

11. Shifting to Online Learning in University in COVID-19 Pandemic

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Abstract

This chapter examines lecturers' experiences of shifting from physical classrooms to online learning and their strategies for managing online learning after the outbreak of the COVID-19 pandemic in Nepal. This qualitative research employed semi-structured interviews and observation to collect data. We report that lecturers' practice of online learning has changed their traditional beliefs about face-to-face teaching practices. Online workshops and webinars enabled them to identify and use information and communication technologies (ICTs) for online teaching in pandemic lockdowns. Despite their limited knowledge of ICT and e-pedagogies, they created online group forums and engaged students in collaborative learning activities. This resulted in students' off-class communications and increased their learning autonomy in online classes. Lecturers managed to teach many students in a short period of online courses despite unreliable electricity and the Internet. Systematic development of online education can provide students equal opportunities for quality education.

Keywords

higher education; online learning; COVID-19 pandemic; ICT tools; TPACK

Introduction

The widespread COVID-19 worldwide, including in Nepal, has kept more than a billion students home from schools or universities (Mondol & Mohiuddin, 2020). During the pandemic crisis, teachers were forced to adopt various ICT tools to conduct online teaching and learning (Radwan & Radwan, 2020). However, the Government of Nepal delayed responding to the pandemic crisis and its impact on education despite its rapid spread in neighboring countries (Dawadi et al., 2020). The Ministry of Education, Science, and Technology eventually decided to shut down all educational institutions on 24 March 2020 to keep people safe. Parents were instructed to keep their children at home while the schools were closed, and they were prohibited from visiting public places and attending gatherings.

Most universities, particularly in developed countries and with minimum ICT infrastructure, published press statements to increase students' and parents' awareness of adopting technologies for online learning (Mulenga & Marbán, 2020). In March 2020, all the schools and

most universities in Nepal were shut down. A few, mainly urban private schools, colleges, and specific departments at some universities attempted to conduct online teaching and learning using various ICT tools such as Teams, Google Meet, Zoom, Skype, and Messenger. These tools were widely used for alternative education worldwide (Basilaia & Kvavadze, 2020).

In this pandemic, Zoom, a videoconferencing tool, became a dependable technology for teachers and students to manage online learning (Sutterlin, 2018). It was extensively adopted for remote work, distance education, and online communications (Mervosh & Swales, 2020). Many educational institutions utilize Zoom to embrace online learning. Many lecturers were forced to learn how to use computers, mobiles, Internet facilities, and e-learning pedagogies for teaching their courses (Paudyal & Rana, 2021). In the crisis, the online learning mode became necessary to continue educational activities (UNESCO, 2020). However, several challenges were reported, such as teachers' limited or no ICT skills, lack of access to digital technologies, lack of ideas for online learning management, expensive technologies, and weak Internet (Mondol & Mohiuddin, 2020). Most particularly, government schools and universities in Nepal had several ICT illiterate teachers and limited or no ICT infrastructure (Rana et al., 2018) and would not be able to shift to online learning. Most schools and universities could not adopt online learning. The COVID-19 pandemic forced teachers and students to learn digital technology and new ways of learning in an online environment. Universities and professional organizations provided ICT training to lecturers to manage online learning in lockdowns in early 2020. Also, there was a proliferation of online seminars and class videos shared on Facebook. Moreover, university departments started to conduct online classes, particularly for master's students. This new practice of online learning provoked questions such as: how is lecturers' experience shifting from physical classroom to online teaching? In what ways do they plan and deliver their lessons in online mode? What are the challenges and benefits of online learning? We have tried to answer these questions in this paper.

Online Mode of Learning

Online education can allow students to work at their pace and provide flexibility for students and teachers (Allen & Seaman, 2011). Stacey and Wiesenbergs (2007) found that online learning in Australian and Canadian universities increased students' learning autonomy and helped lecturers be innovative. Despite the increasing workload for teachers to manage learning resources and provide regular feedback on students' work, effective online learning management can radically transform pedagogy (Dhawan, 2020). However, online teaching consumes more time and effort than physical classroom teaching (Hislop & Ellis, 2004) and requires teachers to be more conscious than face-to-face classes (Redmond, 2011). Nevertheless,

Paudyal and Rana (2021) argue that managing interactive activities such as group discussion, presentation, and inquiry-based learning in online classes is challenging. They also say that although the university departments develop basic infrastructure to conduct online learning, they may not have ICT-skilled lecturers and adequate digital learning materials. For example, lecturers at universities in India (Sahoo et al., 2021) and Pakistan (Dogar et al., 2020) complained about the limited resources such as an electronic library, computers, and the Internet that reduced students' learning motivation.

