Educators Peer collaboration and effective teaching

The set of search terms effectiveness was later scoped within Malaysia context and some from other countries for comparisons purposes. The search was limited to peer-reviewed articles written in English and published since 2017 and above. Literature search did not focus exclusively on empirical studies and effectiveness theories. It is mainly based results reviews made by previous studies.

4.0 Findings & Discussions

Covid-19 has impacted various industries and education is one of it. By looking at the current situation, it will be less possible for the education system to be back on traditional mode. The pandemic has speed up the transformation from old or physical classes to online learning in a very short period. It has put a major force on the educator specifically where not only to ensure the delivery of the knowledge could be transferred smoothly but also the needs to adopt with the vast changing of learning method. The rapid change has its own pros and cons for the education industry since there are rooms for improvement could be implemented especially in tackling the accessibility issue.

The future research should focus on finding the solution in increasing the literacy of educator in new method of teaching (online teaching) as there are educators who are struggling in learning and adopting the new application or software. Support from the workplace plays an important role in helping the educator in facing the challenging transition without jeopardizing their health in coping with the increase of workload. Besides, the government assistance in ensuring a better access for the rural area could possibly overcome the problems that the educators need to face in engaging with the students.

This study provides some directions to the interest party as well as concerned stakeholders in identifying where they should be concentrating their efforts in terms of effectively preparing an online learning during the COVID-19 pandemic. The findings in this study have implications for stakeholders in Malaysian education industry. The present study suggests for those who are responsible in the higher education ministry to design teaching and learning methods that can meet the difficulties facing by educators and students in higher learning institutions during the pandemic crisis. Exploitation of latest technology and gadgets are no exception.

For higher educational operators, the present study can be used as a benchmark in terms to its recruitment and development of future online learning. Current knowledge relating to crisis management is needed for future higher learning institutions. The management of these higher learning institutions must have ability to demonstrate their competency for effective and efficient crisis management.

The higher learning institutions must be assessed for its strengths, weaknesses, threats, and opportunities in relation to COVID-19 crisis. From time-to-time specific objectives can be established and strategies will be developed for accomplishing a war against the crisis. In this case, making COVID-19 strategic plans in teaching and learning is essential. It requires latest information flows coming into the organization and coming out from the organization. It is a duty for the top management in the Higher Learning Institutions to perform environmental scanning. This environmental scanning allows effective COVID-19 strategies to identify treats from it. Learning institutions with lack of awareness about the crisis tend to limit their competitive advantage for future survival and advancement opportunities. The findings are considered to have made a significant contributing to the literature, by using the Malaysian Higher Learning Institutions which enhances our understanding on the need to understand COVID-19 crisis in education.

