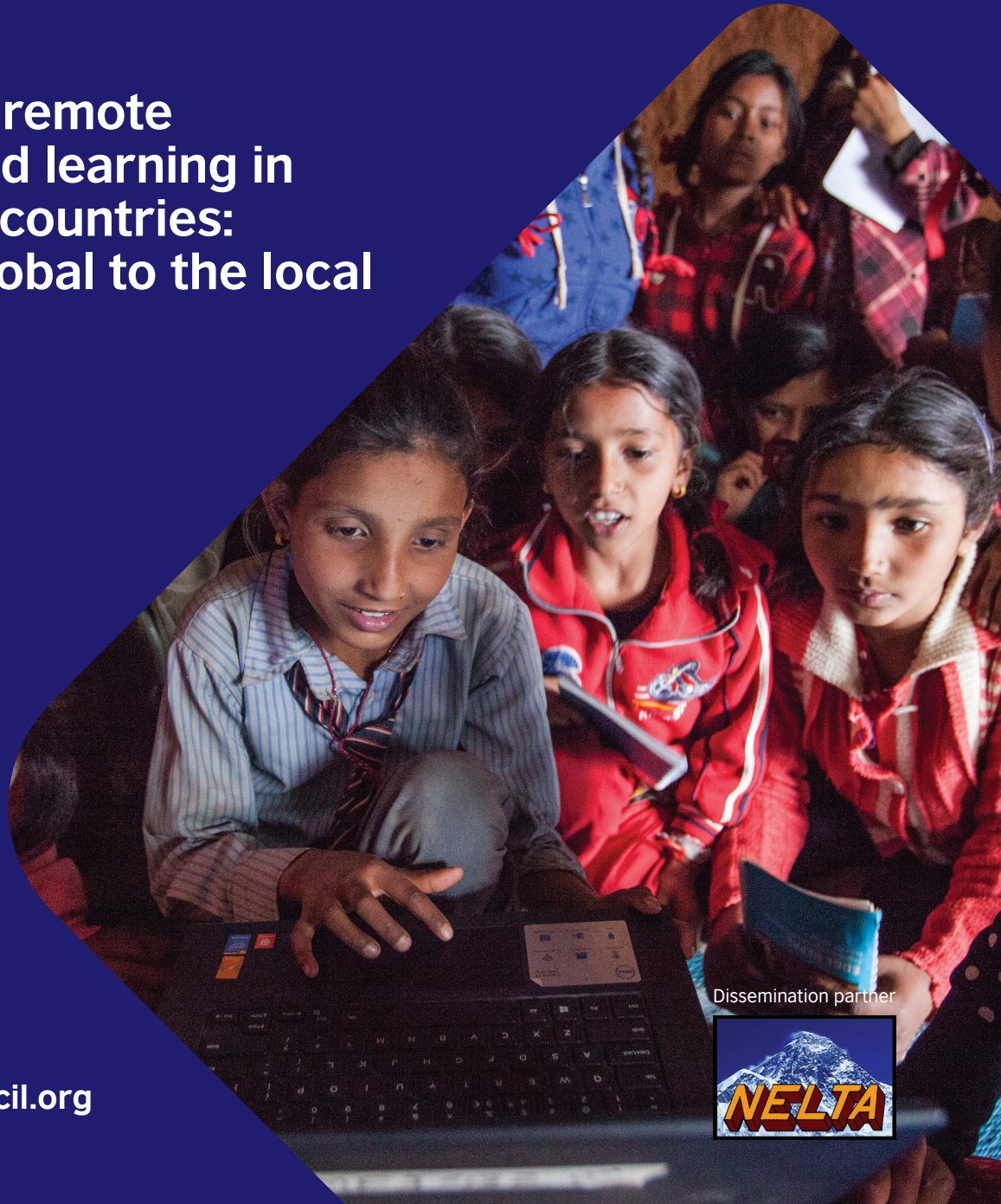

Volume of research

Supporting remote
teaching and learning in
developing countries:
From the global to the local

Edited by:
Michael Hammond





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FOREWORD

Connecting Classrooms through Global Learning is a flagship programme co-funded by the British Council and the United Kingdom's Foreign, Commonwealth and Development Office. Delivered in over 30 countries around the world, including four in South Asia, Connecting Classrooms seeks to provide opportunities for school leaders, teachers and students to develop core skills such as digital literacy, critical thinking and problem solving, creativity and imagination, and develop a global outlook through international partnerships and school-based projects. The programme also supports research, innovation and developing insights that are useful for policymakers to make informed decisions.

As a part of this programme in Nepal, we are delighted to be able to publish this volume, which brings together a variety of insights into remote teaching and learning (RTL), from the global to our local context, showing how RTL was successfully adopted during the pandemic.

This publication outlines how governments across South Asia, including Nepal, employed several strategies to enable continued learning in the most innovative ways. Furthermore, it also explores various models for RTL, ranging from low-tech solutions to radio and television broadcasting, to support education continuity. Additionally, the volume explores how digital divides are created through limited access to technology, electricity and internet facilities. The research also provides case studies with practical examples of how teachers reflected on their ability to use technologies and how they overcame the challenges inherent in using

newer technology and teaching strategies. Some case studies also reflect the journey of teachers' professional development in adapting to RTL and explore students' experiences and their adaptations, learning and assessment during lockdowns.

The book's publication is timely, with the world facing the prospect of further lockdowns and the associated need to continue education amid the ongoing pandemic. I hope this book will be useful to educators, policymakers, curriculum developers, teachers, head teachers, development partners and other education stakeholders in informing future education planning and will also support local governments to adopt innovative and effective RTL strategies where these are required. I also hope that, where appropriate and possible, learnings from remote teaching adaptations will be valuable and of interest when we completely resume face-to-face teaching in classrooms.

I wish you all the very best, and we look forward to continuing our collaboration with a wide range of stakeholders to identify and promote approaches that are beneficial to the wider education community.

Shahida MacDougall
Country Director
British Council Nepal





Introduction

Supporting remote teaching and learning in developing countries: From the global to the local

– Michael Hammond

It is a great pleasure for me to introduce this book on the use of technology to support remote teaching and learning (RTL) in schools in developing countries. The book is written for an audience of academics, policymakers, non-governmental organisations (NGOs), school leaders, teachers, community volunteers and, for that matter, anyone interested in RTL in general and the response of national educational systems to the lockdown of schools during the Covid-19 pandemic in particular.

The aim of the first half of the book is threefold: to present a broad overview of RTL in developing countries (Leask and Hordatt Gentles); to show the responses to the lockdown of schools during the Covid-19 pandemic in South Asia (Pradhan and Hyde); to describe in greater depth the response to the lockdown by teachers, school leaders and policymakers in Nepal (Rana). In the second half of the book the focus on Nepal is extended by presenting reflections on teaching during lockdown by local educators. Taken together, the chapters speak to the value of RTL and the efforts made by policymakers, teachers and students to make RTL work during lockdown. However, we do not shy away from setting out the challenges, chiefly that of access to online learning in rural communities, or from pointing out important gaps in what was on offer to students.

Before introducing the chapters we should give some background to the concepts of RTL and explain the context of school lockdown. RTL contains the simple idea that teaching and learning can be carried out at a distance, i.e. when teachers and students are distanced from their teacher and their peers. To do this, students need to be supported by technology and increasingly digital tools are being used, for example repositories of presentation slides, video clips, podcasts and so on. In RTL learners need to be self-directed, but this does not assume an absence of interaction. Students and teachers can communicate using chat, forums, email, live classes and teleconferencing and in many cases they may meet up from time to time, allowing feedback and an opportunity for teachers to personalise learning tasks to students and direct their learning. As Leask and Hordatt Gentles show, RTL is not in itself a new idea. Distant learning has been around for many years and is often associated with adult/lifelong learning and, in many countries, with the idea of the open college and open university. Open institutions provide learning for those who missed out on further education or, as increasingly is the case, those who need to attend short courses to update and extend their knowledge without having to take time off work to do so. Remote learning has long existed for younger age groups too, in particular for those who

are unable to get to physical schools or attend schools with only limited curriculum provision. More recently, ideas taken from RTL have extended into mainstream education through the take-up of blended learning, so that students and teachers are encouraged to access resources and communication outside of the classroom. During lockdown RTL was often associated with the use of 'live classes' carried out through Zoom, Teams or other apps. However, RTL can use low-tech solutions too, not least learners can be read physical books and use the phone to access tutor support. RTL is often discussed in relation to the technology used, but the human side is just as important; young learners in particular need the support of teachers, parents and/or community volunteers.

RTL came into the spotlight because of the lockdown of schools brought about by the Covid-19 pandemic. The context will be familiar to the contemporary reader, but we hope will be a distant memory in the future, so a short reminder. In the face of a seemingly out-of-control pandemic, governments around the world introduced physical distancing and wearing masks in public, and they promoted public health through measures such as testing for symptoms, hand-washing and ventilation. Over two years, from the first half of 2020, they imposed travel restrictions, business and entertainment closures and, in most countries, schools and other educational institutions were periodically closed, with face-to-face teaching only slowly reintroduced on a rota basis and with physical distancing. As Pradhan and Hyde show, governments in South Asia sought to provide continuity of learning during school closures through public broadcasting of educational programmes, providing repositories of materials and the promotion of learning

platforms. These were successful, but a problem remained that some learners were unable to access the material, and a digital divide widened. This digital divide not only covered access to technology but access to what social scientists describe as social and cultural capital, i.e. different levels of connections to people, often extended family members, able to help steer students through the curriculum and explain its wider significance. It is not surprising then that students, and teachers as well, adapted to lockdown in different ways. Some, as the later case studies show, were able to embrace online learning opportunities, but others felt isolated, overburdened and barely able to cope. This against a backdrop of a Covid pandemic which was, and continues to be, a time of personal and general sadness.

What we learn from the accounts in this book is the range of approaches to supporting students, the creativity of teachers and students and the enduring value of school in the lives of young people. We also learn the importance of a joined-up approach to dealing with the challenges of lockdown so that the work of teachers, school leaders and policymakers pulls in the same direction. The book is forward-looking, and we draw out lessons to inform the future development of remote learning. This is important, as the technologies used during lockdown can help find a role in the teaching and learning that goes on in physical schools. However, it is also important as access to school will remain problematic for those in remote communities, and there will be future occasions when schools are closed due to physical events such as flooding and earthquakes and indeed other pandemics. Meanwhile, this Covid pandemic is far from over.

Introducing the chapters

The book is, as we have seen, organised around three longer chapters followed by local case studies.

In our first chapter Leask and Hordatt Gentles introduce several models for remote teaching and learning, ranging from low-technology solutions, such as the community blackboards introduced in Kingston, Jamaica, telephone conferences, radio and television broadcasting, to integrated digital platforms requiring specialist software, electricity supply and internet access. A key concern in this chapter is how to provide access when there is a shortage of devices, unreliable electricity and no internet. The authors describe some low-tech solutions (including pedal power and solar batteries) as well as attempts to bring physical devices to remote locations through initiatives such as the 'school in the bag'. The key challenge which RTL seeks to address is how to support learners who cannot get to school, and Leask and Hordatt Gentles show that we need to ask which technologies are appropriate in particular settings; what types of pedagogy should underpin teachings; and how we can involve all stakeholders in the process of change.

Our second chapter takes us from a global view of RTL in developing countries to a South Asian one. In the face of a seemingly out-of-control pandemic, governments around the world closed schools and other educational institutions. This lockdown created an obvious challenge: how to keep education going when teachers and students were at a distance from each other. As Pradhan and Hyde show, governments at both national and regional levels employed several strategies, including community education; the public broadcasting of programmes on

dedicated television, radio and YouTube channels; the promotion of learning platforms, including live online classes. These strategies were successful to an extent, but some learners were unable to access online material, and many were unable to take part in online classes, and the digital divide widened. A key finding from this chapter is that while we have data on who could and who could not access devices and apps, we know very little about the impact of RTL on learning outcomes.

The third chapter of this first section moves us to the local context of Nepal. Here Rana draws on interviews with teachers in rural Nepal to show how some were able to develop confidence and competence in the use of technology. However, teachers' development was made more difficult, as they had not been prepared for RTL during earlier pre-service or in-service courses. Furthermore, it was found that many students and teachers in remote areas did not have access to online learning, and teachers had to find alternative ways of supporting students' learning, including setting up mobile team teaching and promoting the use of television and radio. The key conclusion from this chapter is that providing and maintaining teaching and learning during lockdown requires an integrated response from teachers, school leaders, communities and government if it is to succeed.

Following these three chapters we next turn to the case studies. These are organised into sections. The first section covers three personal reflections on professional development during the lockdown and the urge that teachers felt to rethink and extend their professional practice.

In the first personal reflection, Dhungana explored her changing relationship with

technology by reflecting on the process of developing English as a foreign language (EFL) audio-video materials for high-school students in Nepal. The period of lockdown opened up an opportunity for rethinking the use of technology and the production of audio-video materials in particular. She shares some of her sense of agency when designing learning materials, but also feelings of discomfort when going public with learning resources. One recommendation made is to involve users much more in the planning of learning material.

This is followed by a second study in which Sapkota looks at supporting other teachers' professional development by reflecting on his process of preparing webinars and other presentations during the pandemic. Sapkota notes that while preparation is important, at some point you just need to 'take the plunge' and get started using technology. Presenting can be engrossing, but afterwards it is important to reflect on what went well and what could be improved. It takes time to build up an understanding of all that the technology can do.

In the third case study under the theme of personal reflection Shrestha reflects on his teacher journey from reluctance to competence to creativity with technology. He notes that in the past he had not seen the need or value of technology in teaching, and only with lockdown did his attitudes change. In his first online lessons he tried to imitate the instructional approach of the physical classroom. With time he became more creative, for example he provided banks of learning material, including recordings of live classes and the use of small breakout groups within Zoom. He sees that some of his new material can be used once students get back to the physical classroom.

The next section of case studies provides reflections on professional development during the Covid-19 pandemic, this time coming from studies of and with teachers rather than from first-hand accounts as in the previous section.

In the first case study, Gurung and Adhikari unravel the process of professional development undergone by three teachers in three different schools in Nepal during the lockdown. They show how participants learned by doing and by sharing what they had learned. Over time the teachers saw and then used an impressive variety of digital tools, learning to do so by participation in formal and informal settings. As with Sapkota, the authors describe a journey from routine to creative use, and they use the metaphor of the caterpillar becoming a butterfly when describing this process.

This account is followed by Kumar Yadav's exploration of resilience. He notes that resilience was in the past seen as a property of an individual – this person is resilient, this person is not. However, increasingly researchers are interested in resilience in context and ask, 'What are the conditions that help develop or break resilience?' The Covid-19 pandemic tested the resilience of teachers – who experienced a sense of loss and disruption just as much as their students did. He finds examples of resilience, in particular in learning about and using online tools. However, he also reports on constraints, including aspects of leadership and access to technology.

The final contribution in this section is a study of four female teachers' experiences of online remote teaching. Niroula finds that female teachers were disadvantaged by time pressure due to their triple work burdens, i.e. they were expected to keep the

household going, contribute to small farm work and do school work. Family and wider social expectations made it very difficult for these female teachers to dedicate the time needed to become comfortable in the use of new technology. The study draws attention to gender discrimination in Nepal and the pressure that teachers, particularly female teachers, were under during lockdown.

In our third section we take a wider perspective and explore students' experiences and the teaching, learning and assessment that went on during lockdown.

The first study presented in this section explores secondary school learners' views of learning remotely. Chaudhary is particularly interested in the idea of digital literacy and shows that the term should be used to cover both technology know-how and the ability to engage in the culture of communicating, dealing and connecting information. Students were able to talk about their growing digital skills – skills which would be used across the curriculum. However, they also recognised that they could, and did, 'waste a lot of time on the internet'.

The theme of students' digital learning is extended in the next case study, in which Kumar Ghimire describes a range of initiatives undertaken to support students' online learning, including online classes, inter-school and international cooperation, gamification and the use of massive open online courses (MOOCs) and YouTube. Kumar Ghimire shows that many students responded positively to aspects of online working, but noted that shortage of time and teaching to a prescriptive curriculum were constraints. The lockdown provided an opportunity to expand the reach of teaching and learning, and the links with students in other countries was a noticeable example of this.

In our third study, Bhattarai looks at students and their well-being. She sees well-being as having physical, mental, emotional and social dimensions. She found that students' well-being was threatened during lockdown. Students in her study needed understanding from teachers and parents when it came to online participation, but they did not always feel that they had got this. Bhattarai argues that schools should not lose focus on well-being once students are back in school and sees a greater role for personal and social education, suggesting that values of sharing, respect and kindness should be taught both explicitly and implicitly.

In our final section of case studies, we look at whole-school approaches to meeting the challenge of lockdown.

This section begins with a study by Baskota and Shrestha which shows the importance of access to libraries. This study arose out of an existing programme which aimed to provide library infrastructure and training for librarians. The programme had to adjust to lockdown by continuing to provide access to books during lockdown. This was done by providing students with textbooks and access to e-books, by taking books to students and by allowing controlled access to physical libraries. Baskota and Shrestha show the importance of libraries in schools and the role of the librarian in stocking and sustaining physical libraries as well as facilitating access to digital resources and supporting students' digital literacy skills.

This is followed by Sijapati and Kandel who describe a whole-school project to develop school leadership and support a more active approach to student learning. They focus on the experiences of stakeholders in one school who were directly benefiting from the programme during the period of lockdown.

Sijapati and Kandel show the importance of practical online teacher development activities and suggest that students will engage with activities that involve solving problems. Like other authors, they also find an eagerness to get back to face-to-face teaching.

In the final study of this section Swar Suri reflects on the process of leading a school during lockdown. She describes leadership as a process requiring planning and open evaluation of decisions. Here she sees the value of a distributed leadership that addresses the four Cs: communication, caring, connection and compassion. It was important to involve parents and teachers when it came to decision making on the introduction of online learning, but it was not possible to get everything right; leaders need to learn as they go along. A key observation is that while unexpected events cannot be planned, it is possible in 'normal times' to build up funds of goodwill on which to draw in times of emergency.