A learning moderator, educator, and instructor (Knowlton, 2000) need to understand specific responsibilities in facilitating students' learning from their homes in an online environment. For example, Sarker et al. (2019) reported that despite several technical limitations for implementing e-learning, teachers in Bangladesh played a vital role to increase students' participation and interaction in the online platforms. However, Devkota (2021) found that most lecturers in Nepal worked under stress due to insufficient ICT infrastructure and a lack of government support for online learning management during the COVID-19 pandemic. Nevertheless, Rana and Rana (2020) argue that lack of ICT training for lecturers, absence of government funding and lack of proper university plan to develop ICT infrastructure, and teachers' limited ICT knowledge would be barriers to effective ICT practice in education in Nepal. In Sub-Saharan Africa, Aborode et al. (2020) found that, although there was the presence of NGOs, private sector, ICT providers, international partners, and national service providers funding for ICT and offering data bundles for both private and public universities and schools, students in poverty from rural areas who could barely afford to access the Internet would not be able to improve their learning.

Planning and delivery of lessons

Teaching through an online mode requires teachers to know online pedagogies and the knowledge of physical classroom pedagogies (Ascough, 2002). In particular, they need to know how to communicate in a virtual environment, engage students in collaborative learning activities, and prepare students to manage their learning independently (Paudyal & Rana, 2021). Teachers can apply collaborative, problem-based, and students' deep learning methods in an online learning environment (Ascough, 2002). They can support students by providing study materials such as books, journals, videos, and audio through online learning platforms (Pradhan, 2012). Teachers can use videos, audio, images, and digital publications to make their teaching activities effective and productive (Rapanta et al., 2020). An online teacher can create a coherent learning environment for students and facilitate discussion about the nature of assignments, feedback, and assessment through a learning management system (LMS) (Roblyer et al., 2009). Bao (2020) suggests lecturers implement discussion

methods to allow students to share their understanding and experiences based on their learning.

For the management of online learning, teachers need to have the capability of designing flipped learning models (El Miedany, 2019). It is essential to develop faculty members' capacities to implement technological, pedagogical, and content knowledge (TPACK) in online teaching (Herring et al., 2014). However, Laudari (2019) argues that lecturers and support staff need to be well-trained to use digital technologies and implement online learning pedagogies. Nevertheless, Rana and Rana (2020) argue that lecturers should be provided with regular boost-up ICT training to upgrade their technological and pedagogical knowledge. Due to insufficient ICT training and a lack of government directives for the implementation of online learning, lecturers struggle to adopt new pedagogy even in a developed country (Trust & Whalen, 2020). Similarly, Lecturers' inability to understand how to transform their activities in a way that would help them interact with students due to a lack of online teaching experience and insufficient training reduces the effectiveness of online learning (Evagorou & Nisiforou, 2020). Hofer et al. (2021) emphasize seminars and workshops for lecturers to improve their online teaching activities. They suggest that higher education institutions need to encourage lecturers to create professional learning communities for sharing problems and ideas.

Research Methodology

This study employed semi-structured interviews and observations to gather qualitative information. Participants were selected purposively from two urban campuses in a city. 12 lecturers (six from private campus and six from community campus) were participants. The first author approached over 30 lecturers through email, Facebook Messenger, and personal contacts asking for their interest in participating in this study. Based on the "first-come-first-serve" strategy, we selected these participants. Their informed consent was obtained in written form. This allowed the first author to start the data collection. Pseudonyms replace their original names to maintain anonymity. Their online teaching experiences ranged from 3 to 6 months.

Lecturers were interviewed using Zoom on multiple occasions. Approximately 25 minutes on average was spent interviewing each participant, and an interview schedule was used to follow the interviews. Interviews were recorded on a mobile device. Observation of lecturers' online classes strengthened the data gathered through interviews. At least three online courses of each lecturer were observed. Observation activities were recorded in a diary. The data collected through interviews and observations were analyzed thematically. Audio records were transcribed, organized into specific themes, and interpreted critically. An inductive coding scheme allowed us to identify particular themes from the data and manage the data into these themes.

