
LITERATURE REVIEW: IMPACT OF THE COVID-19 PANDEMIC ON THE TEACHING AND LEARNING PROCESS

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ABSTRACT

The COVID-19 pandemic has created the largest disruption to education systems in human history, affecting nearly 1.6 billion students in more than 200 countries. The closure of schools, institutions and other learning spaces has affected more than 94% of the world's student population. It has brought about vast changes in all aspects of our lives. Social distancing policies and movement restrictions have significantly disrupted traditional educational practices. The reopening of schools after the easing of restrictions is another challenge with many new standard operating procedures being put in place. In the short span of time from the COVID-19 pandemic, many researchers have shared their work on teaching and learning in different ways. Some schools, colleges and universities have stopped face-to-face teaching. There is a fear of missing out on the 2020 school year or even more in the future. The need now is to innovate and implement alternative education systems and assessment strategies. The COVID-19 pandemic has given us the opportunity to pave the way for introducing digital learning. This article aims to provide a comprehensive report on the impact of the COVID-19 pandemic on online learning of various papers and show the way forward.



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1. INTRODUCTION

The global outbreak of the COVID-19 pandemic has spread worldwide, affecting nearly all countries and regions. This outbreak was first identified in December 2019 in Wuhan, China. Countries around the world are warning people to be careful. Public service strategies include washing hands, wearing masks, physical distancing, and avoiding mass gatherings and gatherings. Lockdown and stay-at-home strategies have been put in place as necessary measures to flatten the curve and control disease transmission Shin and Kang, (2020). Bhutan first announced the closure of schools and institutions and reduced working hours during the second week of March 2020 (Basri, Husain and Modayama, 2021).

A comprehensive national lockdown was implemented from 1 August 2020 (Boehmer *et al.*, (2020)). In between, movement was permitted, offices started functioning, schools and colleges reopened for some levels and resumed with online classes for others. More than 170,000 children in Bhutan from grades PP–XII, today, are affected by school closures. The impact is far-reaching and affects learning throughout this school year or even more in the coming days. Some schools, colleges and universities have stopped face-to-face teaching. There is an urgent need to innovate and implement alternative educational and assessment strategies. The COVID-19 pandemic has given us the opportunity to pave the way for introducing digital learning (Sakkir, Dollah and Ahmad, 2021).

Research highlights certain dearths such as the weakness of online teaching infrastructure, limited exposure of teachers to online teaching, information gaps, environments that are not conducive to learning at home, equity and academic excellence in terms of higher education. This article evaluates the impact of the COVID-19 pandemic on teaching and learning around the world. The challenges and opportunities for online education and continuing education during the COVID-19 pandemic are summarized and suggested going forward.

2. PEDAGOGY FOR CONTINUING EDUCATION ONLINE

Lockdown measures and social distancing due to the COVID-19 pandemic have led to the closure of schools, training institutions and higher education facilities in most of the country. There has been a paradigm shift in the way educators provide quality education—through various online platforms. Online learning, distance education, and continuing education have become the panacea for this unprecedented global pandemic, despite the challenges faced by both educators and students.

The transition from traditional face-to-face learning to online learning can be an entirely different experience for students and educators, one they must adapt to with little or no other available alternative. The education system and educators have adopted “Emergency Education” through various online platforms and have been forced to adopt a system they were not prepared for.

E-learning tools have played an important role during this pandemic, helping schools and universities facilitate student learning during university and school closures (van Barneveld *et al.*, (2020)). While adapting to new changes, the readiness of staff and students needs to be properly measured and supported. Students with a fixed mindset find it difficult to adapt and adjust, while students with a growth mindset adapt quickly to a new learning environment. There is no one-size-fits-all pedagogy for online learning. There are different subjects with different needs. Different subjects and age groups require different approaches to online learning (Adedoyin and Soykan, 2020). Online learning also allows students with special needs with more freedom to participate in learning in a virtual environment, which requires limited movement (Mohebi *et al.*, 2018).

As schools have been closed to deal with the global pandemic, students, parents and educators around the world have felt the unexpected ripple effects of the COVID-19

pandemic. While the government, frontline workers and health officials are doing their best to slow the outbreak, the education system is trying to continue providing quality education for everyone during these difficult times. Many students in the home/living space have experienced psychological and emotional stress and are unable to engage productively. Best practices for online homeschooling have not yet been explored (Diering, Maxson & Mitchell and Freeman, 2018); (Morgan *et al.*, 2020).

The use of appropriate and relevant pedagogy for online education may depend on the expertise and exposure to information and communication technology (ICT) for educators and students. Some of the online platforms used so far include integrated communication and collaboration platforms such as Microsoft Teams, Google Classroom, Canvas and Blackboard, which allow teachers to create educational courses, training and skills development programs (Hammad *et al.*, 2021). They include workplace chat, video meeting, and file storage options that make keeping classes organized and working easy. They usually support sharing various content such as Word, PDF, Excel files, audio, video and much more. It also enables tracking student learning and grading using rubric-based quizzes and grading of submitted assignments.

