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Mitigating the Digital Divide in Online Education during COVID-19: Implications for Practice and Lessons for the Future

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ABSTRACT

This paper investigated the impact of the COVID-19 pandemic on education at a higher education institution (HEI). The study sample consisted of 76 teachers from an HEI in Oman. Qualitative research was used to conduct this study; document analysis was deployed to gather information from participants. The article shed light on the impact of the digital divide on learners and educators alike. Results showed that there are variations in access to devices and networks among different stakeholders. Another finding indicated by this paper was the Challenges with the technical know-how. Based on the findings, recommendations were made in an attempt to mitigate the digital divide and its negative impact on online learning in HEIs in Oman.

Keywords: Digital divide; mitigation; higher education institutions; online learning; COVID-19

Introduction

The commitment of HEIs to provide quality education has been disrupted by the outbreak of the novel coronavirus (COVID-19) pandemic. The unprecedented nature of COVID-19 has led to abrupt disruptions impacting various spheres of life, including, health services, the economy, and education. In an attempt to contain the spread of the pandemic, most countries across the globe decided to temporarily close educational institutions and ceased face-to-face instruction. COVID-19 posed unprecedented real challenges for the global higher education (HE) sector. As an initial response to alleviate the disruption, HEIs resorted to online delivery. Nonetheless, poorly resourced HEIs and socially disadvantaged students were key issues inhibiting the shift to the online alternative; consequently, HE preparedness for the shift to virtual environments was questioned by many scholars (Crawford et al., 2020). Therefore, it is indispensable that countries around the world begin to conceptualize a way out of this crisis to ensure inclusion and equity (UNESCO, 2020).

The Digital divide

COVID-19 has exposed the digital divide among HE students. The digital divide involves ethical issues because with the integration of new technologies in instruction, some learners fall further behind (Spector, 2016). The digital divide and digital equity for HE learners is a key social justice issue that needs to be addressed (Willems, 2019). One main form of inequity that was apparent during the swift transition to emergency online education is students' as well as teachers' access to the quality network and devices (Murphy, 2020). The key issue today does not involve primarily having any access to the internet, but it also includes some other forms. Four broad forms of digital inequity are evident (Stiakakis, Kariotellis & Vlachopoulou, 2009). First, internet users who have no access to powerful technical gadgets are unable to benefit from the internet content to a full range. Second, the autonomy of internet users may be restricted by the geographical area (urban vs. rural areas) as the quality of the internet access can differ significantly. Third, there are differences among internet users concerning the level of their education, technical skills, and expertise. Finally, digital inequity may be influenced by social support; families' and friends' familiarity with modern technologies might facilitate students' effective use of such technologies.

As a consequence of the disruption caused by the COVID-19 crisis, education, in developing countries, in particular, has been affected immensely. Hence, educational leaders have an ethical responsibility to act to minimize the effect of the digital divide and ensure the provision of high-quality education. A common misunderstanding concerning the quality of education occurs when it is viewed in terms of effectiveness and efficiency (Biesta, 2019). My view is that, in pursuit of quality education, HEIs should consider fundamental values such as equity and inclusion. The abrupt shift to online instruction intensified teachers' workload as teaching could not be merely carried out by uploading teaching materials online, but handling online teaching on the go was also required (Allen, Rowan & Singh, 2020).

The mitigation of the adverse effect of introducing new technologies can be done by effective planning and adequate support to learners and teachers (Spector, 2016). An effective strategy to tackle the digital divide issue is capacity building through staff professional development; HEIs are responsible for equipping their staff with the technological skills required to support the learning needs of students (Willems, 2019). Further, studies have indicated that to normalize the emergency online mode of teaching, HEIs should provide professional development programs for their staff (Blumenstyk, 2020; Zhu & Liu, 2020).

Research question

The purpose of this research was to investigate effective strategies to mitigate the digital divide during online education. The main research question was: What are academics' perspectives on the influence of the digital divide on teaching and learning amidst COVID-19?

