

COVID-19 and Higher Education:

What challenges did higher education professionals in Sri Lanka encounter when teaching online during the pandemic?

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ABSTRACT

Pandemics are inherently disruptive, and the COVID-19 epidemic was no different. The COVID-19 pandemic, which lasted over two years, caused widespread disruptions worldwide, significantly impacting the global educational system. The lockdown in 2020 altered the educational landscape, forcing educators and students to adopt virtual learning environments. Covid-19 disrupted daily life globally, including in Sri Lanka, affecting various aspects of life. Sri Lanka's situation was worse than developed nations and transitioning to virtual higher education faced challenges due to lack of expertise and uneven infrastructure deployment, hindering equitable learning value production. This article discusses Sri Lankan university collaborations to address connectivity issues and electronic device shortages during the pandemic's virtual and hybrid education transition. It emphasises the need for digital skills enhancement and adaptation, particularly for children in rural areas and economically poor households.

INTRODUCTION

During COVID-19, developing countries faced educational limitations due to traditional methods, as implementing virtual learning environments was a challenge in smaller countries such as Sri Lanka {Kapurubandara and Lawson,

2006; Khlaif *et al.*, 2021). In addition, classroom learning methods involved a lot of interaction between teachers and students, thus creating reciprocal value {Morris *et al.*, 2020). Virtual learning methods were face-to-face discussions between teachers and students, but in developing countries, the uneven

KEYWORDS

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distribution of facilities and resources prevented the creation of shared value {Arora and Srinivasan, 2020; Lall and Singh, 2020). Some students followed this path easily, while others struggled academically and violated values {Lall and Singh, 2020). In addition, unknown factors could help or hinder the process

of interactive value creation in distance learning {Arora and Srinivasan, 2020; Lall and Singh, 2020}. Furthermore, students became more nervous because of the lack of information that often occurred in distance learning {Lall and Singh, 2020; Pietro *et al.*, 2020; Muller *et al.*, 2021}. This article aims to explore the challenges faced by higher education professionals in Sri Lanka during the pandemic and the obstacles faced by students in Sri Lanka when learning online.

COVID-19 AND THE SHIFT TO ONLINE HIGHER EDUCATION

COVID-19 had a major impact on the higher education sector and disrupted its operations {Haththotuwa and Rupasinghe, 2021; Hayashi *et al.*, 2022}. The COVID-19 pandemic closed higher education institutions in 192 countries around the world {Sasere and Makhasane, 2020; UNESCO, 2020}. The disease affected education worldwide, including Sri Lankan universities {Ilankoon *et al.*, 2020; Hettiarachchi *et al.*, 2021; Hayashi *et al.*, 2022}. According to the United Nations Educational, Scientific and Cultural Organisation {UNESCO}, as of mid-May 2020, more than 1.5 billion students stopped attending face-to-face classes {Hayashi *et al.*, 2022}. In addition, teachers and students in higher education in Sri Lanka faced obstacles during the epidemic, which sparked debates on social media and among teachers about the challenges of distance learning {Bandaranayaka and Ganegoda, 2023}. On March 13, 2020, the government of Sri Lanka banned the opening of educational institutions to prevent the spread of the disease {University Grants Commission, 2020; Haththotuwa and Rupasinghe, 2021}. Sri Lankan higher education institutions were encouraged to offer online courses from the beginning of the outbreak, and although face-to-face teaching has resumed on a limited basis, this continues today {Gamage *et al.*, 2020}. In addition, there were many studies on the acceptance of online

education in the literature (*ibid.*). In the context of online education, it is difficult to ignore the factors that influence the user's acceptance of e-learning (*ibid.*). With the advancement of technology, online learning is becoming more and more popular {Haththotuwa and Rupasinghe, 2021}.

Teachers and students faced problems with accessing online resources, quality of use and teacher recruitment {Mahyoob, 2021}. Teachers also faced challenges in online learning, including collaborative activities such as *Zoom* meetings, difficulty meeting with students, lack of methods to assess learning outcomes, and lack of knowledge to implement digital resources {Zhu *et al.*, 2018}. It also included primary school students. The focus was on online learning, the learning environment, the lack of teaching materials and students' lack of access to the internet, which caused classes to run beyond the scheduled time (*ibid.*).