Taken together, the chapters of this book provide a background to remote teaching and learning in developing countries across the world, as well as in-depth descriptions of responses to Covid lockdown in South Asia and in Nepal. Many of the authors argue that the use of technology to allow students to access materials, to communicate beyond school and to reach peers in other countries should find a role once face-to-face teaching resumes in physical schools. Our key theme is that continuity of learning matters. We hope you enjoy reading the book and come away with ideas for developing remote teaching and learning in and beyond Nepal in a way that suits your circumstances.

Glossary

Some key terms used in this book are:

Assessment (formative and summative) is about the process of making judgements on learners' progress towards learning goals with the aims of helping learners improve, of informing decisions about future choices and of assisting teacher and whole-school planning. Formative assessment refers to feedback from teachers and students' peers, and sometimes parents, which helps diagnose students' understanding and sets next steps in learning. Formative assessment is a constant feature in the classroom and includes question and answer, observation of students, comments on student products, short tests and quizzes, and so on. Teachers can use formative assessment to help diagnose their own teaching and reflect on which strategies seem to be more effective and what difficulties students experience in learning. Summative assessment is undertaken at the end of a block of learning to record learner progress. Public examinations are a form of summative assessment.

Blended learning generally refers to a mix of whole-class and out-of-class teaching. For example, learners can access materials in advance of a face-to-face lesson and carry on their conversations after the lesson using technology.

CD-ROM was (pre-internet) a breakthrough in storage capacity. Data was stored in a compact disc and read using a low-power laser beam in a dedicated disk drive. A DVD is a similar storage device, but with a higher capacity and often used for storage of video.

Chat covers real-time communication between two or more people through the

use of a keyboard or other input device. It is a form of synchronous communication. In contrast, a *forum* allows users to share thoughts, ideas or help by posting, usually longer, text messages. This is usually carried out over a longer time period, i.e. asynchronously.

Continuing professional development (CPD) refers to professional development activities once one has started working, in other words in-service as opposed to pre-service training. CPD was traditionally discussed in relation to short courses which teachers took in or outside school. However, the concept of CPD has developed to include the full range of formal and informal learning opportunities open to the teacher, including mentoring, informal conversations about learning, reflection on teaching.

Covid is a strain of severe acute respiratory syndrome Coronavirus. It is reported as having originated in Wuhan, China, in November 2019 (hence Covid-19). Covid itself is particularly virulent and transferable. At the time of writing (November 2021), there have been an estimated 256 million cases and over five million deaths – these figures are estimates and likely to under-report. The effects of Covid differ from barely perceptible to life-threatening. Recovery rates differ too, and large numbers of those infected suffer from prolonged symptoms – in severe cases this is often described as long Covid. Currently the pandemic has been controlled through mass vaccination, though this has suppressed rather than eradicated the virus. Treatments and understanding of the virus have improved markedly. One particular reason for the durability of the virus is a vaccine divide, so that developing countries have had far from adequate levels of access to vaccines as compared to higher-income countries. For example, in the UK the double

(or full) vaccination rate of 12 years old and over is around 80 per cent; in Nepal it is around 30 per cent and in many African countries it is under five per cent.

Curriculum refers to the schedule of required lesson content (concepts, attitudes, skills, knowledge) for a phase of education. The ‘hidden curriculum’ refers to what learners pick up through the actions of teachers and unwritten messages in the curriculum, rather than what is directly taught.

Developing countries refers to nation states with less developed economies and a lower human development index (HDI). Developing countries are often seen as having poor health and social services, high mortality rates, continuing migration from the countryside and consequent overcrowding of cities. They are also seen as suffering from reduced access to clean water and as vulnerable to environmental degradation and to climate change. As regards education, they have lower rates of numeracy and literacy and reduced attendance at school, particularly for girls. Developing countries differ. Nepal, for example, has a middle, rather than low, HDI, and enrolment rates in primary schools are very high, though there is inequity in the take-up in secondary and post-secondary sectors and differentiated outcomes by gender, socio-economic status and ethnicity. The term ‘developing countries’ is losing its appeal as it can gloss over the variety of conditions between these countries and, of course, the marked disparities within each one. Policymakers and NGOs often write about *lower-income* or *less developed* countries. More generally, the idea of a political (rather than a strictly geographical) *global north* and *south* has taken off, as it provides a focus on geopolitical relations of power rather than raw economic indices. All of these terms are used at times in this book.

Digital natives are younger people who have grown up making extensive use of the internet and other modern information technologies. Digital natives, it is claimed, are more interested in accessing information and can do so quickly; they have a preference for interactive and multimedia learning and are put off instructional teaching at school. Older people are, in contrast, digital immigrants, as they are less comfortable with rapid processing and multitasking and stumble in their use of technology, as it does not come naturally to them. The concept of digital nativism is hotly disputed. Some see it as deterministic and point out that older people can be adept technology users and young people can avoid technology. Moreover, it runs the risk of mistaking intensive involvement with technology as learning. *Generation Z* (or Gen Z) refers to the young people born from around the mid 1990s to early 2010s; these are assumed to be digital immigrants. As with 'digital immigrant', the term 'Generation Z' can be seen as a useful general label or simply unhelpful.

Distributed leadership (DL) refers to an active attempt to develop the leadership capacity of all those in school, irrespective of the roles that they play. The aim of DL is to involve and engage all staff in the running of the school and ensure that all voices are heard when making decisions. DL can be contrasted with hierarchical or top-down leadership. DL is undoubtedly an attractive concept. Criticisms centre on its rhetorical use (i.e. many leaders say they exercise DL but may not practise it). Further, DL can lead to an expectation that all staff should participate in leading aspects of school without rewards in terms of status or salary and without the real power to make decisions.

Human development index (HDI) is one measure of social and economic

development. It takes four development indicators: average length of schooling years; literacy rate; gross national income per capita; life expectancy in years. HDI, it is claimed, gives a more rounded estimate of social development than gross domestic product alone. A low HDI is calculated as between 0.35 and 0.549; a medium range is 0.55 to 0.629, above 0.63 are countries with a high or very high HDI. Nepal's HDI is in the middle range.

ICT stands for information and communications technology and was first intended to cover all tools used in teaching and learning, though in practice often referred just to digital tools. *IT* (information technology) is likewise often used to refer to digital tools, but more often in the context of commercial settings, large public organisations and other non-educational settings. *Digital technology* has largely taken over from ICT as a preferred term.

Learner is a catch-all to include anyone of any age who is learning in both formal and sometimes informal settings. *Student* refers to those attending a pre-school, school, college, university or other educational institution. The term *pupil* is an alternative, but less used in contemporary reporting. The term *young people* is often used to draw attention to students' life outside of school, for example writers will discuss the role of the family on young people's development.

Learning management system (LMS) or *virtual learning environment* (VLE) refers to integrated software that can be used to provide students and teachers with access to resources and to asynchronous and synchronous communication, including online groups and classrooms, online testing tools with automatic feedback on progress, and management of student activity, for example

recording attendance and frequency of access to resources. Examples of systems include *Blackboard Learn* and *Moodle*. *Learning platform* is a term preferred by many schools to refer to a LMS or VLE. However, 'learning platform' is a more general term and does not need to refer to a single integrated item, as the same functions can be made available using a mix of software, e.g. generic email system, website of resources, online spreadsheet, online quiz applications.

Massive open online courses (MOOCs) are short and middle-length courses which are provided free for anyone to take. They generally involve a mix of multimedia material, automated quizzes and peer assessment. They are often designed in and supported by universities. As they have evolved, some MOOCs now charge fees, particularly for accreditation. Some courses are indeed massive, or at least attract a very large number of students, but this is not always the case. MOOCs have proved very popular and have enabled open access to learning. However, few of those who sign up to take a course manage to complete it – some may not even make a start on the course in the first place. Some providers are moving away from the term 'MOOC' and talk instead simply of open online courses.

Multimedia is generally considered to involve a combination of media, usually – and at least three – of text, audio, still images, animation and video. Multimedia is usually discussed in the context of interactive digital products.

Online learning is remote learning delivered through devices using the internet.

Open universities welcome anyone to take a course of a whole programme of accreditation. They aim to be open in the sense that they have few restrictions on who

can join. Open universities use both blended and solely remote methods for teaching. Unlike MOOCs they charge fees, but in return they offer a higher level of learner support and recognised accreditation.

Remote teaching and learning (RTL) describes education taking place outside a physical school, which includes some element of interaction between the teacher and the student. RTL can be supported by digital technology and paper-based material. RTL can support otherwise hard-to-reach students, lifelong learning and catch-up learning for those who have missed out on education.

Synchronous online learning refers to 'live' interaction (this could be chat, live classes, phone conversations and so on). The contrast is with *asynchronous* learning, in which interaction is delayed (for example online forums, sending and receiving email attachments). Both approaches have strengths and drawbacks.

Technology can be used to include any tools, e.g. computers, telephone, radio, television, and, for that matter, printed materials, pens and paper. *Digital technology* generally refers to tools that generate, store or process data in digital or electronic format, using computers, tablets, electronic readers and supported by software such as apps, VLEs and learning platforms. *Analogue* technology refers to tools that record and process material in its original form (for example sound waves are recorded as waves rather than as digits). Radio and phone systems were originally analogue systems.

Teleconferencing simply means meetings supported by electronic networks.

Increasingly teleconferencing is carried out with a mix of visual, audio and text in applications such as Zoom, Skype and Teams. However, simply speaking to each other, or groups of people, over the phone can be considered teleconferencing.

*T*PKK captures the idea that in order to use technology productively, teachers should have knowledge (K) of technology (T) (for example how to set up and control a Zoom meeting), of pedagogy (P) (for example how to set up and support online group discussion) and of subject content (C) (for example the knowledge of fractions, language structures, forms or systems of government, or whatever is being taught).

Webinars are online events in which an individual speaker, or small group, deliver a presentation, and in which audience members are generally encouraged to participate by asking questions, commenting via chat and perhaps responding to online polls.

About the editor

Michael Hammond is reader in Education Studies, University of Warwick. He has written widely on the use of technology in teaching and learning and has special interests in ICT policy, online argument, and language teaching. Michael is also interested in social science research, contributing papers and chapters on action research, theory and theorising and has co-authored *Research Methods: The key concepts* and *Education Research: The Basics*. He has recently written two further books, the first on academic writing and the second on theorising technology.



Using technology to support remote teaching and learning in developing countries: An overview

Marilyn Leask and Carol Hordatt Gentles

Abstract

This chapter introduces a range of models for remote teaching and learning (RTL) which together show how simple as well as complex technology can be used to support high-quality teaching. Models of RTL include community blackboards and community mobilisation, telephone conference calling, radio and television broadcasting as well as digital tools supported by internet access. The key challenge which RTL seeks to address is how to access learners who cannot get to school. RTL can meet this challenge, but to do so developers need to consider which technologies are appropriate in different settings, in particular how to reach learners in places without electricity or internet connection, and need to involve stakeholders in the process of change. These and other considerations are expanded upon.

Introduction

This chapter provides an overview of technologies that have already been successfully used in supporting remote teaching and learning (RTL) in developing countries or which provide models to be adapted in developing countries in the near future. The chapter draws on a number of past research studies, including National Foundation for Educational Research in rural Zambia (NFER, 2003) and the OECD

(2002) international research on adoption of technology innovations as well as recent research undertaken in 2020/21, for example Hordatt Gentles and Leask (2021), and by educators in the International Council on Education for Teaching (ICET, 2021) and MESHGuides (2021) networks. The chapter is organised around the following sections:

- remote teaching and learning is not new
- models of remote teaching and learning
- challenges in developing remote teaching and learning
- where to go from here.

The aim of the chapter is to help you, whether you are a policymaker, an academic or a teacher, to consider how to build an improved RTL system for your community and country.

Remote teaching and learning is not new

In 2020/21, the Covid-19 pandemic forced governments to lock down schools and so confront the challenge of educating as many children as possible at a distance from their peers and teachers. As the case studies that follow in this book show, many teachers felt as though they were working from scratch. However, RTL itself is not new. For example, education via correspondence courses, with individual adults studying in isolation with little direct teacher contact, has existed for

over a hundred years. Remote education was then given a boost in the higher education sector with the idea of open learning and open universities, which have now been set up in over 80 countries. These universities have, over the last 50 or so years, provided a mix of distance and face-to-face learning, which can serve as models for school and technical education. Technologies first used by open universities included radio, television, audio and video tape recordings, coupled with direct contact with tutors via tutorials and residential weeks. In recent decades internet-based technologies have led to new models and modes of RTL, with a resulting explosion of free audio and visual learning materials on public radio and television channels as well as free and low-cost online courses. Funding to support such enterprises may come from taxpayers, charities, NGOs and/or by charging for assessments, advertising and some paid-for courses.

RTL has been increasingly available for young learners, and development has been accelerated by the Covid-19 pandemic. There have been virtual schools offering alternative education to parents who did not want to, or could not easily, send their children to physical school. In the US, for example, over two per cent of students, and in other countries many more, had already been participating in online instruction before the Covid crisis hit schools (Black et al., 2021). Furthermore, many countries include regions where geographical features such as deserts, mountains, fjords and islands impose constraints on learners' access to physical schools. Such countries have isolated individuals or groups of learners, or perhaps one- or two-teacher schools, for whom RTL is the only option to access a comprehensive education. Alongside these developments there have been innovations

in the use of blended learning for students, with access to technology, the greater use of learning platforms and the continued uptake of social media by young people to support their learning, albeit much further research is needed to assess the impact of these practices on learning outcomes.

These varied developments with technology created a backdrop for the development of RTL during the pandemic lockdown. Some schools approached lockdown from a position of strength: a tradition of blended learning; students with high access and high support for internet technology; teachers with experience and knowledge of online working. Others had done much less in respect of online learning, often because students had little or unreliable access to internet technology, which meant that teaching in these schools was strongly associated with what went on inside the four walls of the classroom.

Access to technology, then, has always been a key issue in planning and implementation of RTL, and those proposing innovations need to be realistic about the widespread lack of telephone, electricity and/or internet access. Our research showed that in both developing and developed countries, children from higher-income families were more likely to be able to access live interactive classes using online platforms during Covid – something confirmed in other reports, e.g. Innovations for Poverty Action (2021). In contrast – and this applied in high-, medium- and low-income countries – there were large sections of the population without the infrastructure or devices or funds to enable access to the RTL models provided by governments. Indeed, in 2020 UNESCO and the World Bank jointly reported that out of 826 million students affected by school closures due to Covid, just under a half had no access to a household

computer and/or no internet at home, this at a time when digitally based distance learning was used in the vast majority of countries to provide access to education. The disparities were particularly acute in low-income countries such as sub-Saharan Africa, where nearly 90 per cent of learners did not have access to household computers and/or the internet. Even more sobering was that over 50 million of these learners lived in locations without mobile networks, so communication via phones was not possible. Access was more even in Latin America and the Caribbean, but here only just under half of households had broadband access, with a marked divide between households in urban and rural areas. These and other disparities prompted UNESCO's Director General, Audrey Azoulay, to conclude:

While efforts to provide connectivity to all must be multiplied, we now know that continued teaching and learning cannot be limited to online means ... To lessen already existing inequalities, we must also support other alternatives including the use of community radio and television broadcasts, and creativity in all ways of learning. These are solutions we are addressing with our Global Coalition partners. (UNESCO, 2020)

Thus it was that during the pandemic lockdown, children from better-off families were more likely to have a personal device and an online connection at home, but children from families with less money had to share a device with siblings, their parents had to closely prioritise expenditure if they were to buy data for online learning, and many could not access online learning at all (Hordatt Gentles and Leask, 2021). This, it is important to stress, was the picture in both developed (high-income) and developing

(low-income) countries. Even in one of the wealthiest countries on earth, the USA, teachers found that some children did not have electricity at home. Thus, simpler technologies such as public television and radio, and digital devices that are solar-powered/rechargeable-battery-operated, were found more useful. Clearly efforts to develop RTL with technology need to take into account the varying circumstances of schools and offer different models, including the use of relatively low-cost and more easily sustainable resources.

Models of remote teaching and learning

In this section we now turn to examples of technology-supported RTL, starting with 'lower-tech' approaches and finishing with online platforms. We cover:

- community blackboards and community mobilisation
- telephone, conference calling and print materials
- radio broadcasting of educational material
- television broadcasting of educational material
- packages of digital tools to extend learning
- blended remote learning
- online platforms and offline apps.

The examples show the breadth of what is possible. We are not proposing that any single innovation described is immediately transferable to other settings. Two further things to note: first, some of these models have been taken from developed countries, but they have been included as they are applicable to developing ones too; second, some of these models are new, so evaluations of impact are not available. Note, too, that

in the majority of these scenarios, printed materials have a role to play, and none of these scenarios are intended as stand-alone learning with no engagement with a designated teacher. Indeed, a consistent finding in our research is that best practice in RTL includes an element of personal contact. When teachers (and/or parents and volunteers from the community) provide personal guidance to learners, they stay motivated and make better progress.

Community blackboards and community mobilisation

In Jamaica, a teacher from an inner-city community developed the idea of painting blackboards on community walls, where learning activities could be written in chalk, for four- and five-year-old children to write down assignments or take a photo snapshot (Phipps, 2020). After her work was highlighted by media outlets and featured in a UNICEF blog, it was replicated in several communities across the island and in other countries as well. The simple technology of community blackboards provides a route for community RTL on hot topics. The initiative was funded at first by the teacher herself in that she bought the first cans of blackboard paint. Local businesses and other teachers in her community then started contributing to buy more paint and brushes. They provided ‘sweat equity’ – painting the walls, writing on them and maintaining them on a volunteer basis. This model required no electronic infrastructure, only blank walls to convert to community blackboards.

The impact of this initiative extended beyond being a community board. The teacher reported that seeing the large blackboards with schoolwork written on them helped parents who did not understand how virtual learning platforms work make sense of the

concept. Another powerful outcome was that the teacher would station herself at the community board and explain to parents how to use it to help teach their children. Parents were amazed that they could be teachers too. This contributed to strengthening parental support for online learning during the pandemic. An extension might be the erection of electronic community signboards funded by businesses or the government.

Other models of community mobilisation exist. In India, Patel (2021) found that lessons during lockdown were broadcast on temple loudspeakers and teachers worked with parents to create mini-schools. On a larger scale, there are models of community participation, for example campaigns to defeat illiteracy. The Cuban model of involving volunteers to achieve near universal literacy is well known, though perhaps less known is its adaptation in other countries – see, for example, work carried out in Kwazulu-Natal in South Africa (Couts, 2021). More generally, Patel (2021) and Shrestha and Lal (2021) show how mobilising volunteers within a community’s resources supports adult learning.