Methodology

Qualitative research was used to conduct this research. Document analysis was deployed to collect data from participants. Documents have the strength of authenticity and meaningfulness in the sense of being clear and comprehensible to the researcher (Bryman, 2012). Bowen (2009) states that documents can be a means of tracking change and development. That is, where a variety of drafts of a particular document are accessible, the researcher can make comparisons and identify the changes.

The research sample consisted of 76 teachers at a higher education institution in the Sultanate of Oman. The teachers were both male and female from different countries including the UK, New Zealand, India, the Philippines, and Oman. Most of them held master's and Ph.D. degrees, with teaching experience ranging from 7 years to more than 25 years. As an insider researcher, I gained access to the documents. Teachers' weekly written reports on the effectiveness of the online mode of teaching were accessed online. The data were selected carefully so that they would help answer the research question. Then, data were analyzed using thematic analysis. Walter (2013) notes that the most commonly employed method of analysis in qualitative studies is thematic analysis. Thematic analysis is mainly about searching for key ideas (Creswell, 2012; Walter, 2013). Hence, this study used a thematic analysis by identifying the major themes in data gathered from the documents.

Findings and discussion

The documents revealed some valuable data that would help answer the research question. Teachers' reports assessing the effectiveness of the sudden shift to the online mode of learning showed the following key issues:

1. Student attendance
2. Network issues
3. Students' technical knowledge
4. Access to effective devices
5. Teachers' technical skills

It was found that student attendance and involvement in learning were minimal. Participants noted that some students had a low-quality internet connection. Teachers expressed their concerns that their students had different levels of technical knowledge. Thus, a considerable amount of class time was allotted to providing the required basic guidance to students. Some participants pointed out that the majority of students had no access to laptops or powerful devices which support the new learning platforms. One respondent wrote, "since there is no equality in terms of wireless access or quality of devices, the situation is utterly complex and subjective for teachers and the students in all their different localities with all their different attitudes toward the online study."

Technical know-how among teachers was the main hindrance to the effectiveness of the new teaching model. Therefore, some teachers commented that they felt confused about how to handle the sudden change. One participant noted, "teachers need support from technicians who are qualified to deal with the problems."

Findings drawn from this research showed that both teachers and students as stakeholders faced different challenges due to the abrupt shift to online education, and the digital divide was a major factor causing the challenges. Access to quality networks and devices was an essential part of the problem. Further, variations among teachers and students regarding technical know-how played an important role in the disruption of learning.

Recommendations

Based on the results of this paper, the following recommendations were made:

- An assessment of the requirements of the transition to online instruction should be carried out well in advance. This will ensure that planning is better informed to manage unexpected situations.
- Service providers should provide the required technical infrastructure; the provision of high-quality internet access in different areas across the country should be mandated following a given time frame.
- Low-income students should be provided with powerful devices. Industry partners need to fulfill their social responsibility and contribute to the provision of devices required for online learning.
- It is recommended that parents are involved in their children's learning; they should play an effective role in tackling the challenges encountered during online learning.
- It is imperative that timely technical training is provided to teachers and students alike. Professional development workshops ought to be presented by certified professionals at least a week before the shift. The local administration exerted evident efforts to achieve this goal, yet teachers who were giving the training sessions said that they were experimenting with things themselves and were just sharing their knowledge.

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Conclusion

The paper examined the impact of the digital divide on online instruction amidst COVID-19. The COVID-19 pandemic has caused great disruption in higher education across the globe, and Oman was no exception. The findings indicated that access to devices and internet networks was a key issue hindering the transition to the online mode of teaching. Moreover, there is evident consensus among the study respondents on the need for timely professional development programs. The disruption should be viewed as an opportunity for improvement and educational change. By bridging the digital divide among learners and teachers, higher education institutions in Oman would be able to sustain the commitment to their missions of providing high-quality education and thus do their ethical responsibility to ensure inclusive learning. This paper may have a positive impact on the digital divide issue. The findings of the study may help educational planners and tertiary education leaders review and adopt successful policies and practices in emergencies. The recommendations may provide some mitigation measures to address the disruption of learning and contribute to the continuity of education in an era of crises.

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