When universities and professors stopped providing Emergency Remote Education (ERE) to their students, many countries started offering it {Tawil, 2020; Meletiou-Mavrotheris *et al.*, 2022}. Distance learning involved teachers and students with limited resources, networks, technology and knowledge {Ferri *et al.*, 2020; Shohel *et al.*, 2022}. Most ERE decisions were based on university resources {Tawil, 2020; Dayananda *et al.*, 2021; Meletiou-Mavrotheris *et al.*, 2022}. ERE also included all non-university students, which was another goal of ERE {Tawil, 2020; Meletiou-Mavrotheris *et al.*, 2022}. Universities did not understand the challenges that arose from the speed and cheapness of online education technology {Rasiah *et al.*, 2020; Abu Talib *et al.*, 2021}. Therefore, scientists lacked the skills to develop networks {Abu Talib *et al.*, 2021; Dayananda *et al.*, 2021}. In addition to that, another problem was that teachers did not receive proper instructions on how to use authentic materials {Abu Talib *et al.*, 2021}.

Some institutions required faculty to teach from residences, requiring personal computers and internet connections {Ferri *et al.*, 2020; Tawil, 2020}. When many children went to school from home, teachers struggled to complete lessons at the same time on the same device and phone (*ibid.*). During this time, teachers talked to students through *WhatsApp* groups and evening meetings to get parents who were concerned about inappropriate devices to agree {Dayananda *et al.*, 2021; Hayashi *et al.*, 2022}.

One of the major obstacles to the implementation of real education in public institutions was the lack of funding {Vershitskaya *et al.*, 2020}. Lack of funding for digital education was a major obstacle to its successful implementation (*ibid.*). Most importantly, online courses emphasise flexibility, affordability, continuous learning, and educational principles {Alkhezzi and Ahmed, 2020}. Universities allocated funds to cover the cost per student as well as the total costs associated with distance learning compared with traditional teaching methods {Alkhezzi and Ahmed, 2020; Zamani *et al.*, 2022}. It was found that implementing online education in poor countries was difficult (*ibid.*). However, poverty and lack of technological infrastructure were major factors {Vershitskaya *et al.*, 2020}.

Teachers understood the students' situation. In addition to authentic assessment, face-to-face interactions required new perspectives on online learning {Islam *et al.*, 2015; Tamsah *et al.*, 2021}. Virtual teachers needed to have teaching skills, to learn new IT technologies and good teaching methods {Morley, 2010; Zimmer and Matthews, 2022}. However, not only technical skills were required but tools also needed to be adapted to accommodate distance learning {Morley, 2010; Zimmer and Matthews, 2022}. The rapid implementation of segregation and community exclusion also led to mental

health problems for students, parents and teachers {Ellepola and Rajapakse, 2020; Law and Society Trust, 2022}. For example, although physical travel was an important means of containing the spread of the Coronavirus, studies have shown that it had long-term negative psychological effects {Ellepola and Rajapakse, 2020; Hasan and Bao, 2020}.

LEARNING DIFFICULTIES DURING THE PANDEMIC

Distance learning also faced challenges such as poor online learning, negative teacher attitudes and high production and distribution costs related to student quality. Students faced challenges such as confusion in assignments, late returns, lack of technical support, technical focus and poor grades that led to low satisfaction {Chung *et al.*, 2020; Sahu, 2020}. Studies found that most respondents were concerned about the negative effects of online education on student learning, including loss of communication, difficulty interacting with teachers, testing, homework, time management and traditional learning methods {*ibid.*}. Many students, especially those from low-income families, could not afford distance learning materials {Abayasekara, 2021}. Some universities attracted students from wealthy families affected by the event {Abayasekara, 2021; Liyanagunawardena and Williams, 2021}. However, students and low-income families were the most affected {Samarawickrama, 2020}. Some teachers believed that many students did not have the computer equipment necessary for distance learning {*ibid.*}. There were many examples where students were unable to access digital education such as lack of computer equipment, lack of internet, lack of technology due to various reasons, and lack of electricity {Khashunika *et al.*, 2021}. Therefore, the lack of online learning means was the main obstacle to distance education {*ibid.*}. According to reports, teachers and students in some remote areas have climbed mountains to obtain the internet {*ibid.*}. According to many reports, research showed that

electronic devices and the internet were inaccessible outside the main centres {Khashunika *et al.*, 2021}. These issues resulted in differences in educational opportunities among students {Law and Society Trust, 2022}.