Findings

The analysis of findings is presented in the following three themes: lecturers' preparedness for online teaching, instructional strategies, and challenges and benefits of online learning.

Lecturers' preparedness for online teaching

Interviews revealed that campuses organized webinars and workshops for lecturers to support them in utilizing ICT tools in instructional activities after the outbreak of COVID-19. Lecturers shared their experiences and that workshops provided them with an opportunity for identifying and using online tools with colleagues. For example, Janak said:

I am a faculty coordinator and also teach courses. First of all, we organized a training program for lecturers to conduct online classes. We also made online video tutorials and shared them on our college Facebook page. There is a shift in teaching and learning. (Janak, Begnas Multiple Campus)

Other lecturers echoed that initial training programs on ICT and online learning developed their confidence in managing online learning in the pandemic situation. They also reported that online education was the only option to keep students engaged in their educational activities and provide the necessary support for remote learners during the pandemic situation.

Tika from Bindabasini Multiple Campus shared: "I have had a chance to reflect on the technology and how to interact with it. It reduces the time I spend doing busy work and focus on the students' needs." Rabin from the same campus shared how he learned to use digital tools to conduct online teaching and learning as he said: "I learned a little bit after participating in daytime workshops and webinars in this compelling situation. I was ignorant before." His expression reflected that his participation in workshops developed new knowledge of using new technologies for online teaching. Some lecturers had little idea about the technology before the pandemic, and others learned when they had to use new technologies to conduct online education during the pandemic.

Students are sent abroad for internships in our college, especially in the seventh and eighth semesters. We used Skype, WhatsApp, Viber, and Messenger to interview students. With the outbreak of COVID-19, I received some additional training from college and learned how to use various Google apps from YouTube. (Niraj, Begnas Multiple Campus)

I am trying to handle better what the online can do differently than what I am doing right now. (Gopi, Bindabasini Multiple Campus)

Niraj elaborated that apart from getting training from the college, he taught students by searching various materials from Google. However, Gopi shared his interest in exploring new teaching strategies for online learning management. Observation revealed that lecturers could provide new possibilities such as discussion, interaction, and video sharing to increase students' participation. They learned new pedagogies from brief online training and implemented their skills in instructional activities. For example, Anuj from Bindabasini Multiple Campus shared that he prioritized students' participation in learning by reducing his lectures. He said: "I have put a little more emphasis on students' discussions and interactions." Observation revealed that most lecturers still relied heavily on PowerPoint presentations and lectures. However, they could rapidly reduce, address, and increase discussion in online classes with consistent online teaching practices courses. Bikash said:

I use a laptop, especially for online teaching, to make it easier for students to understand lessons. computer which software called IBM on my computer sometimes shows videos by attaching a mobile camera to it. If you want to talk a lot one day, you have to use this technology to make it easier. (Bikash, Begnas Multiple Campus)

His comments demonstrated that he had already purchased basic technology, including a webcam, speaker, airphone, and recorder necessary for his online class. However, others were not familiar with new technologies available in the market. Nevertheless, they learned to use them to facilitate students' online learning.

Instructional strategies

Participants expressed their preference to work in online collaborative discussion forums to increase students' critical thinking and class participation.

I gained pedagogical insights from collaboration with my colleagues in a discussion group. We can start our online classes with students' comments and questions. I liked that format better. (Sukra, Begnas Multiple Campus)

Online discussion forums encourage students to think before discussing, and they can pull together their learning from readings and online resources. (Anuj, Bindabasini Multiple Campus)

They appreciated online discussion forums that offered students to learn lessons from sharing activities. It indicated that they employed student-centered teaching strategies to allow students to take their learning responsibility. Observations revealed that most lecturers used online quizzes, which helped accelerate students' learning. They used Google Classroom

and MOODLE to allow students to submit their assignments and provide feedback on their terms. More than half of lecturers preferred to create small group activities to involve students in collaborative learning.

With small group discussions and activities, you can address different study skills and learning techniques. (Ganesh, Bindabasini Multiple Campus)

I think small group activities cut the teaching burdens and boost morale. Students can learn new perspectives, insights, and values from one another. (Niraj, Begnas Multiple Campus)

Lecturers divided students into small groups to encourage their higher participation in collaborative learning, motivate them to take their learning responsibility, and develop social skills. Online joint activities helped students express their opinions, perceptions, and experiences.