Reverse class is a simple strategy for providing learning resources such as articles, pre-recorded videos, and YouTube links at the front of the class. Online class time is then used to deepen understanding through discussions with lecturers and colleagues (Silalahi and Hutauruk, 2020). This is a very effective way to encourage skills such as problem solving, critical thinking, and independent learning. Virtual classroom platforms such as video conferencing (Google Hangouts Meet, Zoom, Slack, Cisco, WebEx) and cloud-based customizable learning management platforms such as Elias, Moodle, BigBlueButton and Skype are increasingly being used.

3. CHALLENGES IN TEACHING AND LEARNING

With an ocean of online educational platforms and tools available, users—both educators and students—often face problems when using or referring to these tools. Some of the challenges identified and highlighted by many researchers are summarized as follows: Challenges that are widely identified with e-learning are accessibility, affordability, flexibility, learning pedagogy, lifelong learning and education policy (Ailene, Dimick and Newman, 2021). Many countries have substantial problems with reliable Internet connections and access to digital devices. While, in many developing countries, economically backward children cannot afford online learning tools, online education poses a risk of exposure to increased screen time for students. Therefore, it becomes important for students to engage in offline activities and self-exploration learning. The lack of parental guidance, especially for young students, is another challenge, as both parents work. There are practical issues surrounding the physical workspace that are conducive to different ways of learning.

Students who are innately motivated are relatively unaffected in their learning because they need minimal supervision and guidance, while vulnerable groups consisting of students who are weak in learning face difficulties. Some academically

competent students from economically disadvantaged backgrounds are unable to access and pay for online learning. Student academic performance levels are likely to drop for classes held for year-end exams and internal exams due to reduced contact hours for students and lack of consultation with teachers when facing difficulties in learning/comprehension (Loftus *et al.*, 2021); (Pandey *et al.*, 2020); (Tsimba, Masupe and Setlhare, 2020).

Student assessment is done online, with lots of trial and error, uncertainty and confusion among teachers, students and parents. The approach adopted for conducting online exams varies according to the convenience and expertise of educators and the suitability of students. Proper measures to check plagiarism have not been implemented in many schools and institutions mainly due to the large number of students. Not only has the school and college lockdown affected internal assessments and examinations for key public qualifications such as the General Certificate of Secondary Education (GCSE), but A levels have also been canceled for the entire UK cohort. Depending on the duration of the lockdown, postponing or canceling the entire exam assessment may be a grim possibility (Idiong, no date).

Various state level board exams, recruitment exams, university level exams and entrance exams have been postponed across India due to the COVID-19 outbreak and nationwide lockdown. Various entrance examinations (such as BITSAT 2020, NATA 2020, CLAT 2020, MAT 2020, ATMA 2020) have also been postponed/rescheduled. The education system at schools, colleges and universities across the country has been badly affected due to the ongoing situation. It is also possible that some students' careers might benefit from the interruption. For example, in Norway, it has been decided that all 10th grade students will be awarded a high school degree. A study conducted in France showed that in 1968 the abandonment of normal examination procedures in France, following student riots, led to positive long-term labor market consequences for affected groups (Cahapay, 2020) dan (Loftus *et al.*, 2021).

School time also improves skills and social awareness besides being fun for kids. There is an economic, social and psychological impact on students' lives when they are away from the normal school schedule. Many of these students have now taken online classes, spending additional time on virtual platforms, which makes children vulnerable to online exploitation. Increased and unstructured time spent on online learning has exposed children to potentially harmful and violent content and to greater risk from cyberbullying. School closures and strict containment measures mean more families are relying on technology and digital solutions to keep children engaged in learning, entertainment and connected to the outside world, but not all children have the knowledge, skills and resources needed to keep themselves safe online.

In many cases of online learning, most students come from rural villages where parents are mostly illiterate farmers. Students are involved in helping parents in agricultural activities such as farming, raising livestock and household chores. Some students even asked to postpone the exam time before the afternoon because they had to work in the fields in the morning. Several students stated that they had to take care of their sick parents/grandparents/family members and take them to the hospital. By

evening, when they returned home, it became difficult for them to keep up with the lessons.

Parents whose children are in the lower grades feel better about letting their children repeat the next school year. The majority of students have no access to a smartphone or TV at home in addition to poor internet connectivity. No or less income for the large population due to business and office closures. Data packages (cost) are high relative to the average income earned, and continuous access to the Internet is an expensive business for farming communities.

Online in-person (video) classes are driven by most; However, some (economically disadvantaged) students state that face-to-face online classes consume more data packets. Teachers are in a dilemma about who to listen to and which tools to adopt. Some people think pre-recorded videos can help; However, this will limit interactions. It is difficult to design the right system to suit the learning needs and convenience of all students.