LEARNING LIMITATIONS

The outage affected institutions such as technical training centres and colleges, leaving teachers and students without access to the internet, computer equipment and teaching materials. Although teachers were encouraged to teach and work through social networks, the platforms themselves did not provide the means to assess students {Law and Society Trust, 2022}. Although many students did not attend online classes during the shutdown, teachers were asked to resume classes and resume face-to-face teaching {Yatigammana and Wijayarathna, 2021; Shohel *et al.*, 2022}.

PHYSICAL AND PSYCHOLOGICAL CHALLENGES

Due to the lack of proper guidance and support, online learning posed many difficulties for students, especially psychological stress. COVID-19 had a significant impact on education and learning, causing problems for both children and parents {Pietrabissa and Simpson, 2020}. Moreover, research showed that most students believed that distance learning improved technical skills in teacher-student interactions more than face-to-face learning, although face-to-face learning was not successful {*ibid.*}. According to Bhaumik and Priyadarshini (2020), most students believed that self-study was also beneficial. Contrary to this study, distance learning had different needs and perspectives {Ilangerathna *et al.*, 2022}. A study of university students found that students were becoming depressed due to poor academic performance, anxiety about the future and fear of the disease {*ibid.*}. In addition, most students {70.9%} reported that there was a lack of good communication between teachers and students, difficulty in paying attention and participation in

class {21.4%}, and a lack of individuality {*ibid.*}. Furthermore, lonely students reported that they were studying online during the pandemic, and distance learning increased loneliness {Hemanth, 2020}. In addition, economic conditions had a significant impact on distance learning skills {Ilangerathna *et al.*, 2022}.

Changes were implemented to increase efficiency while maintaining organisational dynamics {Khashunika *et al.*, 2021}. In addition, the organisations that adapted to the changes were the ones that decided to maintain them {*ibid.*}. Some universities that, in the past were unwilling to abandon traditional teaching methods, now had no option but to switch to distance learning {Dhawan, 2020}. Although the university administration planned to start classes online, some students opposed the change and preferred to study offline through distance education {Khashunika *et al.*, 2021}.

SRI LANKA'S HIGHER EDUCATION STRUGGLES AMID ECONOMIC AND OIL CRISES

As Sri Lanka's higher education sector faced financial difficulties due to the crisis, changes in some areas received more attention than others, affecting the future {Samarawickrama, 2020}. Sri Lanka closed its public universities and higher education institutions due to the oil crisis and economic recession {Samarawickrama, 2020; De Alwis, 2022}. Sri Lanka has had free schools since 1945, but as a result of the economic recession, higher education has become less accessible due to social and communication issues {De Alwis, 2022}. Oil scarcity has led to power shortages and poor-quality education for children in Sri Lanka {Samarawickrama, 2020; Elapatha, 2022}. Faced with rapidly rising tuition fees, those seeking higher education at private universities in the country faced many challenges {Elapatha, 2022}. Additionally, private universities were closing due to insufficient enrolment,

high tuition fees, and closure due to COVID-19 (*ibid.*). Universities reopened under health regulations after a year of closure due to COVID-19 (Elapatha, 2022; Samarawickrama, 2020). However, the economic recession forced all companies to reduce working hours again (*ibid.*).

Long-term solutions to political, economic and social problems required new technologies for the management of higher education (De Silva *et al.*, 2022). The Committee on Public Accounts (COPA) called for a review of the World Bank's \$100 million support to improve Sri Lanka's higher education sector (De Alwis, 2022). Sri Lanka's free education system was challenged by the economic crisis and the need for support from organizations to reach families (Wijerathne, 2023). School administrators used multiple tools, computers and connections to make online learning more effective and provided new types of information to teachers and students (Bozkurt & Sharma, 2020; Burgos *et al.*, 2020; Akbari and Pratomo, 2022;). Institutions believed if the foundation was solid, students and teachers would find the system efficient and effective (Burgos *et al.*, 2020; Akbari and Pratomo, 2022). Students who have computer skills and a positive attitude towards online learning could use online learning platforms (Abu Talib *et al.*, 2021; Akbari and Pratomo, 2022; Zamani *et al.*, 2022).

Shortcomings in school enrolment rates across the country needed to be addressed and dropout rates reduced (Rameez *et al.*, 2020; Khashunika *et al.*, 2021; UNICEF, 2021). In response to these challenges, Sri Lanka decided to focus on the availability and quality of education as part of education reforms (Rameez *et al.*, 2020; Dempsey and Burke, 2021; UNICEF, 2021). In addition, the impact of the pandemic forced higher education institutions in Sri Lanka to switch from traditional learning to online learning (Dempsey and Burke, 2021; Rajaguru, 2021). Moreover, students and teachers also benefited from online learning (Rameez *et al.*, 2020; UNICEF, 2021). The

Ministry of Education and the government provided financial support for the skills students need (Khashunika *et al.*, 2021). Additionally, providing good public access to students and teachers was critical to the success of blended learning, with internet service providers (ISPs) providing effective technology (Davis *et al.*, 2008; Park, 2011; Khashunika *et al.*, 2021).