Telephone, conference calling and print materials

Teacher support for remote learning can be conducted via the telephone. Patel (2021) reported the use of SMS messages and video calls via WhatsApp to help teachers reach parents and learners. He also describes an innovative approach using conference calling to reach and teach young learners:

With schools shut and limited technology accessibility (no smart phones and no internet), Balaji Jadhav

set-up a conference calling system for small groups of grade 1, 2, 3 and 4 students ... he has been calling students in the mornings and evenings (before and after parents come back from work).

The intervention is divided into six phases which include ice-breaking activities, story-listening, story-telling, story-writing and story-recording sessions. He also converts academic content such as language, science, mathematics and social science into short stories ... Additionally, he prompted students to narrate the stories to their parents leading to a stronger buy-in from parents. To support and track student learning, he conducts weekly home visits and drops off postcards at every child's home and asks them to write him a letter a week summarising concepts they learnt. For examples of his work visit www.shikshanbhakti.in.

In Canada, in one case in which families do not permit children to use computers, Manitoba's telephone school provides an option. The system is known as the TMO (Teacher Mediated Option). TMO supports live high-school instruction, with course credits going towards a high-school diploma. This is a government-funded service and requires students to have telephone access and paper-based materials (Manitoba Education, n.d.).

Radio broadcasting of educational material

Radio may be one of the most widely available technologies. Here are three examples given by VSO, an NGO, of working in partnership with local organisations to enhance impact:

[Example 1] In Nepal, we have partnered with local radio stations to broadcast drama series that guide parents through supporting their children to coping with stress during the pandemic. These radio dramas reach 30,000 people.

[Example 2] When schools were closed abruptly because of COVID-19 in Nigeria, for example, the Enugu State Government started broadcasting distance education through radio programmes. VSO mobilised national and community volunteers and discovered that only one in ten families in Enugu had a radio at home. In response, VSO community volunteers ran classes in rural communities supported by solar-powered radio. Their support includes translating the English radio broadcasts and providing sign language materials.

[Example 3] In Ethiopia, VSO produced and delivered 560 minutes of interactive radio programmes in three local languages for local communities, teachers and children. The programmes are designed to provide psychosocial support and information about limiting the spread of COVID-19. The versions for children talk about social wellbeing and gender-based violence issues using stories and easy language for children to understand. The radio scripts were adapted from VSO's psychosocial training module created by international volunteers and translated into three local languages in collaboration with the College of Teacher Education and community radio stations. (Shrestha and Lal, 2021)

Funding for these larger initiatives can come from various government and charitable agencies. Further support can be provided by volunteers working with local community members. The key attraction of using radio is that there was an existing radio broadcast infrastructure which is well used, and if people are without radios, these could be supplied, for example by NGOs, at relatively low cost. Radios can be powered using solar power or wind-up radios when electricity supply is unreliable. In fact, radio programmes, including long-running radio drama serials, have long been used to convey new knowledge in accessible forms and to address topical issues.

Television broadcasting of educational material

In some countries, the Covid-19 pandemic accelerated development of educational broadcasting using television, with teachers directing the use of resources with their students. For example, the Jamaican Ministry of Education, Youth and Information (MOEYI) launched and piloted a television project in 2013 designed for delivery through internet protocol television, to enhance the delivery of education at selected schools (MOEYI, n.d.). The onset of Covid-19 in 2020 led to an acceleration and expansion of this project so that the service became an all-day public-access television channel. By September 2021, this was expanded to two all-day channels, one for primary students and the other for secondary students, with both providing live and recorded lessons available seven days a week. These supported the delivery of Jamaica's national standards curriculum and were particularly helpful for those preparing for regional examinations, including the Caribbean secondary education certificate.

In this example, MOEYI formalised several public-private partnerships with communication providers, learning management platform companies, public broadband television and radio stations and a satellite provider, to support these channels. MOEYI also provided audio learning apps that could be downloaded onto smart devices. The intended outcome was to improve equity of access for all learners. All that the student needed was a device to access free educational programming – those with a television needed a simple antenna, store bought or home-made, even a wire coat hanger could be used. Similarly, radio access requires a simple traditional radio or smartphone. Any smartphone can be used as a router to access public Wi-Fi.

Building on this initiative, it was announced in September 2021 that internet service providers would have to provide bandwidth to clusters of schools, identified and paid for by MOEYI (Jamaica Observer, 2021). Schools would no longer be allowed to negotiate with service providers individually. Instead, MOEYI would be grouping schools according to their enrolment and bandwidth requirements. Service providers would be required to create a private data network for each group. This promised to alleviate loss of learning for students in nearly 400, mainly rural, schools suffering from a poor internet service or, as was the case with over half of them, who were totally without access at all. It also promised to cut costs for urban schools which had been struggling to fund private internet subscriptions – some schools had been spending up to US\$5,000 a month on these subscriptions. Such initiatives speak to how policy can address issues of inequitable access to learning if the political will is there. The challenge to consider, however, as in the Jamaica example, is how to sustain initiatives once the current pandemic is over.

Packages of digital tools to extend learning

Typically, rural regions in developing countries lack access to digital tools, but there have been some initiatives which have helped address this. For example, the Philippines 'School in a Bag: No school left behind' initiative (SMART, n.d.) has been developed to provide high-quality up-to-date learning materials, computers and digital devices to remote schools which have no electricity or connectivity. The 'Bag', which may have to be delivered by motorbike or even on foot, initially included a laptop, smartphone, LED television, five tablet machines, hard drive with educational content and pocket Wi-Fi. It addressed lack of electricity by including a solar panel to charge devices. Later packages included a projector, teacher laptop and DVD player, as well as updated kit. This initiative was developed by a telecommunications company and was picked up by UNICEF working with the Philippine's Ministry of Education. The Bag has been used in locations without telephone/internet access.

In the same vein of addressing lack of access is the idea of the technology bus – a classroom on wheels. This has been used in the UK (e.g. WISE, n.d.) and in other countries, over decades, to bring technologies, expert teaching and training to teachers to remote areas (e.g. Kajeet, 2017; Goldchain, 2019). In the USA during Covid school closures, over one hundred technology buses were used to provide support for learning when schools were closed. These buses could be used to provide internet access to school children, including access to the school online platforms.

Blended remote learning

In Australia, a continent with large desert areas, distance learning for children in remote areas started in the 1950s with the launch of the Alice Springs School of the Air. Learners used pedal generators to power the radio connection with the teacher and were given print materials to study from. This model has been developed to provide teacher-led and directed distance education, using online and other technologies. In this model, remote learning is supplemented by residential weeks to support social interaction and practical work in subjects such as science and technology. More recently, Alice Springs School of the Air (2021) and virtual vocational college has been supported by a satellite system – the Viewer Access Satellite Television (VAST) service (VAST, 2021). This provides digital television and radio services to learners in remote areas without technology access, including television. This education service is government-funded, though the satellite infrastructure itself is funded through public-private partnerships, and learners from around the world can register as students. The Australian use of low-flying satellite technology to support RTL is well established, and while we know that other, including low-income, countries have been experimenting with this technology, we have not found evidence of such well-developed use as in the Australian model.

Online platforms and offline apps

As mentioned, online platforms alone are not suitable as the sole strategy for any national RTL programme because of the large percentage of learners who do not have connectivity and personal devices. However, for those learners who are connected, students should be able to access virtual learning environments (VLEs) or learning

platforms. These allow both teachers and students access to online discussion, to resources, including presentations and documents, to homework assignments, to assessment systems and to administration. These platforms also allow synchronous or online classes. Research into their early use indicated that learning platforms helped learners to access online material before and after lessons and so deepen their learning (Younie and Leask, 2013). However, research largely took place in blended learning contexts; we need to further research their role in remote learning. There are a wide range of virtual classroom platforms available to educational institutions, usually on the basis of a subscription fee per student.

There are also a large number of free online education sites. For school-age learners, the most well-known example is probably the Khan Academy, which contains teaching material in most subjects in various national curricula. Khan Academy videos have been translated by volunteers into many languages, but can be translated into more, albeit with varying accuracy, using apps such as Google Translate. The idea within Khan Academy (2021) is that students practise at their own pace, receiving automatically generated feedback which can steer them into appropriate levels of difficulty. However, teachers, and indeed parents, are encouraged to direct and support students' learning as well. Better known for adult learners are the various online courses known as MOOCs – see the examples within FutureLearn (2021) and OpenLearn (2021). Although these courses were not intended for younger learners, they have been used in RTL for some time (e.g. Yin et al., 2015) and became more widely taken up during the lockdown. In addition, there are a range of smaller apps which provide educational content in different subjects. For example,

Duolingo provides support for learners of several languages and monitors and rewards progress through online tests. Seneca Learning largely provides revision materials in different subjects and again provides learning analytics to assist assessment.

Another valuable approach to RTL is to have a national education library – a repository – which can be used to provide materials for hard drives for use offline – see for example the open education resource world map (OER, n.d.), Pakistan Government materials (Elearn, n.d.) or open education resources for Africa in UNESCO (2021a). Two important initiatives for repositories of materials are 'Remote Area Community Hotspot for Education and Learning', or RACHEL, and EGranary. RACHEL (World Possible, 2021) is described as a 'portable, battery-powered, device that contains copies of educational websites in offline format'. It allows users to access free digital educational content on tablets, laptops or smartphones without internet or data plans. RACHEL has been used in over 50 countries since its creation and found particularly useful in villages and townships. One allocation has been in UNESCO's offline Digital Library Initiative in Uganda (UNESCO, 2021b). EGranary (2021) is a similar initiative, which captures content, with permission, from education websites to be used by partner institutions in developing countries and other under-served places around the globe. The goal here is again to provide quick and easy access to material in locations in which the internet is unreliable or non-existent at no cost.

What remote teaching and learning brings

The prime audience for RTL are those out of school because schools have been closed (as with Covid-19); families have no money

for school fees; distances to travel to school are too far; transport and infrastructure have been destroyed in physical disasters such as floods and earthquakes; students have disabilities or illnesses; or, as in some countries, schools do not accept menstruating girls, pregnant girls and schoolgirl mothers. The Covid-19 pandemic accelerated adoption and expansion of existing forms of RTL, and our research found that many teachers wanted elements of the RTL system they used during the pandemic to continue. However, creative national leadership is needed to embed emerging models of RTL into an existing education system. Such leadership can bring benefits not just for those distant from school but for those in school, by providing them with expanded sets of resources, feedback on practice and opportunities for discussion. A particularly important legacy of online teaching during the Covid-19 pandemic is greater awareness of the value of being able to revisit a lecture/lesson online, and of building repositories of lessons and accompanying materials.

The arguments for RTL have been consistent but the context is always changing. In 2003, discussing an early project bringing RTL using radio and internet technologies to rural people in Zambia, the vice chancellor of the University of Lusaka identified seven major benefits of using technologies in distance learning for adults. Two of these benefits were personal to the individual:

- personal development
- personally driven learning.

Five were national benefits:

- a few teachers reach large numbers
- no need for new buildings
- learn and earn – no productivity loss

- economical once materials developed
- development of technology literacy in the population.

(National Foundation for Educational Research, 2003: 71)

These benefits stand the test of time. In comparing the technology available for this 2003 project with the current day, nearly 20 years later, the main differences are:

- the use of solar power to charge devices rather than expensive single-use batteries
- the availability of smartphones and other small devices able to hold audio and visual content – thus replacing the CD-ROMs and tape recorders of the 2003 project
- improved quality of learning materials so that a larger body of high-quality materials, including synchronous or asynchronous expert-led videos/lectures/tutorials, are being produced and often offered for free
- Google Translate tools coupled with artificial intelligence assist the translation of materials
- an explosion in access to and use of digital devices, particular among young people, albeit in the context of a marked digital divide.

Our research revealed that RTL can support remote learners at times of crisis (see Bhatti et al., 2021) by providing access to print/electronic/online material, communication with teachers and involving parents and potentially the community in learning. The key drawback is access. In addition, research conducted during the Covid-19 pandemic showed that teaching from home was difficult for many teachers because of family circumstances and that many teachers and learners actually liked the routine of going to school.

We would encourage the development of RTL in a way that uses school and teachers as resources for the whole community. An RTL system could be used to rapidly upskill young and old to meet the needs of a developing economy – consider, for example, emerging knowledge about construction and use of solar and more efficient stoves for cooking (López-Martínez and Cuanalo de la Cerda, 2020) saving scarce resources and freeing up the time of those who currently have to forage for fuel, or emerging knowledge about water purification using locally sourced materials. Knowledge about these initiatives could become common knowledge if curriculum content was rapidly updated.

Challenges in developing remote teaching and learning

In this section we expand upon the challenges in developing RTL within existing education systems, we pose as key issues:

- deciding which technologies to use
- generating electricity and addressing shortages of devices
- involving all stakeholders and maintaining infrastructure
- supporting learners
- keeping a focus on RTL pedagogy
- using teacher leaders as change agents
- understanding how change happens
- finding adequate funding
- prioritising innovations.

Deciding which technologies to use

Developers should consider what is appropriate for their context. This means considering the types and extent of technology open to teachers and learners, the available support from government and NGOs, and the traditions of teaching and

learning in the particular context. Here it is important not to assume that high-tech solutions are the answer. For example, synchronous online classes might seem to be a natural replacement for face-to-face teaching, but they are not appropriate if internet access is unreliable. It is important too not to ditch tried-and-tested technologies of telephone, radio, television and pre-recorded video/DVD, on which many communities rely (UNESCO, 2020). The National Foundation for Educational Research (2003: 71), reporting on research into the use of technologies for adult education in Zambia, makes a strong plea for using low-tech solutions and notes that ‘waiting for the spread of connectivity, or even basic requirements like power, buildings and security, would disenfranchise the very section of Zambian society most in need.’

Generating electricity and addressing shortages of devices

Solar batteries, on a large or small scale, can be used to supply ICT devices (e.g. Ulsrud et al., 2018), but a range of other solutions are possible. For example, simple pedal-powered generators have been used in Africa (see CNN, 2012; World Bank n.d.) and piezoelectric devices have been introduced which harness energy from heat, vibrations and weather (Global Teacher Prize, 2021). On a larger scale, Nepal has developed the use of alternative and renewable energy (see Government of Nepal, n.d.; World Bank, 2014).

As regards device shortages, these can be addressed by innovations such as technology buses and the ‘School in a Bag’ described earlier. Finally, there is no reason for communities to lack offline access to online repositories. As seen earlier in the cases of RACHEL and EGranary, it is possible to provide extensive e-libraries for the most

remote communities with devices powered by solar power. Developers need to keep an open mind and consider not just what kind of mix of RTL may work best now but how such a scheme can be adaptable in the light of feedback and future changes in infrastructure.

Involving all stakeholders and maintaining infrastructure

Creating quality RTL requires teams, not individuals. It involves those who are generating and using the materials – educational authors and researchers – to work with teachers, community representatives and media experts. All stakeholders need to be listened to. For example, without the involvement of the community, designers may ignore cultural sensitivities which influence the adoption and impact of RTL of certain types.

New roles in the community may be needed, including e-librarians to offer both educational and technical support. Community/school use of technologies requires an infrastructure, maintenance and a replacement programme, coupled with an ongoing support network. Community volunteers may play a key role by keeping devices in a usable state, and community support may be a condition of having access to RTL in the first place. Volunteers may in return gain work experience and technical skills development. A consistent research finding is that communities that are effective in using technologies have a local ‘community of practice’, with people supporting each other in problem solving (Patel, 2021; OECD, 2002).

Supporting learners

The key here is not to assume that learners can work unsupported and unsupervised.

In all quality RTL, learners are supported by some combination of teachers, volunteers, parents and other community members and by their peers. An aim in all teaching is to hand over responsibility for learning to students, but learning needs to be modelled and guided by more knowledgeable others, be they volunteers, parents or teachers. Furthermore, those responsible for the development of young people need to be cautious in proposing solutions which mean young people have unsupervised internet access. The internet has a lot of growing up to do: users often find it difficult to distinguish between truth and lies, and people are being manipulated without their knowledge by being pushed certain information (United Nations, 2021).

Keeping a focus on RTL pedagogy

Support for learners raises the issue of RTL pedagogy. The pedagogies for RTL are not dissimilar to classroom teaching in that lessons have to be planned to ensure that there is progression of learning over time and full coverage of the curriculum. Resources and examples need to be constantly evaluated to keep up to date. Teachers can draw on their face-to-face teaching experience when planning and teaching online, but over time they should become aware of differences too. For example, there is more flexibility in the grouping of learners, in interactions between teacher and learners and in types of assessment. We suggest there are four core elements of high-quality RTL pedagogy:

- quality materials relevant to the learner
- personal connection between pupil/teacher/facilitator
- the opportunity for learner-driven tasks
- formative assessment – providing motivating feedback.

Quality materials relevant to the learner.

Particular care has to be taken with the structure of materials if the learner is to be engaged and navigate a route through them. For example, it is not enough to make PowerPoint presentations available, provide 'talking heads' explanations or scan pages from textbooks and call these learning materials. Rather, teachers need to set out tasks for learners, choose from available media how best to present the material and provide focus tasks and opportunities for formative assessment and discussion.

Personal connection. This means that ongoing support for learners is provided by their existing teacher or an adult working with a small group, using RTL resources. Peer-to-peer support is also found in effective RTL models.

Learner-driven tasks or 'rich tasks'. The pedagogy teachers commonly use in contexts as diverse as primary school classrooms and university teaching is that of direct instruction followed by application of new knowledge, often through extended projects sometimes called 'rich tasks' (Harris, in press; Queensland Department of Education, 2001). Deep learning is facilitated through this approach as the learner needs to draw on and apply knowledge creatively, often drawing on different fields of study. Timetabling models used in primary schools and universities have traditionally allowed for rich tasks, as learners can focus on a project or problem for an extended period. At secondary level the learner's day tends to be filled up with short blocks of tuition in different subjects in which the content of one lesson has no relation to the subject lesson which went before and the one that follows. RTL enables secondary school teaching to move away from this model and towards a more problem-solving or rich-task curriculum.