I created five groups in a classroom and elected a leader in each group so that each of them could support their group members and play the leadership role like providing guidelines and feedback on group communication, organizing workflow, and following the message to the instructors. (Janak, Begnas Multiple Campus)

Such a group teaching strategy developed students' leadership as well as learning autonomy. The leadership role gradually developed their understanding of responsibilities to contribute to teamwork. For example, Tika said: "I have co-hosted two students in my class so that they could join the class and participate in collaborative learning." His expression reflected that collaborative learning increased students' learning activities. He added that group discussion, video sharing, working on a project, or exchanging ideas and opinions with others developed their collaborative skills and social behaviors. Observations revealed that most lectures welcomed students' questions, motivated them to do better in their learning, and timely provided feedback on their works.

Challenges and benefits of online learning

Lecturers had a belief that affordable learning tools could be used to create a collaborative learning environment in higher education.

Internet-based teaching has consumed time. When we were physically teaching in college, 48 students were conducted in a class. Now 96 students are taught in a single class. (Sukra, Begnas Multiple Campus)

There are many benefits to teaching students online. Especially in remote areas, it saves travel costs and room rent. They do not have to stay away from home. (Ganesh, Bindabasini Multiple Campus)

The management of large-size online classes was a challenge for lecturers. Also, they struggled to communicate with many students in a short period of an online course. Although some of them appreciated online learning for being cost-effective and flexible, they struggled to deliver lessons, give feedback on students' works, and identify their learning progress in large classes. They complained that poor internet connectivity and unreliable electricity interrupted their communication with students. For example, Gopi said: "I got a lot of problems with students like lack of punctuality because of frequent power cuts while teaching, and weak internet." Moreover, a heavy workload was one of the significant challenges to managing online learning. Lecturers did not have assistants to help them in planning and teaching, and they had limited administrative support to fix issues with technologies.

There are a lot of problems with teaching on MS Teams. I am new to online learning technology. I learned a little bit in this compelling situation. (Rabin, Bindabasini Multiple Campus)

Before the outbreak of COVID-19, I had little idea about ICT. You may not believe me; I did not even have a Facebook account. PowerPoint was not used much in our time. Now I am slowly getting some information about technology from my family. (Dhiraj, Begnas Multiple Campus)

These comments showed how lecturers initiated an online learning model with their limited knowledge of digital technology and pedagogy during the pandemic. They shared that they were intimidated by new technologies at the initial stage of practicing online learning. They needed to learn a lot about e-pedagogies to conduct online learning. Although they often used group discussion as a teaching method, they relied on lectures, particularly in large classes. In addition, they shared their problem with teaching practicals courses in online courses. Bikash said: "I think it is almost impossible to do practical activities in online classes. Hands-on experience is essential for the transfer of practical skills to learners. We have postponed all our practical courses." It indicates that lecturers struggled to manage online learning during the pandemic situation. They shared their frustration that many students from rural areas could not access online classes for some reason. Niraj said:

I went to a remote village in the Myagdi district. There was a family in that village with two children. They had only one smartphone. Those two children could not use the same device at a time, and there was no Internet. They could not afford expensive mobile data. (Niraj, Begnas Multiple Campus)

Although a few students from rural areas could join online classes, most rural students did not have access to digital devices and the Internet.

Discussion

This study identified how lecturers managed to shift from physical classrooms to online learning after the outbreak of the COVID-19 pandemic in Nepal in early 2020. For online learning management, campuses provided brief ICT training such as one-day online workshops and webinars to lecturers. These online training programs were expected to develop lecturers' basic ICT skills to operate apps such as Zoom, Teams, and Google Meet for conducting online classes and supporting remote learners. While most lecturers did not have previous experiences in online teaching and learning, these short-term training programs encouraged them to create online courses and support students' independent learning. They reported challenges as well as benefits of online learning. Due to limited ICT knowledge and lack of previous experience in using ICT tools for online learning, they were initially intimidated by new technologies and learning environments. It is probably expected that learning to use new technologies and implement new pedagogies in a virtual environment is often a daunting task for all new teachers (Mohammed et al., 2020). Hofer et al. (2021) thus, emphasize engaging teachers in practices of technologies and pedagogies together in their professional groups so that they can gain a high level of confidence in implementing their learned skills in actual teaching.