METHODOLOGY

The research methods and techniques are divided into two parts: the first part describes the research purpose and research project. The process of obtaining, studying and interpreting data to better understand a situation is called research (Punch and Oancea, 2014). This study conducted a comprehensive review of 232 academic articles published over the past four years. The selection process focused on identifying relevant literature that addresses the challenges and impacts of distance learning during the COVID-19 pandemic. Out of the 232 articles, 112 were peer-reviewed, ensuring a high standard of academic rigour and credibility. The data collection process involved several steps: a systematic search was conducted using academic databases such as Semantic Scholar, Google Scholar, Science Direct, and Research Gate. Keywords included 'distance learning', 'COVID-19', 'online education', 'educational challenges' and 'developing countries'. Articles were selected based on their relevance to the research topic, publication date (within the last four years), and peer-reviewed status. A qualitative study was included to provide a comprehensive understanding of the subject.

The initial search yielded a large number of articles, which were then screened for relevance. Abstracts and titles were reviewed to exclude studies that did not meet the inclusion criteria. Full-text articles were then assessed for eligibility. Key information from the selected articles was extracted, including study objectives, methodologies, findings and conclusions. This data was organised into a structured

format to facilitate analysis and comparison. The quality of the selected articles was assessed using established criteria for evaluating academic research. This included examining the study design, sample size, data collection methods and robustness of the findings. By reviewing a diverse range of articles, this study aims to provide a comprehensive overview of the challenges and impacts of distance learning during the COVID-19 pandemic, with a particular focus on developing countries such as Sri Lanka.

FINDINGS

This study analyses the virtual learning challenges faced by teachers and students in higher education institutions in Sri Lanka during the pandemic. Despite the devastating impact of COVID-19 on higher education, educational institutions in Sri Lanka started offering virtual lectures so that students can continue to study without interruption (Dayananda *et al.*, 2021; Haththotuwa and Rupasinghe, 2021; Hayashi *et al.*, 2022). However, this transition was not without significant challenges.

For virtual education to be effective, it is crucial that both students and teachers have access to the right technology at the right time, along with a consistent broadband connection (Khashunika *et al.*, 2021). Many students, particularly those from low-income families, struggled with inadequate access to necessary devices and reliable internet connections. This digital divide exacerbated existing educational inequalities, making it difficult for all students to benefit equally from online learning opportunities. Additionally, intermittent power supply and poor internet infrastructure in rural areas further hindered the effectiveness of virtual learning.

Teachers who were not previously qualified to teach online faced significant difficulties with digital technology (Zhu *et al.*, 2018; Bandaranayaka and Ganegoda, 2023). The sudden shift to digital education required teachers to quickly

adapt to new teaching methods and tools, often without sufficient training or support. Many educators lacked the necessary digital literacy skills, which impacted their ability to effectively deliver online lessons and engage students. This lack of preparedness led to a steep learning curve, with teachers having to invest considerable time and effort to become proficient in using digital platforms and tools. In addition, the abrupt transition to digital education and the associated barriers reduced the diversity of teaching and learning experiences. Traditional classroom interactions, which foster diverse learning opportunities, were limited in the virtual environment {Samsudeen and Mohamed, 2019; Rameez *et al.*, 2020; Hayashi *et al.*, 2020). The lack of face-to-face interaction and hands-on activities made it challenging to maintain the same level of engagement and interaction as in physical classrooms. Furthermore, the one-size-fits-all approach of many online platforms did not cater to the diverse learning needs and styles of students, leading to a less personalized learning experience.

The rapid implementation of virtual learning also had significant psychological and emotional impacts on both students and teachers. The lack of face-to-face interaction, coupled with the stress of adapting to new technologies and teaching methods, contributed to increased anxiety and stress levels. Students reported feelings of isolation and loneliness, which were exacerbated by the absence of peer support and social interactions that are integral to the traditional learning environment. Teachers, on the other hand, experienced burnout due to the increased workload and the pressure to adapt quickly to online teaching.