5.0 References

- [1] Shahzad, A., Hassan, R., Abdullah, N.I., Hussain, A., Fareed, M.: COVID-19 impact on e-commerce usage: An empirical evidence from Malaysian healthcare industry. *Humanities & Social Sciences Reviews* 8(3), 599–609 (2020)..
- [2] Bahasoan, A. N., Anwar, C., Khaldun, R. I., & Tahawa, T. H. B. (2019, October). The influence of economic growth on manpower absorption in Central Sulawesi. In *IOP Conference Series: Earth and Environmental Science* (Vol. 343, No. 1, p. 012253). IOP Publishing.
- [3] Sia, J. K. M., & Adamu, A. A. (2020). Facing the unknown: pandemic and higher education in Malaysia. *Asian Education and Development Studies*.
- [4] Oki, A. S., Sunariani, J., Irmawati, A., & Luthfi, M. (2020). DENTAL STUDENTS? PERCEPTION OF ONLINE LECTURE USING VIDEO CONFERENCING. *Systematic Reviews in Pharmacy*, 11(12), 245-248.
- [5] Bamfo, C. O. (2019). Level of Knowledge and Prevalence of Computer Vision Syndrome in Accra; A Survey of Bank Workers, University Lecturers and Students, and Clinicians (Doctoral dissertation, University of Ghana).
- [6] Tian, M., & Lu, G. (2017). What price the building of world-class universities? Academic pressure faced by young lecturers at a research-centered University in China. *Teaching in Higher Education*, 22(8), 957-974.
- [7] Chung, E., Subramaniam, G., & Dass, L. C. (2020). Online Learning Readiness among University Students in Malaysia amidst COVID-19. *Asian Journal of University Education*, 16(2), 46-58.
- [8] Adnan, M., & Anwar, K. (2020). Online Learning amid the COVID-19 Pandemic: Students' Perspectives. *Online Submission*, 2(1), 45-51.
- [9] Singh, R. N., & Hurley, D. (2017). The effectiveness of teaching and learning process in online education as perceived by university faculty and instructional technology professionals. *Journal of Teaching and Learning with Technology*, 6(1), 65-75.
- [10] Bao, W. (2020). COVID-19 and online teaching in higher education: A case study of Peking University. *Human Behavior and Emerging Technologies*, 2(2), 113-115.
- [11] Kebritchi, M., Lipschuetz, A., & Santiago, L. (2017). Issues and challenges for teaching successful online courses in higher education: A literature review. *Journal of Educational Technology Systems*, 46(1), 4-29.
- [12] Alzahrani, F. Y., & Althaqafi, A. S. (2020). EFL Teachers' Perceptions of the Effectiveness of Online Professional Development in Higher Education in Saudi Arabia. *Higher Education Studies*, 10(1), 121-131.
- [13] Aperribai, L., Cortabarría, L., Aguirre, T., Verche, E. and Borges, Á. (2020). Teacher's Physical Activity and Mental Health During Lockdown Due to the COVID-2019 Pandemic. *Frontiers in Psychology*, 11.
- [14] Dabrowski, A. (2020). Teacher Wellbeing During a Pandemic: Surviving or Thriving?. *Social Education Research*, pp.35-40.
- [15] Christian, M., Purwanto, E. and Wibowo, S. (2020). Technostress Creators on Teaching Performance of Private Universities in Jakarta During Covid-19 Pandemic. *Technology Reports of Kansai University*, 62(6).
- [16] Hillman, D. C., Willis, D. J., & Gunawardena, C. N. (1994). Learner-interface interaction in distance education: An extension of contemporary models and strategies for practitioners. *American Journal of Distance Education*, 8(2), 30-42.
- [17] Izumi, T., Sukhwani, V., Surjan, A., & Shaw, R. (2020). Managing and responding to pandemics in higher educational institutions: initial learning from COVID-19. *International Journal of Disaster Resilience in the Built Environment*.
- [18] Jain, S., Lall, M., & Singh, A. (2020). Teachers' Voices on the Impact of COVID-19 on School Education: Are Ed-Tech Companies Really the Panacea? *Contemporary Education Dialogue*, 0973184920976433.
- [19] Sethi, B. A., Sethi, A., Ali, S., & Aamir, H. S. (2020). Impact of Coronavirus disease (COVID-19) pandemic on health professionals. *Pakistan Journal of Medical Sciences*, 36(COVID19-S4), S6.

**Effectiveness of Online Teaching During Pandemic of COVID-19 Among Educators
in Higher Learning Institutions: An Overview**

- [20] Bao, W. (2020). COVID-19 and online teaching in higher education: A case study of Peking University. *Human Behavior and Emerging Technologies*, 2(2), 113-115.
- [21] Olelewe, C. J., Orji, C. T., Osinem, E. C., & Rose-Keziah, I. C. (2020). Constraints and strategies for effective use of social networking sites (sns) for collaborative learning in tertiary institutions in nigeria: perception of tvet educators. *Education and information technologies*, 25(1), 239-258.
- [22] Bakare, J., Oviawe, J. I., Nwachukwu, C., Anoure, N. C., Anayo, M. M., & Maghalu, F. A. (2020). Building e-teaching capacity of TVET Educators to Cushion the Effects of Covid-19 and Other Future Pandemics on Tertiary Education System of Low and Middle Income Countries.
- [23] Wahab, S.N. & Daud, D. (2020). Overview of COVID-19 in the Logistics/Supply Chain: Perspective in the Higher Educational Institutions, The Sixth International Conference on E-Learning, University of Bahrain, 6-7 December 2020 online.
- [24] Roddy, C., Amiet, D., Chung, J., Holt, C., Shaw, L., McKenzie, S., Garivaldis, F., Lodge, J. and Mundy, M. (2017). Applying Best Practice Online Learning, Teaching, and Support to Intensive Online Environments: An Integrative Review. *Frontiers in Education*, 2.