Assessment. Technology-supported individualised learning, for example mathematics skills testing and the example of Duolingo earlier, typically include personal progress tracking through formative assessment tests. This directs the learner's progress through levels of difficulty. Typically, the teacher can access an automatically generated update on learners' progress, including an analysis of problems. Even when used offline, the data is stored until devices are connected online and existing records can be updated. Teachers have spoken about the utility of this for improving record keeping and the efficiency of tracking learner performance.

Another way in which technology supports assessment is to provide both teachers, students and their parents/carers with access to recordings of lessons taught. This enhances opportunities for student self-assessment of their participation, and teachers can also offer feedback after the lesson. Having access to past performance is helpful for planning future lessons and differentiating instruction. It also provides a means of helping students who could not participate to catch up (Hordatt Gentles and Leask, 2021).

Caldwell (in press) provides this summary of key pedagogies associated with high quality RTL:

The pedagogies associated with RTL highlight action, collaboration, and reflection as key aspects of online learning. They also highlight the role of teachers working actively and collaboratively with students to build learner agency.

One might conclude here that the principles that underpin RTL pedagogy are similar to those that underpin effective face-to-face teaching as well.

Using teacher leaders as change agents

The gap between creating a vision and getting change implemented is bridged by an action plan involving all stakeholders, coupled with a change management plan. Our research suggests the key foundation for making change happen is to work with ‘teacher leaders’. These are educators who are instigators and innovators for change, who are aware of the contextual realities of their schools and what is possible. These teacher leaders may have been given particular roles in the school, but in a distributed model there will be opportunities to lead change irrespective of teachers’ designated roles. Their motivation comes from wanting to improve student learning outcomes through initiatives that are responsive to their learners’ needs. Teacher leaders are also advocates among their peers for professional collaboration and learning that promotes and drives educational change (Muijs and Reynolds, 2017; Hargreaves and Ainscow 2015; Campbell et al., 2017). As Harris and Jones (2019) suggest:

Teachers as the co-constructors of educational change and key contributors to policy making is an idea that is long overdue in many education systems. Where teachers are genuinely at the forefront of educational reform and co-constructing change, the net result can be both positive and empowering ... Yet, much policy making still tends to factor out the teacher’s voice, preferring instead to take a steer from international organisations or think tanks that often have cursory knowledge about the contexts where the work of teaching and learning is taking place.

There is evidence that during the pandemic, many teachers became teacher leaders as

they rose to the challenge of reaching learners at risk of marginalisation (Leask and Younie, 2021; Hordatt Gentles and Leask, 2021). Imagine how impactful it would be if policymakers valued and validated the work of these teacher leaders and sought to generalise the practices these leaders had developed.

Understanding how change happens

Teacher leaders are the ‘innovators’ and ‘early adopters of change’ in Rogers’ (1995) *Diffusion of Innovations*. They provide the models which others will follow, as long as they can demonstrate the positive impact of their innovations. The OECD research project on the adoption of technologies in schools found that teacher leaders played a critical role in the adoption of innovation (OECD 2002). Technology adoption can be, and often is, a drawn-out process, rather than a one-off event. Mandinach and Cline (1994), as well as later commentators, see innovations as a four-stage process: survival, mastery, impact and innovation. In the first of these, *survival*, teachers’ focus may be on learning to use the technology and trying to replicate or support their usual patterns of teaching. As they become more technically competent, a *mastery* stage is achieved, in which they have a stronger focus on curriculum goals and an awareness of new patterns of interaction, rather than focusing on or worrying about the technology. In the third stage, the *impact* stage, the classroom might become more learner-centred, and technology is used seamlessly in learning activities. Finally (for some teachers) an *innovation* stage is reached, in which the teacher and groups of teachers working together become increasingly aware of the opportunities which technology provides for restructuring the curriculum, moving beyond tightly controlled procedures and content.

Lockdown of schools has meant that there has been rapid acceleration and diffusion of knowledge about RTL, with teachers, learners and community members potentially now moving from survival to mastery and beyond to impact and innovation. Harnessing the new skills and knowledge of these groups has the potential to bring significant benefits to education systems. However, adoption of technology is not a one-size-fits-all process, and support and development need to be tailored to where individual teachers and schools are in their journey.

Finding adequate funding

A wide variety of funding approaches are used in RTL, ranging from solely government funding to public–private partnerships. Where an initiative is solely funded by government, its sustainability is at risk when governments change. There is a limited amount of government money, and new administrations have different priorities. We suggest that, from the beginning, the sustainability of any RTL initiative is planned for. This will mean benefiting from, but not being reliant on, government, NGO or charitable funding and creating revenue generation models, perhaps including advertising, fees and subscriptions. An example of sustainability of funding of an educational initiative is provided by the European SchoolNet (2021) initiative, which connects teachers and learners across Europe to undertake joint projects and to share knowledge. It is funded by 30 or so ministries of education, each paying a modest subscription, with additional projects funded through bidding for external funds. The network was initiated in 1995 and is still going strong today. This may represent a model of international collaboration across developing countries as well. Another common funding model being adopted by providers of online

courses is that course material is free, but any interaction with a teacher, including assessment, has to be paid for. FutureLearn and OpenLearn, referenced earlier, provide two examples of this freemium/premium model.

Prioritising innovations

With so many possibilities and so many opportunities for supporting learners, those developing RTL need to prioritise. At the same time, they should not be overcommitted to one set of innovations and should seek early feedback and adapt accordingly. The process of change is then both a top-down and bottom-up one. One question developers may ask is where to begin with RTL. We ourselves suggest that minimum provision is access to a community virtual library, perhaps hosted by a school if there is one, to allow those motivated to access knowledge to do so. UNESCO's digital library programme (e.g. UNESCO, 2021b; UNESCO, 2021c), the earlier Libraries for Development project in Finland, Namibia and Tanzania and the Austrian e-library model provide examples.

Perhaps access to an e-library could be seen as a basic right for citizens, opening up, as it does, access to knowledge affecting every aspect of human life. All that is needed as a starter is one simple device, solar-powered with an e-library on the hard drive and a community member responsible for managing access, charging and updating. The content of offline virtual libraries can be updated periodically so that new local knowledge is included. This could address the problem of dissemination of new knowledge created by projects that have taken place in schools and universities.

Where to go from here

In this chapter we have looked at the development of RTL, a range of models using different technologies, and the challenges in designing an effective RTL system. We hope that the chapter has given you ideas about how to improve the RTL system in your country, and we end with questions you may wish to consider in light of your own context.

What are your own assumptions about RTL?

Many people assume that RTL requires a total rethink of teaching and learning, that learners should be left unsupervised or that RTL is an impoverished form of learning. We have shown in this chapter that this is not the case.

What is the key problem that RTL is addressing in your context? For many RTL initiatives, the problem is about access to learning materials and what to do when learners have very different levels of access to devices and to the internet. Developers should not assume that high-technology solutions are the most successful.

What do you assume about the change process? Many see the development of RTL as a one-off event rather than a process. We have argued instead that effective RTL needs to engage the community, teachers, students and volunteers in change. A particularly important role is that of teacher leader. Developments need to adapt to changing circumstances.

What is the minimum RTL provision your educational system could aim for? Many see the provision of RTL as revolutionary rather than evolutionary. We have shown the importance of taking a long-term perspective and prioritising efforts to have the most impact.

So, in conclusion, what needs to be in place for you to realise your vision? We have seen that developers need to work with teachers and communities to understand the local context and to select technologies which are accessible. Higher-tech solutions require new infrastructure, but there are creative solutions such as the basic-technology kit ‘in a bag’ described above and the use of solar-powered devices to address unreliable or non-existent electricity supplies.

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The use of technology to support remote teaching and learning during the Covid-19 pandemic: Responses in South Asia

Vaishali Pradhan and Liana Hyde

Abstract

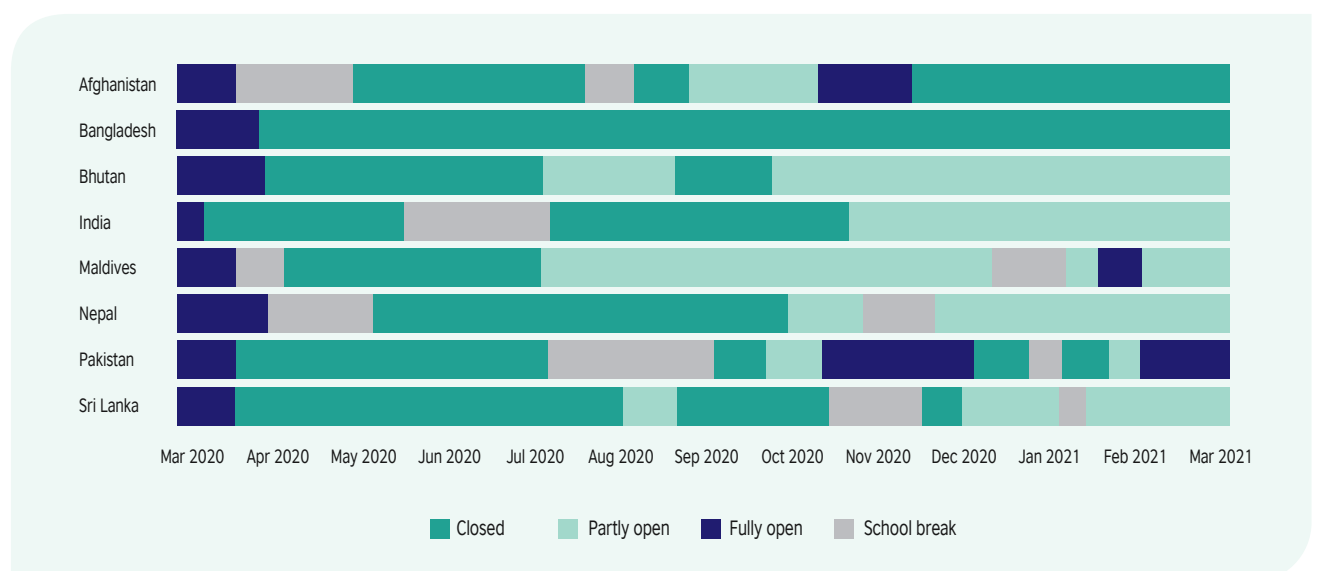
This chapter reports on government responses to the closure of schools during the Covid-19 pandemic in South Asia. It describes how different strategies were initiated by the various Ministries of Education in the region to support continuity of learning for all students. The chapter particularly focuses on the interventions which were designed to target the hardest-to-reach students in each of the six countries. By examining the various approaches used, it is hoped that this chapter could serve to inform future government responses to school closures.

Introduction

Since the Covid-19 outbreak in early 2020, governments around the world have been coping with and responding to the numerous challenges posed by extended lockdowns,

closure of education institutions and economic disruptions. The pandemic affected all parts of the world and, unfortunately, posed additional problems for the most vulnerable and marginalised members of society. The education sector, among others, was largely impacted, with an estimated one billion students around the world at risk of falling behind due to school closures, 391 million of which were from South Asia. This included 22 million children who missed out on attending their first year at school (UNICEF, 2021a). With evidence that even prior to the pandemic education systems were grappling with a learning crisis, the disruptions from Covid-19 only compounded poor learning conditions, especially in developing countries.

Figure 1: The pattern of school lockdowns across South Asia (Source: UNICEF 2021a, p. 32)



Apart from Maldives, schools across the region were fully closed for longer than the global average, with schools in Bangladesh possibly closing for the longest period (see Figure 1). Most countries had staggered openings, primarily to address the needs of students sitting for national grade exams. However, this did not last for long. Rising numbers of Covid-19 cases again forced schools to shut down for extended periods.

Governments reacted by putting in place arrangements for learning continuity across all levels of education. But what kinds of arrangements? Did all countries follow the same approach? Were countries able to provide equal access to all students, including those from remote communities? In this chapter we examine the responses of each country in South Asia, focusing on the spread and extent of response. This is followed by a reflection on lessons learned.

Afghanistan

As a result of over 35 years of conflict in Afghanistan, education, health and general infrastructure have all been considerably weakened across the country. The onset of Covid-19 therefore left the country particularly vulnerable. The first confirmed case was on 24 February 2020, and the first peak was in late May to mid 2020. Confirmed cases and deaths started to increase again from early November 2020.

At the time of school closures – 15 March 2020 – the United Nations Office for the Coordination of Humanitarian Affairs estimated that over ten million students were affected (OCHA, 2020), a number that included students who were already out of school. One of the first steps the government took was to create the Ministry of Education (MoE) Alternative Education Plan, with

the goal of using ‘the existing resources and capacity of MoE and through various innovative ways, continue the education service delivery to students at their homes’ (MoE, 2020a). The plan took into account different levels of access and focused on three main areas.

The first of these was self-learning. All social science and language subjects and Islamic education at lower-secondary and upper-secondary grades was to be ‘self-learned’, though with support through local radio and using MoE materials.

The second – distance learning – was for core subjects in primary education as well as science, maths and foreign language subjects for secondary-level students. This was primarily focused on delivery through TV.

The third was small-group learning, focusing on students in harder-to-reach areas, where there was very little access to TVs, mobile phones or electricity. This was also for areas with many first-generation learners, where parents might not be able to support their child’s learning. This involved small groups of students being taught by local teachers in the open air.

As with many countries, reaching students in urban areas during the lockdown was more straightforward than in rural areas, due to greater accessibility of phones, television and internet. An e-learning website was also set up, and television programmes were created to broadcast lessons and learning support to students. However, with only a quarter of the population living in urban areas, rural Afghanistan presented a particular set of challenges, with a key issue being access. In fact, 62 per cent of students had access to radios and 57 per cent had access to television, but under ten per cent had access

to the internet, and these were located in urban areas. In addition, the literacy level of adults in rural Afghanistan was low – just over a quarter – so it was challenging to find ways to engage parents in supporting their children’s learning. Further, due to limited resources, it was also not possible to distribute learning materials to all areas of the country, especially in parts of the country which were not under government control.

With so many students unable to access the radio, television and online resources, and/or with no parental support, one of the most effective ways to reach rural students in Afghanistan was through the community-based education (CBE) network. In 2020, it was estimated that over half a million students were learning through CBE in Afghanistan (UNICEF, 2021b) and in 2001 a CBE system was established with an aim of better supporting the hardest-to-reach students in the country.

CBE has two mechanisms: community-based classes for Grades 1–3, and accelerated learning programmes for Grades 4–6. To support the CBE system during Covid, the Education in Emergencies Working Group in Afghanistan produced hard-copy self-learning guides for community teachers (see Relief Web, 2021). The materials were designed centrally to support teachers in communities. Focusing mostly on revision, they also gave key health messages on Covid-19. The same teachers distributed learning packs and provided support to students through family visits (UNICEF, 2021b). Community engagement was key in ensuring continuity of learning, even if, overall, there was a very clear divide in terms of access to devices and to learning, largely dictated by where students lived and their socio-economic status.

Bangladesh

Schools in Bangladesh closed in March 2020 and, at the time of writing in November 2021, are only just starting to reopen. With such a huge and diverse population, the government’s response to Covid-19 and to ensuring that some level of learning continued had to be multidimensional.

The Bangladesh government had been working for many years to create a ‘digital Bangladesh’, moving government services online. As part of this strategy, a collaboration between the government of Bangladesh and the United Nations development programme aimed at ‘using ICT-led innovation to make education more enjoyable, accessible and available for anyone-anywhere-anytime, while enabling teachers to share and co-create content’. There were many facets to this programme, but during Covid lockdowns, some of these innovative solutions came to the fore including:

- Konnect – an ‘edutainment’ online platform, where nearly 300,000 Bangladeshi teenagers and adolescents learn 21st-century life skills through a range of content designed to be engaging for this age group
- a Teachers’ Portal for primary and secondary teachers to interact with other teachers and access online teacher development opportunities; it is reported to have nearly 1.5 million members
- talking books, used to support visually impaired students through engaging story-based content
- a Virtual Class platform, offering live online classes for tertiary-level students.

Many resources were also shared through social media, using platforms like Facebook, so that students were able to connect with

each other and with their teachers. More than 75,000 online classes were delivered using social media and education portals.

With such a huge and diverse population of students, this online delivery reached millions, but also failed to reach over half of the population. A UNICEF-International Telecommunication Union report, found that 63 per cent of Bangladesh’s school-age children had no internet access at home (UNICEF, 2020). While there was quite high penetration of smartphones in the country, the impact on learning was limited due to issues such as the cost of data, low levels of connectivity in certain areas and the lack of a stable electricity supply. A household survey conducted in 2019 by the Government of Bangladesh and UNICEF displays what kind of access to devices existed across the country.

Table 1: Household ownership of ICT equipment and access to internet (Source Bangladesh Bureau of Statistics/UNICEF Bangladesh, 2019)

	Percentage of households surveyed who had access to each device
Radio	0.6
TV	50.6
Fixed line phone	0.5
Mobile phone	95.9
Computer	5.6
Internet access	37.6

As Table 1 shows, there were very low levels of ownership of computers and very high access to mobile phones. The low level of radio ownership does not take into account the fact that most basic mobile phones have a radio function, meaning there is actually a much higher level of radio access.

Taking all this into account, the Ministry of Education developed several initiatives to try and reach those without online access.

- **Television.** Within a month of school closures, television channels began broadcasting secondary school lessons on a state-run channel. It was estimated that around 51 per cent of the student population was able to access this. Teachers supported students’ learning, and experienced teachers were engaged in developing the lesson content.
- **Radio.** Theoretically, radio classes in Bangladesh had more potential to reach rural students, but it is very unclear how many actually did. A huge effort was put into developing radio/audio content mapped to the National Curriculum. Over 200 radio classes were created for various subjects and were broadcast both on state national channels and at community level.
- **Mobile phones.** It has been estimated that only around a quarter of households in Bangladesh had a smartphone (Save the Children, 2020). Despite this, all types of mobile phones were an important channel for interaction. Those with access to more basic mobile phones could communicate directly with their teachers and other learners, while those with smartphones were able to access online resources and online classes. Audio resources were also distributed on SD cards, and students could use basic phones to access radio programmes.

Some other initiatives were devised to reach the more marginalised students, for example Building Resources Across Communities worked with the government to reach learners through low-tech, low-cost mobile phone lessons. This included small-group calls for children and their parents, twice a

week, which reached over 80,000 students (UNICEF, 2021c).