Many students, especially those from low-income families, could not afford distance learning materials {Abayasekara, 2021}. Some universities attracted students from wealthier families, but students from low-income families were

the most affected {Samarawickrama, 2020}. Teachers reported that many students lacked the necessary computer equipment for distance learning {*ibid.*}. Common issues included lack of computer equipment, internet access, technology, and electricity {Khashunika *et al.*, 2021}. Consequently, the lack of online learning resources was a major obstacle to distance education {*ibid.*}.

Reports indicated that teachers and students in remote areas had to climb mountains to access the internet {Khashunika *et al.*, 2021}. Research showed that electronic devices and internet access were more available outside main centres, leading to disparities in educational opportunities among students {Law and Society Trust, 2022}.

The pandemic affected institutions such as technical training centres and colleges, leaving teachers and students without access to the internet, computer equipment and teaching materials. Although teachers were encouraged to use social networks for teaching, these platforms did not provide adequate means to assess students {Law and Society Trust, 2022}. Many students did not attend online classes during the shutdown, and teachers were asked to resume face-to-face teaching {Yatigamma and Wijayarathna, 2021; Shohel *et al.*, 2022}.

Students faced challenges such as confusion in assignments, delayed returns, lack of technical support, technical focus and poor grades, leading to low satisfaction {Chung *et al.*, 2020; Sahu, 2020}. Studies indicated that most respondents were concerned about the negative effects of online education on student learning, including loss of communication, difficulty interacting with teachers, testing, homework, time management and traditional learning methods {*ibid.*}.

The long-term implications of the shift to virtual learning are still unfolding. While some students and teachers

have adapted to the 'new normal', the overall effectiveness and sustainability of online education remain in question. The pandemic has highlighted the need for robust digital infrastructure, comprehensive training for educators, and equitable access to technology to ensure that all students can benefit from virtual learning.

DISCUSSION

The COVID-19 pandemic has, indeed, posed significant challenges to the education sector in Sri Lanka, affecting both academics and students {Dharmaratna *et al.*, 2020; Bandaranayaka and Ganegoda, 2023}. The shift from traditional face-to-face learning to online education was abrupt and required rapid adaptation. Many students faced issues such as lack of access to reliable internet, inadequate digital devices and an unsuitable home environment for studying. Additionally, the economic impact of the pandemic further exacerbated these challenges, with many families experiencing reduced income. Efforts to address these issues have included providing free internet access to university servers and distributing digital devices to students in need {Dharmaratna *et al.*, 2020; UNICEF, 2021}. These measures have helped improve online educational experiences and promote equitable access to higher education. However, there is still a need for substantial investments to enhance the quality and availability of higher education in Sri Lanka {Dharmaratna *et al.*, 2020; Liguori and Winkler, 2020}. To ensure the education system in Sri Lanka can meet future challenges, it is crucial to focus on several key areas. Improving internet connectivity and providing necessary digital tools to all students is essential for infrastructure development. Equipping educators with the skills needed for effective online teaching and blended learning through teacher training is also vital. Additionally, revising curriculums to better suit online and hybrid learning environments will help adapt the curriculum. Finally, addressing

the psychological impact of the pandemic on students and staff through counselling and support services is important for mental health support. By addressing these areas, Sri Lanka can build a more resilient and inclusive education system that can withstand future disruptions and provide quality education to all students.

CONCLUSION

This study aims to shed light on the challenges faced by teachers and students in Sri Lanka due to the COVID-19 pandemic. Likewise, teachers in virtual classrooms, especially when reaching remote students, faced challenges due to a lack of bandwidth, electricity and household income {Alsoufi *et al.*, 2020}. Throughout the COVID-19 pandemic, teachers and students needed to stay active, stay healthy and think clearly {Mondol and Mohiuddin, 2020}. COVID-19 had a significant impact on students and lecturers in higher education, creating challenges and opportunities {Wijewardene, 2021}. Before the onset of COVID-19, Sri Lankan universities faced unprecedented challenges as online education continued under unprecedented restrictions {James and Kengatharan, 2020; Rameez *et al.*, 2020}. Sri Lanka may need to transition to higher education, adopt online education and develop integrated education and training using international best practices {Kirupainayagam and Sutha, 2022}. In addition, the many obstacles encouraged some teachers and students to adopt distance education as a new approach (*ibid.*). Universities and teachers should develop programmes to teach problem-solving to students and promote the use of distance learning {Riyath and Muhammed Rijah, 2022}. ■

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