4. OPPORTUNITIES FOR TEACHING AND LEARNING

While there are tremendous challenges for educators, schools, institutions and governments regarding online education from different angles, there are several opportunities created by the COVID-19 pandemic for those who are not ready and are still far from plans to implement e-learning systems. This has forged a stronger relationship between teachers and parents than ever before. Homeschooling requires parents to support student learning academically and economically. Children with disabilities need additional and special support during this ongoing emergency.

The use of online platforms such as Google Classroom, Zoom, virtual learning environments and social media and various group forums such as Telegram, Messenger, WhatsApp and WeChat are explored and tried for teaching and learning for the first time to continue education. This can be explored further even after face-to-face teaching resumes, and these platforms can provide students with additional resources and coaching.

Teachers have an obligation to develop creative initiatives that help overcome the limitations of virtual teaching. Teachers are actively collaborating with each other at the local level to improve online teaching methods. There are unparalleled opportunities for collaboration, creative solutions and a willingness to learn from others and try new tools as educators, parents and students share similar experiences (Kaur and Bhatt, 2020); (Quezada, Talbot and Quezada-parker, 2020); (Ahmady, Shahbazi and Heidari, 2020). Many educational organizations offer their tools and solutions free of charge to assist and support teaching and learning in a more interactive and engaging environment. Online learning has provided opportunities to teach and learn in innovative ways unlike the normal classroom teaching and learning experience.

5. DISCUSSION

As of July 2020, 98.6% of students worldwide were affected by the pandemic, representing 1.725 billion children and youth, from pre-primary to tertiary education, in 200 countries (Sakkir, Dollah and Ahmad, 2021). Hence, making learning possible and available from homeschooling has become a necessity of the moment. The pedagogy available and used for face-to-face learning is not suitable for online learning. Although various pedagogies have been designed for online and distance learning, technologically backward teachers need proper professional development and training to orient themselves towards their students. Authentic assessment and timely feedback are important components of learning. A very important part of online distance learning is the availability of useful formative assessments and timely feedback to online learners (Adedoyin and Soykan, 2020). This is seen as a challenge for educators and the education system. This is more challenging in the Bhutanese context due to the greater power of classes, the lack of online teaching and professional development infrastructure, and the non-participatory nature of students.

Maslow before Bloom is a common phrase used in educational circles. This must be an online learning mission for the continuation of education in the current pandemic. This phrase is usually used to ensure that our students are safe and that their basic needs are met before online learning begins. Domestic violence and violence against children is increasing because more perpetrators are at home or in the surrounding environment, which is a mental disorder and a threat to students (Citra Kunia putri dan Trisna insan Noor, 2020). With students now experiencing homeschooling during this COVID-19 pandemic, the conducive environment at home for all standards and socioeconomic conditions is not uniform. Studies should be carried out to support economically disadvantaged groups. In Bhutan, there have been reports of students dropping out of school or choosing to drop out of school. This is due to the long holidays imposed by school closures during the COVID-19 pandemic. While no research has been conducted to evaluate the direct impact of the pandemic on dropout rates, research in this area will reveal factual details.

There are various online infrastructures that have been prepared by many educational companies and made free for learning during this pandemic. The affordability and accessibility of this online infrastructure for all students from various economic backgrounds is still a challenge.

Students with special needs who experience learning difficulties, such as those who are deaf, blind and with mobility disabilities, require additional training with support and guidance. Many caregivers and parents at home are unable to meet these needs, hindering the learning of this group of students. Therefore, there is a need to invest time and resources to explore and research the best alternatives for these special educational needs (SEN) learners. As all student assignments and exams are done from home, it is difficult for educators to find the authenticity of the work and learning that is actually happening.

In addition, many parents guide and support their children throughout their learning process, and levels and levels of support vary widely. Student assessment is another area of study as no precise criteria have been developed and used effectively.

6. CONCLUSION

The study of the impact of the COVID-19 pandemic on teaching and learning processes around the world concluded that although various studies have been conducted, in the case of developing countries, appropriate pedagogies and platforms for different grade levels of upper secondary, secondary and primary schools. education needs to be studied further.

Internet bandwidth is relatively low with fewer access points, and data plans are expensive compared to people's incomes in many developing countries, making accessibility and affordability inadequate. Policy level intervention is needed to remedy this situation. Further exploration and investigation of effective pedagogy for online teaching and learning is an area for research. The need to develop tools for authentic assessment and timely feedback was found to be another area of study. Affordability and accessibility for all learners from different economic backgrounds were identified as a challenge, where educational tool developers could focus on adaptation. Policy level interventions are also important. Education systems around the world including Bhutan need to invest in teacher professional development, particularly in the areas of ICT and effective pedagogy, taking into account the current scenario. Making online teaching creative, innovative and interactive through easy-to-use tools is another area of research and development. This will help and prepare the education system for such uncertainties in the future.

The lesson learned from the COVID-19 pandemic is that teachers and students must be oriented towards using different online educational tools. After the COVID-19 pandemic when normal classes resumed, teachers and students should be encouraged to continue using these online tools to enhance teaching and learning.

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