Literature Review of Online Teaching amidst the COVID-19

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Abstract

In light of this anomalous time, this paper explores pertinent literature capturing the essence of continued learning during the COVID-19 pandemic. A meta-analyses methodology was adopted for this review. Findings from the literature review reveals that higher educational institutions took drastic measures in 'migrating' from traditional method of face-to-face teaching to online virtual learning. This exploratory paper aspires to shed some light in hopes that future readers will find benefit, especially for those who plan to do research of this field for the very first time. The impact of online learning, implications of the findings and recommendations are further discussed.
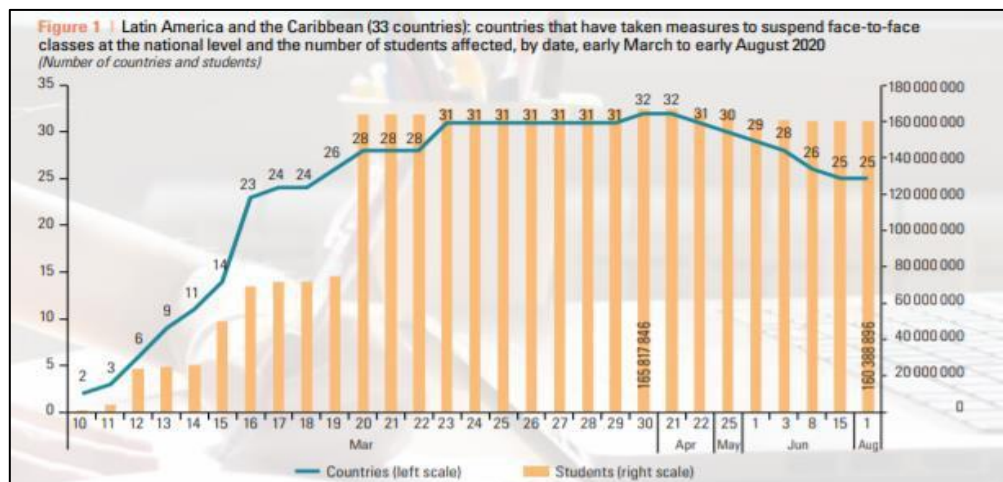
1.   INTRODUCTION

Since early 2020, universities all around the world have been experiencing an unprecedented massive migration from traditional face-to-face education to virtual online education. WHO officially declared Coronavirus termed as COVID-19, as a pandemic on March 12. (WHO, 2020). Globally, 107 countries are estimated to have implemented educational closures; currently the pandemic is said to have affected around 862 million people worldwide. This number is approximately half of the student population in the world (Viner et al., 2020). Moreover, 29 countries closed their educational institutions a week before the official announcement of COVID-19 as a pandemic (UNESCO, 2020 a, b).

In the context of the outbreak, governments and Higher Education Institutions (HEIs) worldwide launched various policy initiatives. There were raising concerns by faculty members about what to teach, how to teach, the workload of staff members and students (Mahmood, 2020), the teaching environment (Ali, 2020), and the implications for education equity (Zhang, Wang, Yang, & Wang, 2020). Pakistan reported that the COVID-19 not only wreaked havoc on the human body but also tested the preparedness of the local universities. These universities will have to quickly and efficiently deal with a crisis that requires a multi-disciplinary team, all equipped with substantial technological savvy, to enable effective online learning (Mukhtar, Javea, Araaj, & Sethi, 2020).

According to a UNESCO (2020) report, several government initiatives surfaced to guarantee the right to higher education during the pandemic in Latin America and the Caribbean (IESALC). The decision to temporarily close HEIs was prompted by the principle of socidistancing and that large gatherings of persons constitute a serious risk to safeguarding public health during the outbreak.

Figure 1 | Latin America and the Caribbean (33 countries): countries that have taken measures to suspend face-to-face classes at the national level and the number of students affected, by date, early March to early August 2020
(Number of countries and students)

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of United Nations
Source: Educational, Scientific and Cultural Organization (UNESCO), "Education: from disruption to recovery" [online] https://en.unesco.org/covid19/educationresponse.

1.1   Aim of the Study

The author defines Literature Review Paper (LRP) as a journal paper that provides a comprehensive overview of (or a selection of) the literature in a specific area, bringing together the material in a clearly structured way, and adding value through weaving connected points together and coming to interesting conclusions. This paper focuses on the more general LRPs, encompassing specifics such as meta-analyses (Ali, 2020) methodology but not including scientometric analyses (see Denney, A. S., & Tewksbury, R. (2013). Scientometrics is the field of study which concerns itself with measuring and analysing scientific literature. Critics (Barbera, E. & Clara, M., 2012) have argued that over-reliance on scientometric analyses may resulting in producing low quality research.

Subsequently this review intends to take a new or non-conventional approach towards understanding online learning during this exceptional challenging period in education. The review was guided by the following research questions:

What are some of the challenges and benefits of integrating online learning in HEIs in response to COVID-19 pandemic?

Primarily, the analyses and recommendations are for HEIs councils, and policy makers at both the systemic and faculty members and administrative staff at institutional level, for whom the content of this brief review should provide information for decision-making in the short-term.