One of the few positive aspects of the lockdowns on the education systems was the fact that teachers found a reason to connect with each other online, opening up a new world of sharing content and creating a community of support. In focus group discussions, teachers spoke about how they were using social media platforms to share guidance and recorded online lessons. Teachers also spoke about learning new ideas from watching each other's video lessons and that teachers supported each other to develop their online teaching skills. It was hoped that the networks of local and national teachers would continue to provide professional development opportunities for teachers in Bangladesh (UNICEF, 2021c).

Bhutan

Immediately after the first case of Covid-19 was detected in early March 2020, Bhutan went into complete lockdown, resulting in over 170,000 students staying out of school. Taking an integrated approach, the Ministry and Royal Education Council, with support from teachers and development partners, developed an Education in Emergency plan. This plan outlined a phased approach in response to the crisis, with the first phase focusing on awareness, advocacy, psychosocial support and development of an adapted curriculum, this to be followed by a second phase focused on different school reopening scenarios. In 2020, the Ministry received a grant of US\$750,000 from the Global Partnership for Education, to support activities identified in the emergency response plan. Apart from improving water, health and sanitation facilities, this grant supported learning continuity for children, especially those from

unreached communities and those with special needs; the improvement of distance-learning opportunities; training teachers on ICT and self-instructional materials (Global Partnership for Education, 2020).

Soon after the lockdown, the Ministry of Education developed an adapted curriculum, which focused on core foundational skills in primary and combined subjects at the higher grades. Schools were then instructed to conduct online classes based on this new curriculum in order to continue engaging with students. Some of the most widely used online platforms were WhatsApp, Google Classrooms, WeChat, Zoom and Facebook Messenger. Self-instructional materials were developed for children living in remote communities, which were intended to promote independent learning at home. Over 150,000 booklets were printed and distributed to 32,135 students across the country. More than 200 radio lessons based on these materials were also broadcast through the Bhutan Broadcasting Service and Kuzoo FM, while many recorded lessons were telecast (Education Monitoring Division, 2021).

Although the country boasts of about 75 per cent broadband and internet penetration, only 60 per cent of households actually have access to the internet as subscribers are limited (UNICEF, 2021f). This has resulted in a huge digital divide, with many students not being able to avail themselves of the remote-learning initiatives set out in the government's response plan. According to a government survey, three-quarters of students said they enjoyed online lessons and this helped them become independent learners. However, the same report also stated that a substantial number of students felt that online learning was challenging, as it lacked one-to-one guidance from teachers.

That online learning was expensive and required constant access to smartphones and data packages were other issues stated by students (Education Monitoring Division, 2021). This was confirmed by another study, which found that unreliable internet connections, expensive charges and frequent disruption of electricity were the main reasons why a large number of students could not attend online classes (Wangdi et al., 2021). The monitoring report also stated that the majority of students could not engage well with the video lessons on television as they found them confusing and sometimes even incomprehensible. The survey revealed that over 100,000 students accessed lessons through various social media platforms, while just over 3,000 students accessed lessons through the radio.

India

In response to the Covid-19 pandemic, schools across India closed in March 2020, impacting on more than 285 million students from pre-primary to secondary education. The national and state governments, including village panchayats and various national and international organisations, put in place arrangements to ensure learning continued for students at different levels. These remote learning initiatives included programmes on radio, television, online and print resources, which were distributed widely. In many states, online content was distributed over WhatsApp, along with village panchayat and livelihood groups distributing textbooks and initiating home-based learning activities like the *Padai Tuhar Para* and *Bultu Ke Bol* in Chhattisgarh. This was a community-based programme in which students could access study materials via Bluetooth and received support from teachers within the community. Another example was the *Vidyagama* scheme in Karnataka, which allowed small groups of

students to come to school for half a day, with parents' consent.

Compared to other countries in the region, the central government's response to the crisis was quick, with the rollout of guidelines such as the 'Pragyata guidance on digital learning', 'Learning enhancement guidelines for continuous learning' and 'Guidelines for out of school children' released in January 2021. Both the state and private sectors developed online self-access content that was released through various digital platforms. In May 2020, the Pradhan Mantri e-Vidya Initiative for Digital Education was announced, which aimed to unify all efforts related to online education and enable multimode access to education. Below are some of the major online initiatives for students, teachers and parents.

- Diksha. This portal contains online content, including thousands of video lessons, textbooks and worksheets aligned to the Central Board of Secondary Education curriculum, for students, teachers and parents. With over 80,000 e-books in different languages, the app is also available to use offline.
- E-Pathshala. An e-learning app by NCERT for Grades 1–12, the platform has hundreds of books, videos and audio for students and teachers. Content is available in multiple languages, including Hindi, Urdu and English.
- Swayam. This online platform hosts 1,900 complete courses, including teaching videos, weekly assignments and exams. All content is aimed at both school (class 9–12) and higher education (undergraduate and postgraduate) levels and is aligned to the curriculum.

Unfortunately, as in many countries around the world, a lot of these options were not

accessible to students in harder-to-reach communities. According to the national household survey carried out in 2017, only 17 per cent of Indian households had access to connectivity and smartphones. This number, no doubt, would have increased in the intervening years; however, the digital divide was still quite huge. A study (Azim Premji Foundation, 2020) reported that almost 60 per cent of students across India could not access online learning opportunities, and many families had little or no access to even simple smartphones. Even with those teachers who did have online access, more than 80 per cent expressed their concerns over teaching online, in particular maintaining an emotional connection and engagement with children. Similarly, urban families who sent their children to private schools reported unstable internet connections and the high cost of mobile data (Oxfam India, 2020).

Comparatively, television was much more accessible. About two-thirds of all Indian households and about one-third of the poorest households own a television. Additionally, televisions are also easier to share – over a third of households without a television mentioned that their children often visited a neighbour's house to watch television (Johnson and Sampson, 2020). Broadcasting educational programmes on television was therefore an obvious response to the extended school closures. A popular response was the Swayam Prabha initiative (an education learning platform initiated by the Ministry of Human Resource Development in 2017) to enable wider access for students across the country by means of 32 direct-to-home channels that telecast educational programmes round the clock. These channels were aimed at students from Grades 1 to 10, higher education students (undergraduate, postgraduate) and out-of-school children.

Programmes were also available for teachers and caregivers.

With the state-owned All India Radio boasting a 92 per cent reach across the country, learning through radio was another viable option for ensuring that students from the most marginalised communities also had access to learning. Different states launched radio programmes for their students from Grades 1 to 8. Programmes focused on core subjects as well as social and emotional learning. Some well-reported examples were the initiatives taken by the governments of Madhya Pradesh, Odisha and Uttar Pradesh. In a few other places, like Gujarat and Maharashtra, community members even set up loudspeakers in public places to narrate stories and rhymes to young students.

Some other popular tools used for remote learning included the use of WhatsApp and interactive voice response systems, where students could dial in to a toll-free number and listen to subject content, information on self-well-being or a story narrated for free. According to a report, WhatsApp was considered to be the most popular choice of platform among learners. Parents and teachers also saw the potential of learning through this platform. Near on 90 per cent of teachers surveyed used the platform to interact with their students by sending recorded classes, worksheets and reference links (UNICEF, 2020).

Maldives

The Republic of Maldives is an island state which comprises over 1,000 islands, 200 of which are inhabited. The country had made rapid economic improvements over the last three decades, transitioning from a largely fishing-based economy to one which was largely tourism-based. It has also made great

strides toward ensuring education for all. However, with its reliance on tourism, the country was obviously one of the hardest hit economically by Covid lockdowns.

The first case of Covid-19 was detected in Maldives on 7 March 2020, and schools were closed by 20 March 2020, affecting all 99,000 school students (UNICEF, 2021d). The government moved to implement strategies to keep students learning. As a relatively connected nation, most learning initiatives focused on online learning and television. In response to school closures, the Ministry of Education developed the Education Response Plan of May 2020 (Ministry of Education, Maldives, 2020), which set out to provide an inclusive and accessible education service. In order to achieve this goal, two interlinked strategies for reaching students were developed: Telikilaas TV and online teaching.

Telikilaas TV was offered an extensive programme of quite innovative television lessons, which were developed rapidly for broadcast throughout the nation. Timetables were fixed, and lessons were produced for all grades of schooling. The lessons were broadcast on public television channels and were made available for streaming on the online Filaa portal (so that students with internet connections could watch at a suitable time or rewatch the lessons). The television lessons were all produced by seconded teachers, and a central team vetted the quality of the classes before they were uploaded. There was obviously a huge learning curve for teachers in gaining new skills in developing this type of content. A major issue was that the television studios at some point also had to close, so lessons were then developed by teachers using smartphones and basic tech in their own homes. To support teachers, a guidance note was prepared and circulated, and tips

were given on how teachers could make an effective video recording using a mobile.

As regards online teaching, Maldives, unlike many other countries in South Asia, had already been using a number of online learning systems in education, including the Filaa platform (Ministry of Education, Maldives, n.d.) which was used extensively across the education system. This country-specific platform acted as a repository for all sorts of educational resources, such as self-study lessons, worksheets and, most importantly, textbooks. Indeed, Cambridge University Press made all of their textbooks available in digital format for all students through this platform. This platform allowed for live interaction and the ability to share assignments, etc.

However, many teachers and students found the transition to entirely online teaching and learning difficult. One reason was that according to an MoE survey in March 2020, 31 per cent of the potential audience for the school education distance-learning programmes (students, teachers and parents) did not have internet or Wi-Fi access at home (UNICEF, 2021d). Another difficulty was that although teachers and students had been using the online systems in their schools, they did not feel ready to make a switch to purely online lessons and remote learning. In response, extensive guidance and support were developed for teachers and students. In addition, as there were issues with the price of data, the government offered 5GB of free data for each student (World Bank, 2020). Something which further aided the adoption of online classes was that the government had previously started a programme to distribute tablets to all students from Grade 3 upwards as part of its wider education plan. This meant that the majority of students had access to a device, which made the use of

platforms such as Google Classroom and Google Meet more feasible.

There is much more research to be done on the impact of these initiatives, but by the end of November 2020 over half of all students were reached with online learning, and around two-thirds were reached with televised lessons (UNICEF, 2021d).

Nepal

Since the first case of Covid-19 was identified in January 2020, Nepal went into repeated lockdowns, with schools and institutions closing for extended periods. An estimated nine million students were affected by school closures, more than two-thirds from primary and secondary levels. With the support of development partners, the federal government came up with guidelines and protocols to respond to the crisis, giving local governments the responsibility for planning and implementation: Covid-19 Education Cluster Contingency Action Plan, Alternative Learning Facilitation Guidelines, Emergency Action Plan for School Education, and the more recent School Reopening Framework, which was released in November 2020.

Keeping in mind the diverse landscape and socio-economic differences in communities, the government approach was multipronged. Numerous remote teaching and learning activities started soon after the lockdown, including an online platform with virtual lessons and guidance for the primary and secondary level. *E-pustakalaya* – a digital library, *Sikai Chautari* – a government-supported platform with educational materials for Grades 1–10, and the Center for Education and Human Resource Development (CEHRD) learning portal are a few examples. Teachers, especially from private schools, started online classes through Zoom, Google

Meet and Teams. Other initiatives included lessons on radio and television and the distribution of print resources.

According to the Nepal Media Survey 2019, it was estimated that more than 60 per cent of Nepal's households owned a radio set, with more listening to the radio on a mobile phone. Mobile phone penetration was also high, with more than four out of five households in Nepal having access, making it possible for children to use phones to connect to local FM radio (World Bank, 2020). It was thus only natural for radio to be one of the primary ways to access students in hardest-to-reach communities. Initiatives involving radio included:

- *Sikdai Sikaudai* – a radio programme produced and broadcast by UNICEF and Seto Guras Nepal in collaboration with the CEHRD, this was a part of the government's learning campaign and focused on parental education
- Radio Schools – a series of radio-based learnings developed by Save the Children, including content on early childhood care, early grade reading, secondary education examination preparation classes, and information on caregiving and positive parenting; lessons were curated by local teachers and were aired in different local languages along with Nepali
- *Ma Sikdaichu* – a series of radio programmes developed by the British Council in collaboration with Cambridge University Press and Teach for Nepal; content was based on the school curriculum for Grades 6–10 for English, maths and science
- *Udaan* – a drama-based radio lesson developed by the British Council in collaboration with VSO Nepal to improve students' awareness of social skills and basic English language proficiency

- Low-Tech Intervention for Foundational Education (LIFE) – initiated by the World Bank in collaboration with the government and implemented by Teach for Nepal, LIFE used SMS messages and phone calls to support foundational skills in maths among primary school-age children (Grades 3–5).

In January 2021, the government in collaboration with development partners launched a learning continuity campaign to mitigate the learning loss among children. This campaign sought to engage with multiple stakeholders, including parents, schools, local governments and children, with effective health protocols, use of alternative teaching and learning methods, and safe school reopening. Following the government's guidelines to facilitate learning through alternative systems, all new interventions were categorised according to the need of students who (i) had no access to media, (ii) had access to radio, (iii) had access to television, (iv) had access to computers but lacked internet connectivity, and (v) had access to internet connectivity.

Among the various remote learning options, self-study using textbooks was the most dominant (63 per cent) for children, and this was much higher (70.5 per cent) for students from public schools compared to those from private schools (61.5 per cent). The access to online classes was significantly higher for children from private schools (43.5 per cent) compared to children going to community schools (18 per cent). Self-learning packs were also distributed to children with no access to any other type of alternative education (3 per cent), along with few in-person modalities such as mobile teachers and Tole Shiksha (0.6 per cent), in which teachers supported groups of children together within their communities (UNICEF, 2021a).

Pakistan

Pakistan was one of the first countries in the world to close schools as a result of the Covid-19 pandemic, with closures beginning in February 2020. It is estimated that these closures impacted on 50 million learners from pre-primary up to university level (AEPAM, 2017). The Pakistan education system is governed nationally by the Federal Ministry of Education, which oversees major aspects of the system including curriculum development. Beyond this, Pakistan is divided into four states or provinces, each with its own education system, whose mandate is to provide free and compulsory education to all children aged five to sixteen years.

Pakistan is another country with diverse levels of access to ICT devices and internet. The split between urban and rural access is stark, especially in relation to smartphones (urban: 73 per cent; rural: 38 per cent) and internet connectivity (urban: 36 per cent; rural: 15 per cent). This presented major challenges for planning continuation of learning during the lockdowns (EdTech Hub, 2020).

The government's response to Covid-19 was to develop a national education and resilience plan, the goals of which were to enable continuation of learning, strengthen systems and address health hygiene and safety. The plan had an emphasis on how partnerships could most effectively be deployed to support continuation of learning.

One of the biggest and most successful parts of this plan was TeleSchool. Television was identified as the best way to reach the majority of the population, as almost all of Pakistan had access (World Bank, 2021). Combining this with teacher support and access to YouTube videos and learning

platforms was seen as an important way to reach students across the country. Teachers and subject experts were redeployed to create television lessons. The lessons were mapped to the national and provincial curricula. In addition, mass communication campaigns were broadcast on the most popular television shows. There was focus on engaging in partnership with private organisations to provide content, with over three hundred companies, organisations and people donating their content (UNICEF, 2021e). In addition, there were several state-level television initiatives, two of which involving the Punjab and Sindh provinces are described below.

- Punjab. Building on an existing e-learning programme, Taleem Ghar worked to increase the volume of programmes and learning resources available on television and had a focus on how to make its programmes as engaging as possible, especially for younger learners. Teacher characters were developed, animated for television lessons (Miss DNA, Mr. Khawarizmi and Miss Curie), and maths and science lessons, in both Urdu and English, were prioritised. Programmers were able to deploy this content quickly, with broadcasts starting from April 2020 through a television channel, an app and YouTube. It is estimated that content reached 70 per cent of the school-going population, the app experienced 55,000 individual uploads and YouTube garnered nearly nine million views (UNICEF, 2021e).
- Sindh. Another example of public-private partnerships was the work done in Sindh with Microsoft. As part of a wider programme to provide more digital education to students, a learning platform was developed with the support of the Sabaq foundation. This initiative was offered in English and Urdu, and covered

the Sindhi curriculum for kindergarten to Grade 5.

In Pakistan, a rapid assessment tried to assess the impact of national and state initiatives. Over the space of two months, a representative sample of 1,200 households was contacted. Nearly one in every three Pakistanis surveyed said they had accessed TeleSchool lessons (with the highest proportion from Punjab), with an estimated weekly viewership of six million children. Over two-thirds were either satisfied or somewhat satisfied with TeleSchool lessons, with rural respondents more satisfied than their urban counterparts.

In Pakistan, too, an existing programme to reach deaf students was adapted. It is estimated that there are one million deaf school-age children in Pakistan, and literacy rates of this population are low, around five per cent. One organisation, Deaf Reach, had been working to utilise technology to meet the needs of deaf students for many years, mostly using face-to-face outreach programmes in small schools/hubs. When schools had to close, they surveyed their student population to understand their access to technology and found that 85 per cent had no internet access and 75 per cent had no access to computers or devices. They devised a programme to deliver low-cost computers with pre-loaded content, with accompanying worksheets and learning materials, to their students. They then engaged their teachers to mentor students and parents to assist in their child's learning, mostly over phone calls. Through this simple initiative they were able to reach 1,200 deaf students (Deaf Reach, 2021).

Sri Lanka

With the first Sri Lankan national testing positive for Covid-19 in March 2020, the government rapidly introduced measures to control the spread by introducing a strict island-wide lockdown. This disrupted the continuation of in-school education for over four million students. Schools briefly opened in July 2020 for students sitting national exams; however, they soon shut again due to a steep rise in Covid cases. Although a few schools tried to resume face-to-face classes in August, this did not last for long. The government, in collaboration with partners, came up with measures to ensure students continued learning remotely. Some provinces used radio programmes to broadcast lessons, especially for students taking their grade exams, while some distributed home-based learning packages. Online classes were also initiated by the Ministry of Education and the Provincial Departments of Education at national and subnational levels. *E-thaksalawa* and *eSiphala* were some of the popular online learning platforms in use.

- *E-thaksalawa*. This platform consisted of resources mapped to the school curriculum, which students could access freely online. It had thousands of recorded lessons, worksheets, test papers, textbooks and teacher instructional manuals. Lessons were available in English, Sinhala and Tamil.
- *eSiphala*. This was an online teaching platform launched by Sri Lanka Telecom. It allowed teachers to connect up to 20,000 students in a single session and also create virtual classrooms. Teachers could also conduct live or pre-recorded sessions, along with scheduling online assignments and tests, together with marking systems.