Interviews with lecturers identified their progressive improvements in instructional activities. They learned to use videoconferencing tools such as Teams and Zoom to deliver lessons, create collaborative discussion forums, and provide immediate feedback on students' assignments and presentations. However, most lecturers relied heavily on PowerPoint presentations and lectures, particularly in large-size classes. Although they often tried to employ discussion methods by dividing students into small groups, this was not adequate to allow all students to share their regular work, get feedback timely, and improve their learning. In the words of Koehler et al. (2007), these lecturers needed to have advanced technological and pedagogical knowledge to steer content knowledge in online learning. One-shot training to use ICT in instructional activities was inadequate to equip them with ICT skills and pedagogical knowledge (Rana et al., 2021). However, their effort to create online learning, communicate with many students scattered across the country, and manage to teach them was praiseworthy. The online mode of learning provided them with an opportunity to learn new technologies and pedagogies. The COVID-19 pandemic has become an opportunity for lecturers and higher education institutions to shift from traditional pedagogies to ICT-integrated learning.

Online learning provided a new perspective to lecturers as they could examine their traditional beliefs about teaching methods. They gained new insights into teaching and learning from their online learning practices and supporting remote learners. The systematic management of online learning provides all students equal access to quality education. It

would be cost-effective and flexible if the universities could develop basic infrastructure for online learning and if students could manage digital devices and the Internet. It would minimize the cost of printing textbooks and physical infrastructure development (Deming et al., 2015).

However, most students, especially from remote areas, did not have access to online learning due to the lack of digital devices and the Internet. Lecturers' limited ICT knowledge, lack of parents' reliable income sources, expensive digital technologies, and unreliable electricity were significant barriers to implementing e-based learning (Paudyal & Rana, 2021; Rana et al., 2019; Rana & Rana, 2020). There is a question of the sustainability of online learning that has kept many students away from learning opportunities.

However, findings suggest that if invested in infrastructure development and lecturers' professional development, the universities can gradually adopt online learning as an alternative mode of learning to provide equal access to quality education for all. Lecturers developed a positive attitude towards online learning and adopted some level of flipped learning. They employed collaborative learning methods such as discussion, peer reviews, and group presentations to support students' learning. These collaborative learning strategies helped students learn in peer groups and share ideas (Kumi-Yeboah et al., 2017). Lecturers, however, needed to allocate much time to implement collaborative learning. Online teaching practices during the pandemic situation increased lecturers' self-efficacy to explore resources, plan lessons, and manage to teach in an online environment. However, they expressed frustration that they could not conduct hands-on practical activities in online classes like physical laboratories.

Lessons Learned

This study has identified the potential as well as challenges of online learning in higher education in Nepal. It can be implemented as an alternative to learning in crises and everyday situations. First, universities can develop minimum ICT infrastructure, provide lecturers with adequate ICT training, and support their students in managing remote learning. In particular, technological, pedagogical, and content knowledge (TPACK) is essential for lecturers to understand how to integrate ICT into instructional activities and manage online learning. In addition, universities need to equip lecturers and students with digital technologies to implement online education.

Second, administrative support is essential for lecturers' learning and online learning practices. Because they have to work with limited ICT infrastructure and knowledge, they need to be provided adequate administrative support to keep their motivation high and encourage them to maximize their practices of new technologies and pedagogies. Frequent seminars and workshops can promote their innovative practices of online learning.

Third, it is essential to recognize the potential challenges of online learning. For example, unreliable electricity, poor Internet, expensive mobile data, lack of digital devices for students, and lecturers' limited technological and pedagogical knowledge were significant challenges to online learning. In addition, lecturers' workload and large size classes were other challenges that influenced lecturers' online teaching. Although lecturers appreciated online understanding for being cost-effective and flexible, many students in remote villages did not have access to online learning due to a lack of digital devices and the Internet.

Fourth, lecturers' attitude towards ICT and online learning is essential to make online learning sustainable. In this study, lecturers developed a positive attitude toward online learning. Their collaborative learning methods, such as discussion and peer reviews, helped them manage large-size classes and teach courses. The government and universities need to develop minimum ICT infrastructure to provide students equal access to online learning.

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