1.2   Significance of the Study

Intriguingly, the findings of this review are considered to be of great importance to various stakeholders for several reasons. Due to the scarcity of previous research regarding how HEIs are coping with keeping students engaged during COVID-19 pandemic and the closure of HEIs globally, this study will help uncover critical areas and contribute to the pool of systematic literature review. This in turn can be used by future researchers especially those who are doing research in this area for the first time. Also, for the relevant authorities in improving their education policies and initiatives during this unprecedented time. This paper is to be a benefit of HEIs by providing insights into ICT integrated teaching, enabling them to strengthen their programs and better prepare faculty members to deal with diverse exigencies such as the COVID-19 pandemic. As some studies and report (Dhawan, 2020; Mukhtar, et.al., 2020; World Bank, 2020) have indicated, online learning is a panacea in this time of crisis.

2.   METHODOLOGY

This paper focuses on recent literature reviewing publication from January 2020 to August 2020 considering that it a new phenomenon. In literature review papers, the section on methods is often very short, as the literature used in the review is "drawn" from the limited publication available during the period mentioned.

2.1   Search Strategy

The first question raised was on how to select the papers to be reviewed. The material that forms the source material for the review were sought from the numerous databases that are widely available (e.g. Web of Science, SCORPUS, SciSearch, Social SciSearch, PsycInfo and Scholar Google). This was done through systematically 'searched' using the University of Bahrain Library Catalogue. For example, the key words used for the search (including strings, such as "Online Teaching and Learning", "COVID-19", "pandemic", "policy", "initiatives", "global" and so on.) and the selection has been heavily influenced by the Boolean operators (AND, OR, and NOT). In all cases, the author recommends making the use of these operators explicitly. An example of making explicit the search strategy is the LRP produced by Scheepers et al. (2014).

The author searched for studies investigating the effectiveness of online teaching amidst the pandemic published from the earliest possible start date January 2020 up until 31st August 2020. We chose to not specifically include a start date, since existing reviews did not match the research question closely enough to perform an updated search. In this study, we focused on peer-reviewed articles and open access. A first step in gaining knowledge about the public policies and HEIs responses to the outbreak. Also, the researcher searches for blogs and testimonies with the aim to induce a mode shift is to be aware of the results of personal voices in addition to interventions published in peer-reviewed research papers. Because of situational differences between, for example, cities, a second step will be undertaken to investigate policy measures/interventions implemented in the area of interest. The search strategy excluded studies written in Arabic, French and Spanish and exclusively selected articles published in English. The researcher evaluated the identified studies on their suitability for data-extraction first by abstract and eventually by reading the full text. The eligibility of a publication is then confirmed, examined and checked by the researcher. Based on the examination of abstracts, the researcher shortlisted only 2020 publications. Reference lists of the eleven included studies were also screened, which resulted in no additional studies. The reference lists of these eleven reviews were also examined, which resulted in those studies to be included in this systematic review. In total, less than 20 publications were eligible for data extraction. Of these publications, two publications described the similar study, which left the author with nine original studies.

2.2   Data-extraction

From the included studies, we extracted information regarding (i) Study Characteristics: mostly in the 2020 publications, location of study, methodology, ascertainment of outcome indicators; (ii) Study Population; (iii) the responses: aim, pedagogy; (iv) Challenges; (v) Infrastructure Support; (vi) Politics of Resistance; (vii) Staff Readiness; (viii) Student Accessibility.

3.   FINDINGS & DISCUSSION

Findings and discussion of this LRP have three categories; the world context, students' responses, and the policies implementing pedagogical changes, support and impacts.

3.1   World Context

Nine months into the coronavirus pandemic, the official global death toll was at over half a million deaths, the confirmed death cases as of October 2020, has now exceeded one million people. But

researchers warn that this figure probably vastly underestimates the actual number of people who have died from COVID-19. The actual total death toll from COVID-19 is likely to be higher than the number of confirmed deaths. This is due to limited testing and problems in the attribution of the cause of death; the difference between reported confirmed deaths and total deaths varies by country. In a worst-case scenario, one group of modelers suggests that the number of deaths could exceed 3 million people by January 2021. (Roser, M. Ritchie, H., Ortiz-Ospina, E., & Hasell, J., 2020).

Countries most affected by the virus are doing their best to continue teaching. For example, Italy was the first EU member state to close its universities and move courses online (UNESCO, 2000), even before the entire country was placed under quarantine. Similarly, Denmark, Greece, Ireland, Hungary and Poland have followed suit and suspended in-person lessons in favor of virtual classes (WHO, 2000).

There is no doubt that some institutions in the world lacked such preparation and planning measures needed for smooth and efficient implementation of virtual classes, as in the case of the HEIs in Australia. As 2020 dawned, within months, COVID-19 cases calamitously surged and the Australian government were declaring a state of crisis. Australia's universities felt threatened. Critiques have typically focused on government funding cuts, the deleterious consequences of market-based reforms and the loss of academic autonomy under an increasingly audit and metric-driven culture. Amidst the COVID-19 pandemic however, these concerns are being overshadowed by devastating revenue shortfalls, mass staff layoffs and a sense of imminent 'existential crisis' (Doidge & Doyle, 2020). Exacerbating this is the Australian government's explicit exclusion of universities from national emergency assistance packages and its recent announcements about university funding reforms. Australia have struggled with accommodating the rapid switch to online learning (Slattery, 2020).