Similar to many countries in the region, internet access is often restricted for many Sri Lankan households. According to a survey carried out in 2019, only 22 per cent of households owned a computer, while around a third of the population had internet access. The use of smartphones was also limited, especially in remote rural areas where broadband connections are weak (Development Asia, 2021). In comparison, access to television is much higher, with over 86 per cent of households owning one, making this a much more viable option for remote learning. Within a few weeks of school closures, the government made a special allocation of 30 million Sri Lankan rupees (SLR) for producing television programmes, along with a separate SLR3,000 million for distributing televisions to schools. *Guru Gedara*, a television channel launched by the Ministry of Education, offered free educational lessons for GCE A- and O-level students. Content was broadcast in Sinhala and Tamil languages. A special telephone number was also provided for students to contact their relevant teachers in order to discuss problems related to different subjects. Teachers also used WhatsApp and Viber to stay in touch with their students and ensure that some learning continued at home. However, and in spite of the investment and efforts of different organisations, the take-up of these television programmes was often low, with only a quarter of students reporting to have watched at least one programme in 2020 (Development Asia, 2021). Apart from connectivity issues, the lack of connection between the content and the curriculum, one-way teaching techniques, passive styles of delivery, inconsistent timetabling and weak promotional campaigns were a few of the reasons why students refrained from watching these programmes.

Although initially there seemed to be some slack in first responding to the crisis, more recent initiatives taken by the Sri Lankan government have been noteworthy. In Central and Uva provinces, the Ministry of Education, with support from UNICEF, conducted diagnostic tests with students in Grades 1–4 to assess the loss of learning. This initiative is now being scaled up as a national strategy for learning recovery (UNICEF, 2021d).

Reflections on promoting continuity in learning in South Asia

A noticeable feature of the various responses to school lockdowns across South Asia was the adaptability shown by national and regional governments, teachers, NGOs, private–public partnerships and international bodies. There was a concerted attempt in most systems to understand the nature of students' access to technology and to meet students' needs by providing different kinds of support: community lessons, television and radio, online repositories and 'live' online classes. In different ways it was possible to reach most children at least some of the time. There were across South Asia examples of innovative practice, for example in the use of screen characters for introducing television lessons, community involvement in supporting children, creating large repositories of material, including libraries, and the number of live lessons taught and recorded. However, there were lessons to learn.

The first is that a mix of approaches are needed to address lockdown. Online and digital tools featured widely in responses to lockdown, and some of these were very effective. However, across South Asia just 13 per cent of children and young people have access to the internet at home, with students

from hard-to-reach communities having far less access than those from urban areas (UNICEF, 2020). Television and radio formed a key part of the response in India and Sri Lanka, and these reached more, but not everyone. Clearly future responses will adapt to the level and type of technology available, but no country can rely on internet access to reach all students. There was a greater need for community engagement – for example, teachers taking physical books out to communities and open-air teaching with small groups – than was realised. Some of this went on, but not perhaps enough.

Second, there are children who were hard-to-reach long before lockdown and will be after lockdown. The challenge to provide access to education for these children needs to be embraced. Hard-to-reach does not only speak to technology access but also to discrimination. Along with students from marginalised communities and children with disabilities, female students were particularly disadvantaged in terms of access to learning opportunities. For example, despite high rates of access to mobile phone technology in Pakistan (78 per cent), Bangladesh (86 per cent) and Afghanistan (84 per cent), fewer girls had access to their own devices, making it much less likely for them to access online content compared to boys (Attfield et al., 2021). Moreover, with most families suffering from economic hardship and looking to daughters for domestic and other support, girls often lose out on opportunities for any remote learning support. International organisations projected that a large number of girls would possibly not go back to school, even after the crisis is over. In Nepal, Room to Read projected that this number could reach as high as 50 per cent.

Third, could educational systems have been better prepared for lockdown? Of course, the

Covid-19 pandemic was itself unpredictable, but in many countries there had been disruption to education, for example through flooding and other physical events. Were lessons learned from these experiences and had schools been proactive in at least setting out priorities? A key issue here is whether teachers had been prepared for dealing with remote learning during initial and in-service training. In many cases they had not.

Fourth, whether a student has or has not got internet connectivity is likely to be a defining factor in how much learning has been lost. With such a huge digital divide in so many countries, it seems clear that the pandemic is only likely to widen gaps in learning. It is also evident that efforts will need to be made to redress the balance and find a way for all students to catch up on the loss of learning, especially those in more rural areas of the country.

Fifth, a missing aspect in the data on government response is a clear sense of how effective each type of provision was – in other words, how much learning took place in online classes or how valuable was an e-library. We know what governments did, but we really do not know the consequences. With broadcast media, for example, most of the data covers only how many students were able to access and watch or listen to the programmes, but not the more difficult questions as to what students learned. Everything we know about learning suggests that access to materials is not enough; children need support through the mediation of teachers, parents or community volunteers. We need to know much more about how do this and how to prepare and support teachers in doing this.

Sixth, and related to this lack of data on how much learning took place, is how to

address the huge learning gaps which have almost certainly occurred. Teachers will need support on how to effectively assess the amount of learning which has been lost and find ways to address the gaps. The Ministries of Education will again need to think very clearly about how they can best support teachers and school leaders in achieving this. With such a gap in the amount learned between different areas of the countries in South Asia alone, it seems as if it will be incredibly complex to create an equitable system to bring all students up to the same level.

Our final point is that with schools returning to face-to-face teaching, there has certainly been a huge leap in terms of how technology can be used to support learning. It is important not to waste the efforts that have been made in reaching learners during lockdown. For example, can educational television programmes find a place in supporting out-of-school learning in the future? Can learning materials be repurposed for face-to-face teaching? And can some of the internet-supported international collaboration between teachers be sustained?

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How teachers developed remote learning during the Covid-19 crisis: What can we learn from rural teachers in Nepal?

Karna Rana

Abstract

This chapter reports on school teachers' experiences of online and distance learning in the Covid-19 crisis. It identifies the challenges faced by teachers when trying to support their students, including how some teachers were able to develop confidence and competence in the use of technology. This is a qualitative study which employed semi-structured interviews with teacher participants, in this case rural teachers in government schools.

The study shows the role of online learning in addressing lockdown, but also the challenges that came with the use of technology. Teachers were not educated in the use of digital technologies in pre-service and in-service teacher training programmes and had to rely on the limited technological knowledge they had obtained from personal use and from ad hoc training opportunities. More importantly, many students and teachers in remote areas did not have access to online learning, and teachers had to find alternative ways of supporting students' learning, including setting up mobile team teaching and promoting the use of television and radio. It is argued that maintaining teaching and learning during lockdown requires a joined-up response from teachers, school leaders, communities and government.

Introduction

In Nepal, as in many other countries, the education sector was severely affected by the Covid-19 pandemic. All the educational institutions in Nepal were shut down for ten months from March 2020 after the first case of Covid-19 had been identified and, in the absence of alternative modes of learning, educational activities came to a halt (Winthrop, 2020). This closure of schools and universities affected about nine million students' learning in Nepal (UNESCO, 2021).

Schools in Nepal were able to resume in-person teaching and learning in January 2021, but a second wave of Covid-19 took hold and forced educational institutions to suspend their work once again. Schools and universities were shut down from April 2021, and most reopened only in the last two or three months (this is written in November 2021). Although some – often private schools in towns and cities with better access to the internet – were able to adopt online learning after the outbreak of Covid-19, most schools completely suspended their teaching and learning (Paudyal and Rana, 2021). Rural government schools were particularly affected as they lacked the required internet infrastructure to teach online (Rana, 2018) and, as Devkota (2021) argued, differentiated access to online learning reinforced pre-

existing educational inequalities and injustices. It was in this context that the Ministry of Education Science and Technology (2020) published new guidelines on 31 May 2020, asking schools to assess students' access to digital devices and look at the role of more traditional technologies such as radio and television. In this chapter I reflect on the Nepal experience of remote learning during lockdown. I begin by looking at the literature on the use of digital technologies, both in general and in the context of Nepal, before reporting on a study undertaken in Nepal.

Literature review

Digital devices and internet facilities have become basic tools for teaching and learning in many countries (McCoy, 2016). Wollscheid et al. (2016) argued that teachers' innovative use of digital technology in teaching and learning could transform traditional pedagogies into modern learning and so improve the quality of education. With growing access to digital devices and to the internet, teachers can support students' self-learning and maintain out-of-class communication with their students (Kaur and Manhas, 2008). Several studies (e.g. Lehtinen et al., 2017; Liu et al., 2014; Rana et al., forthcoming) have suggested that technology can support '21st-century' learning – a new-style curriculum which provides opportunities for students to exercise greater responsibility for personal learning, to reflect more on learning (or 'learning to learn') and to engage in more communication and collaboration with others. Twenty-first-century learning implies a shift away from mastering content towards making sense of information and using new knowledge creatively and critically.

There is then a strong case for using technology, but developing countries are plagued by unreliable internet and uneven

electricity supply (see for example Siddiquah and Salim, 2017, and see chapter one (Leask and Hordatt Gentles) and chapter two (Pradhan and Hyde) in this book for more). Indeed, even in developed countries problems persist. For example, Villanti et al. (2017) and Jena (2020) reported that students' varied levels of access to the internet and digital devices were creating a deepening digital divide. Reducing the price of digital devices and the cost of access to the internet can promote the use of information and communications technology (ICT), but this requires significant investment and political will (Srinuan et al., 2012). In the face of such difficulties teachers have to be creative, and Apuke and Iyendo (2018) found that smartphones were used as a means of enabling access to online materials and for supporting autonomous learning in schools in one developing country, Nigeria. Camerini et al. (2018) showed that students' access to digital technologies was a causal factor in uptake of ICT, although, as Maldonado et al. (2011) add, the availability of ICT is better seen as an enabler – technology by itself does not ensure a contribution to teaching and learning; so much depends on how teachers and parents support students to use ICT.

The availability of ICT can make online and blended approaches to learning possible. Moreover, they can trigger teachers' interest in developing their teaching and learning (e.g. Bouchey et al., 2021) both in the classroom and beyond the classroom (e.g. Spector, 2005). However, teachers have to begin somewhere, and McKnight et al. (2016) and, later, Lai et al. (2018) suggested that they need a base or minimum layer of knowledge. A starting point for many teachers when they first go online is to seek to replicate what they do in face-to-face classrooms, only later expanding their repertoire to

take advantage of the wider opportunities which digital tools provide (see Wang et al., 2017). Many commentators see teacher development in terms of their technological, pedagogical and content knowledge (Koehler et al., 2007) or TPCK. TPCK is the subject of much debate and misunderstanding but at heart captures the idea that in order to use ICT productively, teachers should have knowledge of technology (for example, how to set up and control a Zoom meeting), knowledge of pedagogy (for example, how to set up and support online group discussion), and knowledge of the subject or content (for example, the knowledge of fractions, language structures, forms or systems of government or whatever they are asked to teach). There should be an integration of these different types of knowledge so that technological knowledge is not out of kilter with pedagogical or content knowledge, and continuing professional development (CPD) is not dominated by how to use the software.

Teachers, therefore, should develop a TPCK which would enable them to move from face-to-face to blended and in some cases online modes of learning (e.g. Rice, 2012). Pre-service training helps, as was evident in Hodges and Forrest Cowan (2012) in the Netherlands. This study found that teachers who had a long experience of working in online groups during their pre-service teacher education course were able to explore best practice in online teaching and develop plans and deliver lessons more effectively. Along similar lines, McQuiggan (2012) argued that professional development support was essential for teachers to create a comfortable environment for supporting students in complex situations, while Lai and Hwang (2015) found that many teachers who were new to ICT were often daunted by the prospect of using digital tools. Assunção Flores and Gago (2020) argued that short-

term training packages may not be adequate for teachers, and therefore teacher education should be extended so as to enable prospective teachers to integrate ICT into instructional activities, including support for distance learners. Not surprisingly, teachers without this background, as Lai and Hwang (2015) found in China, can feel intimidated when asked to take up new online practice. Yet, it is not straightforward to provide the required support and training, though it seems that school-centred teacher training programmes, in collaboration between schools and universities, could help teachers and are more likely to lead to the transfer of knowledge of new technology into the classroom (e.g. Rana, 2010). There is no quick fix to developing TPCK and, as Tsai and Chiang (2013) earlier explained, training in the use of ICT needs to be a continual process if knowledge and skills are to keep up with the pace of technology development. However, training in itself is of little use without teachers' acceptance of technology and motivation to explore and reflect. Teachers need to be creative in supporting online and distance learners (see, for example, Lemay et al., 2021; Paudyal and Rana, 2021; Wang et al., 2017), willing to step outside of their comfort zones and to personalise their use of technology to their own values and circumstances.

Remote learning in Nepal during the Covid-19 pandemic

How to support students in their learning at a distance has been a major issue across the world since the outbreak of Covid-19. The pandemic created both challenges and opportunities for schools and universities not just to compensate for lost teaching but to transform their traditional education systems (Rana and Paudel, forthcoming).

The obvious direction in which educational systems turned was the use of online learning, and many teachers used digital tools such as Zoom, MS Teams, Google Meet, Facebook Messenger and Skype to deliver lessons and support students (e.g. Sangster et al., 2020). However, a large number of schools in low-income countries could not do so in the absence of essential ICT infrastructure (World Bank, 2020). Indeed, limited access was one of the major barriers to the implementation of online learning in Nepal, where there was low or no access to the internet in many rural areas, and limited government funding for ICT projects in schools (Rana and Rana, 2020; Rana et al., 2019; Regmi, 2017). Parents' lack of resources and their inability to buy suitable digital devices were a further barrier (Rana, 2018), as most parents in rural Nepal did not have a reliable source of income. Shrestha et al. (2021) further worried that in the pandemic situation, teachers would not perform their work effectively due to their own economic uncertainty, health issues and limited access to ICT.

The challenge of promoting online learning during school closure was not simply a matter of providing devices and infrastructure. Teachers' knowledge and skills were an important issue too. In Nepal, many teachers were offered and participated in online seminars and workshops, including webinars organised by teachers' associations and local government, in order to learn how to manage remote learning. However, workshops at first emphasised the implementation of online learning and only later expanded to engage teachers in identifying other alternative ways of supporting students' learning too. But how successful could any training be without access to the technology and what could be done about those without the internet? With these questions in mind, I wanted to

explore teachers' reflections on the process of supporting their students during the lockdown and I carried out a small-scale study of teachers' experiences in rural schools. The findings are reported in respect to three key questions: What opportunities for online learning did teachers experience during lockdown? What steps did teachers take to compensate for difficulties of access to online learning? What support and leadership did teachers feel they had received during lockdown? Although this study is focused on one context – rural teachers – the discussion of technology and its use during lockdown raises more general issues. Thus, it complements and helps contextualise the case studies that follow in section two of this book.

Research design

This study reports on rural school teachers' experiences of online and distance learning in the Covid-19 pandemic situation. I sought volunteers in five rural government schools and found 20 willing to take part. As Table 1 shows, these 20 teachers (four from each school) taught in basic (years 1–8) and secondary (years 9–12) schools. Ethical guidelines were followed. Teachers were emailed an information sheet and a consent form through their email and the signed forms were sent back. Teacher names as well as names of schools used in this study are pseudonyms.

The teachers involved in this study were interviewed on multiple occasions at times that suited them. As it was not possible to travel to remote villages during the pandemic lockdown, teachers were interviewed by using videoconferencing tools such as Facebook Messenger, Zoom and MS Teams, whichever was suitable for them. All interviews were recorded on a personal computer and later

transcribed for analysis. I followed a grounded thematic analysis approach to organising the data into themes, and this enabled later analysis. In particular, an inductive coding scheme (Braun and Clarke, 2006) was used.

Table 1: Participant schools and teachers

Schools	Teachers	Gender	Sector
Gauri Shankar School	Geeta	Female	Secondary
	Goma	Female	Basic
	Gagan	Male	Secondary
	Ganesh	Male	Basic
Himalaya School	Hema	Female	Secondary
	Humi	Female	Basic
	Hasta	Male	Secondary
	Hom	Male	Basic
Janak School	Juna	Female	Secondary
	Jenisha	Female	Basic
	Jhanka	Male	Secondary
	Jhalak	Male	Basic
Kasthamandap School	Kritika	Female	Secondary
	Kamala	Female	Basic
	Krishna	Male	Secondary
	Keharsingh	Male	Basic
Manjushree School	Manisha	Female	Secondary
	Manju	Female	Basic
	Mohan	Male	Secondary
	Manoj	Male	Basic

Findings

The key themes arising from the research are organised around the three research questions presented earlier: What opportunities for online learning did teachers experience during lockdown? What steps did teachers take to compensate for difficulties of access to online learning? What support and leadership did teachers feel they had received during lockdown?

What opportunities for online learning did teachers experience during lockdown?

Most teachers had not used any ICT tools in their teaching before the outbreak of Covid-19 in early 2020. Once the lockdown began, they were invited to online training programmes and webinars, and they learned to use various apps such as Zoom, Facebook Messenger and MS Teams for online teaching. They appreciated the short-term ICT training they received, including training organised by professional organisations such as Early Childhood Education Centre (ECEC) and Nepal English Language Teachers' Association (NELTA). However, they emphasised that they had limited ICT knowledge and skills and

repeatedly emphasised that they needed a better level of pedagogical and technological preparation to feel confident. Goma, for example, said:

Both teachers and students struggled to manage online classes. It was chaotic in the first two months. We thought we could not continue it. Well, ICT training provided by ECEC and other webinars we attended in the first two months developed our confidence in using ICT tools in teaching and learning. We learned basic strategies for teaching students in online classes. We talked to our parents and convinced them to help their children in their distance learning. Many were happy but there were many others with no ideas about it. But I learned a lot from my practices of online teaching.

This quote reflects the inadequacy of the training, but also presents a more positive picture of teacher resilience in that Goma, like other teachers, was encouraged to talk to parents and get started with using ICT. Most teachers felt they had gradually learned to support students in their online learning, and found it was possible to present material in appealing ways and to organise interactive teaching.

Many teachers reported that they had to develop ways of working with remote learning that would fit in their contexts; they could not simply copy what they had seen others do. However, online webinars remained an important source of support, as Krishna explained:

We did not know about online and distance learning before this pandemic. We joined many online training programmes and learned how to use

Zoom, Facebook and Teams in teaching and learning. Webinars opened our eyes to develop new programmes to support our students in many ways. We visited students' homes to support them in their learning. We distributed projects and involved parents to support their children.

Teachers' confidence grew and they spoke positively about some of the lessons they had given and the use of tools to share materials and provide feedback to students. In spite of this, they often saw online learning as constraining, and most wanted very much to resume normal face-to-face contact with their students. As Ganesh said:

In terms of participation, face-to-face class is much better than the online method. It is almost impossible to do experiments in online classes. Next, it is difficult to understand whether or not students have heard what I asked or said. There is no eye contact between students and teachers. A facial expression or emotional attachment is important in teaching and learning content. Sometimes there are technical problems in online classes. Students cannot hear teachers' voices clearly and neither can teachers hear students.

In this and other examples it was the basic elements of teaching – showing presence, interacting with students, keeping students on task – which created challenges, and these challenges were heavily influenced by the reliability of the networks (downloads using mobile phone data, unreliable electricity supply to machines, break-up of pictures and sound), which became a burning issue. Geeta, for example, said:

Frequent power cuts and interruption of the internet are common issues. When I speak, students cannot hear and neither do I. Recurring blurry voices result in chaos.

The overall picture, then, is that although teachers were initially intimidated by new technologies and ways of teaching online, they gradually developed their confidence through putting plans into practice. The process took longer than it should have, as teachers were starting from a low base in terms of their knowledge and skills and, as we see in more detail later, support was haphazard at first. The key constraint on developing further skills was the context in which they worked. They knew that online learning was not reaching anything approaching all their students, and connections were not reliable for those who were 'present'.

What steps did teachers take to compensate for difficulties of access to online learning?

Many teachers knew that they and many students did not have access to digital technologies and the internet in remote villages. As one put it:

First, many teachers and young students cannot operate online classes. They need advanced technology and good internet service for online learning. Second, gadgets are quite expensive, and most families cannot purchase those gadgets. (Hasta)

However, knowing which particular students had access to what technology required some research. As Jhalank explained:

Many of our students do not have smartphones or computers and the internet in our villages. Even if some parents can manage mobile phones and expensive data, most parents cannot afford to purchase now. We have contacted our students and categorised them into specific groups based on their access to technologies. We know how many students can access online classes.

In order to reach the groups with limited or no technology access, teachers needed other strategies than online learning, and one commonly used approach was getting out to reach the students. As one teacher explained:

Though our school did not have specific plans to support students in villages, we worked hard to reach each student by phone and walking on foot. It is not easy to travel to each house, but we tried our best by making teachers' mobile teams to visit communities and support students. (Juna)

As Juna explained, teachers were organised into groups (teachers' mobile teams). They had to check where exactly their students lived and then organise them into clusters based on similar location rather than age. They would then teach these clusters of students out in the open, maintaining physical distancing. Teachers needed to be flexible and set personalised learning activities for students during their visits. Students would then come back the following week and feed back on what they had learned, and teachers would in turn provide further feedback and set new tasks.

The strategy of going out to students addressed the gap in technology access and provided opportunities for a more personalised curriculum. However, teacher visits were spread out, and to address this teachers phoned their students to provide more input and answer any questions they had about their lessons. In some cases, this was made possible as schools purchased corporate user group SIM cards, and their monthly subscription provided all teachers and students with unlimited voice calls and some mobile data. Making mobile phone contact affordable was appreciated by the teachers, but phone contact was seen as a second best to the visits from mobile teams.

Students often lacked not just access to technology but also their own textbooks, and teachers were innovative in making use of what printed resources were available, as well as using the environment as a resource for teaching on their visits, for example explaining about the natural world by pointing to local wildlife. Teachers commented on the gaps in resources and explained that they pointed students to educational programmes on state television or radio. The programmes, it was reported, did not seem to engage many of the students, but those that did follow them found them useful.

What support and leadership did teachers feel they had received during lockdown?

Teachers appreciated the support they received from their school leaders and appreciated their schools' moral concern for reaching out to their students. However, the support was seen as limited. Teachers were often critical that their school administration and management committee and government teacher training agencies did not have a clear vision for planning and implementing

a programme in which their roles and responsibilities were clearly stated. In this situation, many of the teachers themselves organised their own informal meetings, discussed how to resume school education and developed plans for supporting students in remote villages. As one explained:

The first month after the outbreak of Covid-19 in 2020 was chaotic. We had no idea about how to support students. We talked to our head teacher and school management committee, but they just chilled out in the lockdown. Some of us in our school had phone conversations and called for an informal meeting. We could not decide anything, but we got some ideas from webinars. Though we did not have the possibility of online learning, we got alternative ideas like teachers' mobile team, project-based learning, radio and TV learning. (Mohan)

Kritika pointed to similar gaps in leadership and training in her school:

There was no specific plan support from the school. Some of our colleagues participated in online ICT training and webinars and they helped all of us to develop projects for students. We contacted our students on their parents' mobile and asked them to collect projects. We also assigned them tasks to do by watching TV or listening to radio teaching.

Teachers were open in discussing their own gaps in knowledge and skills when it came to online learning. They wanted training that would show how to use ICT in instructional activities and prepare them for the practical problems that students would face in online

learning. Their initial teaching training had not prepared them in the use of technology or in ways of dealing with emergency contexts such as, but not confined to, lockdown. They felt they were struggling at first:

I do not know how I learned to use Zoom and conduct online classes, limited though. I am grateful to my colleagues who invited me to online training programmes. Actually, schools should have organised such webinars but they did not. You know how much teachers alone without schools' initiative can do. It took a while to understand online learning. (Manisha)

However, most teachers spoke positively about the practical and pedagogical knowledge they gained through online webinars and other support. For some this was compensatory, i.e. it was addressing the gaps in institutional training:

At least schools can organise online training for teachers to use new technologies and create online and distance-learning mechanisms. It did not happen in our school. I joined webinars and online workshops during the lockdown. I learned how to use Zoom, Facebook and Meet to support students. Also, I got ideas to support students in other ways like family visits and project distribution. (Hema)

Teachers explained that the workshops were too focused on online learning issues and on technical issues. However, Hema's comment above indicated that attending the workshops

often served as triggers for later discussion of practical responses for supporting students and for thinking more fundamentally about pedagogy.

The overall picture is that many schools were slow to react to the challenge of supporting students and slow to provide direction and practical support for teachers during lockdown. However, through their own initiatives and working together they were able to develop online learning for their students and creative solutions to support students for whom online access was impossible. They benefited from accessing online training and other support. At its best this training triggered discussion of how to adapt online learning to the teachers' particular work context and how to compensate for lack of access to technology. It also indicates that while the teachers learned how to use ICT for remote teaching, their initial and in-service training left many gaps.

Lessons learned

Much of what was found in this study tended to support the literature cited in the first section of this chapter and reinforce the points made in the case studies that follow.

First, the findings show that access to technology is a significant issue in rural communities in a developing country (Rana et al., 2019). Access is often thought about in terms of devices, but here it is important to stress the quality of the devices too, and the cost of using phones and computers needs to be taken into account (see also Srinuan et al., 2012). Devices for online learning are of little use if students cannot get reliable and cheap access to the internet, and many of the communities described by the learners in this study are without internet access.

Supporting remote learning in Nepal cannot be confined to online learning; steps must be taken to audit access to the internet and to develop compensatory strategies. This is a theme developed in some of the case studies that follow; see for example Sunita Swar Suri's account of school leadership and Prateet Baskota and Kiran Shrestha's description of community libraries.

Second, it shows the importance of training. A base or minimum level of knowledge appears important in starting out using ICT (e.g. McKnight et al., 2016; Paudyal and Rana, 2021), and this was missing for many of the teachers in this study. Lacking such knowledge does not appear an insurmountable problem in situations in which the context demands the use of technology, but all the teachers felt it made a difficult task harder. Teachers themselves may be experiencing problems of access and being impacted by the lockdown in the same way as the communities in which they work (see for example Monika Niroula's case study of female teachers and Amit Bikram Sijapati and Tirtha Raj Kandel's interviews with stakeholders).

Third, it shows that not just training but training that is school-based and suitable for practice is required (e.g. Lee, 2018; Rana, 2010). The study further shows the importance of a kind of TPCK that combines technological knowledge with subject and pedagogical knowledge. The key goal of any training should be to allow teachers to adapt whatever insight they have been given to the contexts in which they are working. This includes helping teachers understand when the use of technology is and is not appropriate, and how to compensate for lack of access. The study finds that many teachers do develop knowledge and skills through practice and reflection of practice,

particularly in the more collaborative team-based model which some teachers followed, something that is illustrated in Raju Shrestha's and Baman Kumar Ghimire's reflections on their use of technology in the case studies that follow.

Fourth, it shows the resilience and creativity of the teachers to develop solutions to problems – out of crisis comes opportunity. However, the response in the eyes of the teachers could have been quicker and more effective with clearer guidelines from government and school leaders. It shows the recurring value of a joined-up response to the use of technology and innovation and the importance of leadership (again, see Sunita Swar Suri's case study).

We now turn to using these findings for designing future approaches to lockdown, recognising that school closures are not only caused by pandemics but can be the result of physical events such as flooding and landslides. The key recommendations are set out in Table 2, and call for a joined-up approach.

- At a teacher level, teachers need to have appropriate training so that they can use ICT in instructional activities and feel confident that they can get started and then learn from experience. However, teachers need training in other compensatory approaches, such as how to plan, implement and evaluate a programme of mobile team teaching.
- At a school level, leadership teams need to plan for emergency lockdown situations and be ready to offer appropriate training and support for teachers. Leaders should oversee the implementation of compensatory measures and evaluate programmes so that gaps and weaknesses can be

- addressed ‘just in time’.
- Beyond the school, policymakers need to look at how to support communities with access to digital devices and recognise that the digital divide between those with and those without access is widening. Moreover, initial and in-service training programmes should address the use of online and remote learning as well as teaching and learning during emergency school closures. Non-governmental organisations (NGOs) and teacher organisations should provide opportunities for appropriate in-service and support networks of their own.
 - At a community level, students need to study in a more self-directed manner and need to be supported by parents and the wider family.

Table 2: Work needs to be carried out at different levels

	What is needed	How achieved
Teachers	Base levels of TPCK; ability to reflect and adapt to own context; ability to evaluate the use of both digital and analogue tools for teachers; ability to compensate for lack of internet access	Attend in-service events Work collaboratively Show resilience and creativity Maintain interest in digital tools after the pandemic
Leaders	A school plan detailing teacher roles; available technology in school, among students and the wider community; timelines; a plan that is regularly updated	Provide proactive leadership Assess which technologies can be provided in school Audit community access to technology Provide guidelines for maintaining teaching and learning during lockdowns Create teacher teams to support the use of technology Create and support mobile teams to reach out to students in villages Identify colleagues who can lead teaching and learning, irrespective of their job title
Policymakers and teacher support organisations	Guidelines for technology use; strategies for addressing low-access contexts; variety of training and educational events	Support school-based in-service training Promote and invest in educational television and radio Ensure pre-service education promotes TPCK Audit and plan for internet access in rural communities Webinars and other training events
Communities	Students to maintain learning through online and physical meetings; parents’ support for their children’s learning	Liaison between schools and communities Productive teacher–student relationships during and after the pandemic

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Developing EFL audio-video materials as/for continuing self-professional development

Parbati Dhungana

Abstract

Continuing professional development refers to a constant reflection on professional practices to improve the relationship between students, teachers and beyond. During the Covid-19 lockdown, I explored my changing relationship with students and technology by reflecting on the process of developing EFL audio-video materials for high-school students of Nepal. In this study, I discuss how the Covid-19 lockdown opened up an opportunity for rethinking the use of technology in the context of a discussion of the benefits and challenges of producing audio-video materials. I share the lessons I have learned.

Introduction

Job satisfaction is important for all teachers (see Shakya, 2020) and satisfaction may be gained from a sense of doing the job professionally and creating productive learning relationships with students. In this study I explore my satisfaction with technology-supported learning during the Covid lockdown. I explore my changing relationship with technology through reflecting on the process of developing audio-video materials, in particular ones created for high-school students of Nepal.

Where it all began

From April 1993, I have been teaching English as a foreign language (EFL) to students in different sectors of education. However, I made little use of technology until 2015. Although I was familiar with technology such as radio, television, computer, mobile phone, I did not use it for teaching English. The exception was a cassette player, which I needed to play audio material for assessment at grades 9 and 10. Perhaps I did not look hard enough at technology, but the truth was that I could not connect myself with machines. I did not use the available technology in the classroom even though I used it myself at home. For example, I listened to the radio and watched television and films, but I did not see the possibility of integrating them into my teaching, learning and assessment. Maybe textbooks were the means to fulfil my curriculum goals, and radio, television and computers were only tools for my recreation. I saw myself as human-centric rather than techno-centric and, as a result, I could not develop professionally in respect to ICT tools in the classroom.

When the Covid-19 emergency forced schools and universities to close in March 2020, I was faced with a professional crisis. I, as an adjunct teacher at university, could not continue teaching after completing the semester in progress. I lost my job. More

than the despair of becoming dependent on family for living, I felt disconnected from my professional life. If I was feeling disconnected from my students, I felt that my students might have become disconnected from their teachers. My thoughts turned to children at home who were expected to use what available materials were possible until online classes got organised. If I were one of these children, I would feel separated and ignored.

At first glance, technology offers an easy connection to students, at least for those who had internet access. However, many teachers, such as myself, lacked the skills and knowledge to conduct online classes. We had no tradition of using technology. Throughout my career, teaching and learning were carried out within the four walls of the classroom with textbooks developed and prescribed by the Nepal government. There was not a culture of technology integration in everyday teaching and learning. In such context, online teaching came over as new and confusing not only to teachers but also to students and teacher educators. However, rather than dwell on this, I felt that lockdown opened up an opportunity for (re)connection with technology, in my case the use of audio-video materials.

The opportunity to develop EFL audio-video materials

In 2016, I had the opportunity to develop materials to support the EFL curriculum. I co-authored textbooks and developed audio-video materials on behalf of the Curriculum Development Centre and National Centre for Educational Development (NCED), which is now the Centre for Education and Human Resource Development. I chose to spend a part of the lockdown reflecting on the process of creating these materials and planning how I might produce more and better materials in the future.

Through my further reading and reflection on my past material I came to three key conclusions about using technology-supported learning material.

First, there was a real need for accessible online material, for example film clips, tutorials and assessment, in order to support students across Nepal. My experience was working with audio-visual materials to aid in teaching and learning language. In the present Covid-19 context, these materials could be primary and supplementary resources for teachers, students and parents in all subjects. Technology could help shift thoughts from disconnection with students to trying to do something positive to reach out to students. In my case, lockdown opened up an opportunity for (re)connection between EFL students and myself, thereby creating a suitable space for my continuing professional development (CPD).

Second, technology has to be used with a more *participatory pedagogy*. I realised that my authentic way of teaching was participatory, but I felt I could not engage in interaction with students while developing videos. It was like teaching to the camera. I am a dialogic or interactive person and I love to communicate. But watching myself back 'teaching to camera' when making the material in the past, I felt I was making a connection through technology to the students, but my heart – my participatory teaching heart – was disconnected from the students. For instance, in one video (NCED Virtual, 2017a) I covered and retold what was written in the textbook while teaching debate. If I were in the class, I would conduct an activity or organise a debate competition based on the text. I would collaborate with students and colleagues to make the lesson participatory. The material could be used as a support for teaching rather than dominating my teaching.

Third, producing public materials was challenging and sometimes uncomfortable. For instance, after posting audio-visual materials to YouTube, I got both positive and negative comments. I was naturally happy to receive the positive ones from the audience, but I was afraid of critical comments. Unlike in the closed classroom with a limited number of students, my English accent, vocabulary, delivery, presentation, pedagogy were all out there to be questioned and repeatedly examined. For instance, I experienced fear of exposure to a global audience while pronouncing the name 'Ramsay' (NCED Virtual, 2017b). I was not confident in pronouncing the name and I was over-conscious and anxious. Although I was happy to create a short video, I panicked and I lost confidence. Later on I got audience reviews on another video, but I also got feedback on a spelling error (NCED Virtual, 2017c). In a further video (NCED Virtual, 2017d), someone posted a comment asking about a character in a story and I was unable to give a satisfactory answer.

I became my own harshest critic. For instance, (re)watching one video (NCED Virtual, 2017e), I felt it was a monotonous class, and could have been improved by integrating puppets or other aids while teaching debate. I realised in all this that material was not easy to edit once posted and there was not time to rework materials. You need to develop resilience when producing materials, to learn from what the users of the material tell you, but to hold on to what was valuable in the first place.

How to do things better?

I have during lockdown begun planning more material for supporting online learning. With the benefit of distance, I felt more positive about the material I produced in the past

and felt greater ownership. I researched the literature and saw that audio-visual material can improve EFL learners' confidence and support teachers (e.g. Ulloa and Díaz, 2018). Materials can be repurposed in many ways so that, for example, after the end of the lockdown online materials can be resources for students both in and out of classrooms. Audio-visual material creates an opportunity for teachers to provide a more authentic context for learning. This is especially important in the case of the teaching and learning of English (e.g. Chamba and Gavilanes, 2018) and further allows EFL learners to make a connection between different skills and improve a more integrated understanding of the language.

One way of improving the materials we produce is to better engage in lesson planning. I had focused more on presentation than planning. I realised participatory planning could support teachers in developing context-responsive pedagogical and professional development approaches (Dhungana et al., 2021). Adapting the participatory approach, I could work with others (such as school management, colleagues and students) to better map (or design) the lessons before committing to producing the material. I realised in the course of mapping these new materials that I was developing a more authentic relationship with technology integration which better suited my goals as a teacher. I could integrate technology into my practice rather than feel it was something alien to me. I have learned that living professional values matters to teachers (see Dhungana, 2020); reflexivity and empathy are essential elements of an effective educator. If I were in class, I could be empathetic and connected with my students, and this is how I must use online educational tools in the future.

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Supporting teacher development in Nepal during the Covid-19 pandemic: Lessons learned

Ashok Sapkota

Abstract

The case study is based on personal reflection as a teacher educator engaging in preparing, presenting and addressing the expectations of participants in different webinars during the pandemic. With this study, I want to share what helped me to enrich my teacher development, what worked well in leading change in technological practices and the limitations on teacher development. I reflect on the importance of preparation, but also of recognising that at some point you just need to plunge in using technology.