In the emerging and ever-changing COVID-19 context, universities globally are moving towards online and remote learning. For Examples University of Bahrain, are using Blackboard, Microsoft Teams, and Moodle as the Learning Management System. New York University Shanghai, and Duke Kunshan University offer examples of successful adaptation and rapid deployment of education technology products, like the video - conferencing platform Google Hangout, Google Meet and Zoom (Czerniewicz, 2020). These institutions have rapidly innovated and implemented online learning due in part to established familiarity with the necessary tools, teaching approaches and considerations with online teaching. This has resulted in less disruption for many students unable to return to face-to-face classes.

Literature reveals that universities globally are assuming responsibility, and are doing (Bao,2020; Ali, 2020; Dhawan, 2020; Sanz, et.al., 2020, Zhang, et.al., 2020) everything they could do to slow down the further spread of the Corona Virus in their respective institutions. According to many researchers (Chung, Subramaniam, & Dass, 2020), this change towards online teaching and learning is inevitable. The current COVID-19 situation demands that the safety of students and the teaching staff are prioritized.

3.2 __Students' Responses__

The immediate impact has obviously been that the temporary cessation of classroom activity has left HEIs students vulnerable. A disruption of their space brought on by a crisis (Ferguson, 2020) as COVID-19, has exacerbated their fragile condition. Students have had to rearrange their daily lives to adjust to a situation of confinement (Bao, 2020; Zhang, et.al, 2020). Inevitably, the loss of social contact and socialization routines that are part of the daily experience of a higher education student took heavy tolls. The isolation that was inevitably associated with confinement have effects in terms of socio-emotional balance that left their mark (UNESCO, 2020).

Significantly, a study investigated 399 universities students across different demography in Malaysia revealed that the students were ready to dive into the online learning experiences and intended to continue using online learning. Obviously, the teaching staff members that include the professors, lecturers, and teaching assistants are the key players in the effective implementation of ICT integrated learning (Aydin, 2012; Ali, 2018; 2019). Interestingly the research conducted in

Malaysia (Chung, et.al, 2020) indicated that females were found to be quicker to adapt to the new situation than their male counterparts. Further to that, female's degree students were more satisfied with online learning and have better learning experiences compared to the male students with diploma. More than half of the male respondents responded that if given a choice, they do not want to continue with online learning in the future. Most respondents preferred online learning via pre-recorded lectures uploaded to Google Classroom and YouTube. While the biggest challenge for HEIs students with virtual learning remained as internet connectivity, and understanding the content of the subject (Chung, et.al., 2020).

3.3   Policies implementing Pedagogical Changes, Support and Impacts

In the case study conducted at Peking University, the findings revealed that students often faced challenges not from the technical operational obstacles. Instead, they have difficulties due to the lack of a good learning attitude (Bao. 2020). Students often have problems such as lack of self-discipline, suitable learning materials, or good learning environments when they are self-isolated at home. The researcher proposed that emotional support in addition to technological support is necessary for online learning to be successful.

Governments, University councils, Quality Assurance agencies, and Education Ministries, with the participation of academic staff, IT support staff, and student organizations, should forge a consensus on a national strategy or contingency plan as soon as possible. This strategy or standard procedures are necessary if not critical in promoting recovery, where the impacts of the crisis have been felt the most. Promotion of innovation, reflecting on the effectiveness of online teaching and learning is a way forward.

It is important to focus on mechanisms that strengthen the resilience of HEIs, especially through a solid support system in technology and pedagogical capacities (Ali, 2018; 2019) aimed to appropriately use non-face-to-face methodologies, as well as their abilities to monitor students. As the study (Mukhtar et.al., 2000) highlighted that the limitations of online and remote learning were inefficiency in maintaining constant internet connection and difficulty in maintaining academic integrity.

4.   RECOMMENDATIONS AND CONCLUSIONS

In retrospect, the deadly COVD-19 and in the endeavor to avoid its spread, governments worldwide have stringent measures in place. Many are still conscious of opening the institutions as many HEIs still opt for online learning to curtain the spread of the coronavirus. It is recommended that:

- HEIs invest on training aimed at supporting the faculty members and the students with emotional support during this challenging time.
- Staff members may want to consider improving the degree and depth of students' class participation as the principle for high-quality interaction between faculty and students.
- Contingency plan due to traffic overload. It is necessary to make contingency plan to address possible technical issues of the online education platform.
- The government needs to invest and develop solid internet infrastructure across the country as online learning will be the new norm in the foreseeable future.

In view of the current circumstances, where so many variables have yet to be define, this literature review paper must be seen as one that is in constant revision and a "work-in-progress". The author intended to explore further new ideas and initiatives, to encourage knowledge sharing and international collaboration among practitioners and policy makers in the global higher education institutions.

Biography of Author

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