Introduction

Teachers adapted their routines and classroom practices during Covid-19, in particular through the use of remote technology. Aware of the growing focus on ICT for school-level practices (see, for example, König, Jäger-Biela and Glutsch, 2020; Lelmini, 2020; Schrum, 2010), I developed my competence by engaging in webinars, presentations, discussions and classroom work. Here I share my reflections on using online presentations to promote teacher development during the pandemic.

Learning to present online

When the pandemic started in April 2019, I assumed that it might go on for more than a month. But news of the growing pandemic kept coming through, and social media such as Facebook and Twitter told of the growing rates of infection throughout the world. The death rate was increasing, and the world was shutting down. For the first few months, it felt as if I was on a break from teaching, an unusually long kind of break. Gradually, there was more and more talk of online learning, and there were webinars using Zoom and other platforms I could attend.

My first opportunity to present online came from an invitation sent by Nepal English Language Teachers' Association (NELTA) Bagmati Province to give a presentation on 'Preparing Effective Presentation Using PowerPoint'. It took me a week to prepare the presentation. I drew on my experience and the literature, and tried to adjust what I wanted to say to the expectations of the participants. I wanted to discuss content, ideas for design and layout, and give examples of the best and worst presentations I had seen. I had the benefit of using ideas I had picked up in several national, regional and international conferences during my teaching and training career over the last decade. I could talk about such things as the '6x6' principle (no more than six words

per line and no more than six bullet points per slide), the use and integration of images, but always remembering the purpose of the presentation and the audience to whom you are communicating.

This presentation was the first time I had spoken to a remote audience using Zoom. I was nervous, but I tried to remember some advice I had been given myself: if you prepare in advance, you get less stressed and distracted. I carried out a mock presentation (a rehearsal) in which I recorded my presentation over Zoom platform and played it back. This was a good way to learn and improve as no one else was looking. I observed content delivery, pace of speaking, accent, gestures, eye contact, emotions (sad, smile, nervousness) and use of Screen share. In a mock presentation, we may not be able to use Chat, poll, survey or 'breakout' options (tools that help the participants to divide into groups for discussion), but I had the confidence to try some of this out when I presented for real. I also practised using the 'chat tool' (which allows presenters and audience to mail messages either one-to-one or, more usually, to all participants) before the presentation, but found it useful when 'going live', though I had to be careful not to let it distract me by focusing attention on the messages rather than the presentation.

On the day of the presentation, I had more than 300 participants. This was an exciting moment for me. The pace and content of the presentation seemed to work well and the interaction in the chat forum enabled participants to share their reflections in the chat. However, I need time for more in-depth reflection and feedback from others. After the presentation was over, I asked the organiser how it went. What I liked most was that the organiser was pleased and thanked me for my presentation. Asking for points to improve,

the organiser suggested providing more examples from the textbooks (preferably *Our English* – a textbook prescribed by the Nepal government) so that the teachers could directly take something away to use the next day.

After two days, I was asked to present in another part of Nepal. The invitation to speak again felt like a kind of reward for having put in the work last time. The theme was TPCK (or technological pedagogical content knowledge). In the presentation, I discussed what this term meant and how it might be a useful way to think about professional development with technology. This was a more theoretical subject, but I tried to relate it to everyday teaching by showing that technology should not be used for its own sake but for addressing problems in teaching. Again, I needed to prepare, design and understand audience expectations. I decided to contextualise the content, relate technology and adapt the pedagogy to the level of the participants. I really enjoyed the interaction with teachers and sharing their classroom experiences. I learned a lot too about online learning and got better at directing activity in chat, managing mini surveys and using breakout room options. I asked the participants to use the hand-raising option in Zoom, and to my surprise this worked well by encouraging them to ask questions.

I carried out more presentations in other parts of Nepal on different aspects of ICT tools. Apart from being a presenter, I acted as a volunteer technical expert in more than eight webinars, two international and three regional conferences. I developed my presentation skills as a co-presenter in two webinars conducted by British Council, Nepal with international presenters. There were often situations in which I only had a day or

two to prepare a presentation, this on top of other work. Sometimes the same faces came up in different audiences, so I had to ensure that I did not simply repeat content again and again. This put me under pressure, but I could meet the challenge after I had the experience to draw on.

Remembering earlier feedback, I came to focus more on things that I thought would work well in the participants' classroom so that they could take away something for when they went online. I remember a presentation I gave in the mid-eastern part of Nepal, Kavre, in which I showed the use of chat, closed Facebook discussion, SMS or Telephone Support in small-group settings. This worked well. I asked the teachers *Can we do it?* And they told me *YES!* I learned from this the importance of practical steps which were within the reach of teachers.

Later, I prepared my own YouTube channel and kept all the recorded presentations in the channel (see <https://www.youtube.com/c/AshokSapkota/videos>) and shared the link with the participants. This would help them to recall what we covered, and they could listen or download whenever they wanted to. Among various online activity, one of my most exciting moments was to moderate a question and answer (Q/A) session with a famous linguist, Stephen Krashen, on second language processing. I uploaded the recorded session to my YouTube channel as well. Later, I used the same video while I was teaching input, intake and output in the second language acquisition classes for graduate students at the university.

Reflections on learning to work online

Unless you have an IT or distance-learning background, there is so much learning to do

as you go along. It helps if you rehearse in advance, of course, but there are things you will experience that you do not expect. My overall reflection is that there are times when we just need to get on with it. I came to know that the more we practise, the more we get used to it. Sometimes there is more to be gained from making a mistake and correcting a mistake than from a presentation where all goes according to plan. In fact, looking at my recorded webinars helped me to find areas to develop. For example, my accent was not very clear in some clips, and I spoke too quickly in others. I worked on getting the pronunciation of key terms right and reminded myself to slow down. I could also see that my PowerPoint slides used to be text-heavy, and I inserted more images and reduced text in the later presentations.

It was always challenging to meet the participants' needs and interests, and this allowed me to grow in confidence and competence when online. Engaging with teachers taught me that the participants were expecting entry points to technology which would be accessible to them and which they could use right away. There was much to cover, such as Google forms, online sites, using and adapting YouTube resources, using British Council teaching resources, bringing in chat, using breakout options and so on. The most important thing was that teachers came away in a positive frame of mind rather than feeling that all this was overwhelming and impossible to get started with. It does not matter how many tools you have, which version of which software or how expensive the electronic device is, tools are only useful if used.

We grow professionally more when we are motivated towards the work, interested in the skills we are learning and keep ourselves engaged. Collaboration is one of the

professional development strategies which helps to engage to grow together with our friends. One of the cases I would like to relate here is a British Council webinar entitled 'Online resources to support secondary-level learners', with Hala Ahmed from Egypt. It was an engaging presentation, and feedback from the participants was interesting as well. Presenting in collaboration with a friend in other parts of the world develops interpersonal skills of presentation and professional growth. Institutional networking with organisations like NELTA and the British Council was important for me.

Digital skills have become essential during the pandemic. There is a digital divide between teachers confident with ICT and those who are not. We need to reduce this divide. The shift towards using ICT in learning and teaching started before the pandemic and will go on afterwards. Using digital tools has greatly expanded my professional expertise and enjoyment of teaching.

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My teaching transition from reluctance to competence to creativity with technology

Raju Shrestha

Abstract

This chapter reflects on the author's experience of making a transition in his teacher journey from reluctance to competence to creativity with technology. In doing so, the author engages in critical self-reflection of his English language teaching (ELT) practices, using autoethnography as a primary research method. Thus, the main purpose of the study is to explore the pedagogical practices employed by the author with a narrative critically reflecting on the shifts in a teaching journey. This provides an account that other teachers, teacher educators and stakeholders may find relatable when envisioning a technology-rich pedagogy.

My teaching context

I have been working as a teacher and teacher educator in English-medium schools in Nepal for more than a decade. In my first years of teaching, I had not seen either the need or the value of technology in teaching–learning activities. This was not unusual in the school in which I had been working, and the management had not promoted technology-based activities. Rather the opposite – the use of technology was missing in the school in the belief that using technology in the classroom hindered the teachers' and learners' creativity. However,

after the Covid-19 pandemic, the perception of the use of technology in teaching and learning activities changed. We were facing a new situation, and our thoughts turned to technology, something we were not prepared for. In this regard, let me share my context by including a comment from a research diary.

All the schools were closed, examinations were postponed, there was no certainty how long the lockdown would extend. It was the beginning of a new session, and some well-established technology-friendly schools had already started teaching–learning activities virtually. But the online class was out of our imagination as both the school and teachers including myself had never practised online teaching before. Meanwhile, I got a call from the principal of the school asking me how we could run the school in such a crisis. Though I had heard about and used a Moodle, a learning management system, while doing a master's degree from KU, I was not competent enough to run classes virtually. But still, I felt something should be done because there was a 'do or die situation' (set out as a novice teacher in a virtual mode or stop teaching activities completely). Finally, I took up the idea of running online education.

Looking back, this emphasises just how new we were to online learning. However, after a few days of discussion and exploration, the school decided to start online classes by setting up Google classrooms and connecting students virtually through Zoom. The school chose these platforms as they were free and seemed user-friendly. Although some teachers had heard about them, most of them had never used them before, and neither the school nor the teachers were sure about how to run online classes. To add to the challenge, most teachers lacked computers and internet connectivity at home.

I started a virtual class in April 2020. To emphasise my earlier point, I did not feel technologically competent to run the class and did not have the pedagogical understanding. It seemed that the school preferred the same teaching model as in the physical class and expected the learners to act accordingly. This meant following well-established routines such as memorising, accuracy or drill and practice homework to keep pupils busy. I was not sure if this was going to work, but I realised that I needed to try. In this chapter, I would like to reflect on my journey from reluctance to competence to creativity with technology because I, as a teacher and teacher educator, have passed through several challenges during the pandemic and developed several coping strategies, enhancing my ICT skills along the way. I have also realised that my reflection on my teaching journey can help others undertaking similar journeys. My study is an autoethnographic inquiry that puts my written reflections in a wider cultural context. In this case, autoethnography helped me to examine my practices from different perspectives as a teacher, teacher educator and researcher, thereby offering me a space for interpretation, transformation and envisioning. The approach allows me

to critically look into how I struggled and continued my teaching journey during the pandemic.

Teaching as a technologically novice teacher

As a novice online teacher, I designed lessons by keeping the physical class context in my mind. My students had a textbook, I could prepare them with pre-reading activities, set them to read the text and then follow this up with questions around the text. I tried doing the same online, but when asking students to engage in the pre-reading activities they did not respond in the same way. They seemed uncertain and some would become physically disconnected, either intentionally or due to poor connectivity, and perhaps emotionally disconnected too. Moreover, I had little competence in the use of technology, so I misused the Zoom links, and security issues emerged. I also felt a lack of suitable online teaching–learning materials and resources and found it difficult to integrate the physical textbook into the online lesson. I tended to speak too much in the class and neglected the involvement of the students.

A major challenge during my first steps was online classroom management. Internet connectivity and students' ability to hide and go off-task were the main issues. The class would be for forty minutes, and in the first five to ten minutes, I had to wait for the students to join the class, and the last five minutes I would spend checking attendance, something I thought I had to do manually. Background noise was also disruptive as I had no idea of how to keep students mute. I could not interact with the students in the same way, because students would either not respond when they were asked or come forward with questions in the class activities. The next problem I faced during the early

days was to assess students' learning. I tried to adopt the same process as I had used in the physical class. The students were asked questions, but they did not respond as expected and I felt that it was too easy to offer right answers either copied from an internet search or shared by friends in the class. These problems showed my gaps both in ICT skills and in my understanding of online pedagogy.

Performing as a technologically competent creative teacher

Time passed by. I became more comfortable with the technology, but I was not happy and I tried to cope by trying my level best to adopt alternatives. After reflecting critically on my limitations, I realised I needed a change in the way I was teaching. I experimented with a more learner-centric approach by allowing pupils to present their ideas, encouraging them to ask at least some questions every day and giving them research-based assignments rather than promoting the habit of rote learning or checking on basic understanding of a text. My desire for change came from a recurring sense that what I was doing before was not working, and a conviction that the classroom was not the only place for learning and that examinations should not be the only medium to evaluate learners.

Part of the process of change was the adoption of strategies for asynchronous and synchronous activities in my planning and teaching. Students were connected through Messenger groups so that we could reach each other outside of teaching time, and a Google classroom for every grade was set up so that students could access learning materials and assignments whenever they needed. It had not occurred to me to record live classes and upload them to the Google

classroom, but by attending training and workshops on how to make online classes more effective, I learned how to do this. As time went by, I came to know features such as whiteboard, annotation and room breakouts, and I experimented with these. Moreover, I used Google Docs and Google Slides to make teaching–learning more interactive. In these ways, students could explore topics for themselves. For example, if I were about to teach a story, I could share a video with the students before, during or after the class. Because students could access resources as and when they needed, I was freed up in class to run more interactive activities, for example dividing students into discussion groups through room breakouts. Students could then use the technology to share their own work in and outside the classroom. I felt these strategies were effective and was pleased by student participation and by their resilience in keeping up with their learning.

Arriving at the second wave of Covid-19, my focus shifted to assessment. Instead of limiting the assessment process only to textbook-based pen-and-paper tests, I tried to focus on formative as well as summative assessment. I provided comments on a range of student work (for example exercises, presentations, project work done both in and out of class) and used SMS, Facebook, Google Classroom, Zoom and Google Meets to communicate with the students and provide feedback. Students were assessed in more summative ways using tests stored within the learning management system (LMS) of the school and by monitoring their participation, interaction and communication skills within Zoom. Summative tests enabled me to assess students' competence in skills such as reading, writing and vocabulary. However, I found formative assessment more effective in the main.

Reflections

In this case study, I reflected on my transition from a technological novice teacher to a creative and competent teacher. At the beginning of the online classes, I felt I was trying to emulate my teaching in the physical classroom. But, after attending training events, reading up on resources on how to run and manage online classes and, most of all, reflecting on my use of the technology, I became a competent teacher. Competence for me means having the ICT skills to use the available tools, being aware of both synchronous and asynchronous modes of teaching and expanding teaching from the classroom to beyond the classroom. This is not easy, and neither the skills nor pedagogical understanding come in a day. At some point you need to try things out and see where this leads. There is no shame when things do not go as you intend; such experiences give you something to learn from. Online platforms have given a new dimension to my teaching and learning, and school management has changed its mindset from technology as a block on learning and creativity towards seeing it as an opportunity to make teaching–learning more engaging. With this in mind, both I and the school are keen to develop a blended approach to learning once we are back in the physical classroom.

Useful resources

The tools mentioned in this study include:

Google Classroom. This aims to make the process of sharing files between teachers and students easier. Those using Google Classroom can make use of other Google tools, such as Google Docs, Gmail and Google Calendar.

For a demonstration go to Bishworaj Poudel's Google Classroom प्रयोग गर्ने तरिका – Free

Online Class. [Online] <https://www.youtube.com/watch?v=WOTBj8Jic7o>

For a basic description of communication tools within Google Classroom go to Google Classroom: Communicating with Students. [Online] <https://www.youtube.com/watch?v=2r2EJPRmrz0>

There is a fundamentals course for using Google Classroom at Fundamentals Training. [Online]

<https://skillshop.exceedlms.com/student/path/61209-fundamentals-training>

Zoom is videoconferencing software which allows for one-to-one and group meetings. It provides screen-sharing and the ability to record meetings and have them automatically transcribed, though this is often hit and miss. Other videoconference platforms include Skype and Teams.

For a demonstration go to Teacher Jossa's Online Class via Zoom: (use of videos, whiteboard, and Zoom Breakout Rooms). [Online] <https://www.youtube.com/watch?v=sOAG1encko8>

A useful online resource was British Council (2020) *Teaching English: Remote teaching tips*. This is published [online] https://www.teachingenglish.org.uk/sites/teacheng/files/L057_TE%20Tip%20sheets_booklet_FINAL_V2_Digital_Web-1.pdf

It is aimed at teachers of English, but many of the ideas can be adapted to other subject contexts.

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Caterpillars break their cocoons: Teachers' journeys of transformation in Nepal

Sikha Gurung and Manuka Adhikari

Abstract

The shift from face-to-face to remote teaching led to a transformation of teaching, albeit in the face of a lot of challenges. This study unravels aspects of the process of development undergone by three teachers in three different schools in Nepal during the lockdown associated with the Covid-19 pandemic. Using unstructured interviews we explore their journeys of professional development as well as the constraints in the use of technology during the period of lockdown.

Introduction

Remote teaching has not had a long history in the Nepalese context and, perhaps due to low access to technology, face-to-face teaching in physical classrooms is the expected mode of teaching. At the outset of the Covid-19 pandemic, the Nepal government announced a lockdown all over the country. Many organisations, including educational institutions, had to stop their activities for an indefinite period of time. The situation was getting worse day by day as the number of Covid cases increased. Teachers waited for their institutions to open; they wanted to teach face-to-face again, but they knew this was a long way off. Hence, they opted, or felt obliged, to go online and to start teaching remotely. For many this was a struggle,

though for others it was a transformative experience. In this study we explore the experience of three teachers for whom the journey was one of transformation.

The teachers

We tell this transformation as a story. Once, during a time of pandemic, there lived three 'caterpillars' in Nepal. Why caterpillar? Well, a caterpillar is a living organism ready to change into something else: a butterfly. It is a metaphor we like to use for teacher development to reflect the idea of change into something more beautiful. These caterpillars were all teachers in different parts of the country. We found two female and one male teacher for our story. Meeting physically was almost impossible, so we met up online, asking first for consent from our participants to let us present their stories, which they readily gave us. We carried out unstructured interviews, in which we listened to our participants attentively and responded with more questions. Later we listened back on the interviews so that it would be easier for us to make meaning of the teachers' experiences. We report on our reflections below in three main sections: why these teachers got into teaching; the experience of teaching online; and reflections on these experiences.

Why did our participants get into teaching?

We asked the three teachers to tell us about their relationship to their work and their relationship to technology. Teacher One told us:

I am a mother of a young man of twenty-five and a happy Nepali language teacher for mid-school students in a private education foundation in Lalitpur, Nepal. I chose to become a teacher in part through an unpleasant learning experience I had with one of my primary grade teachers when I was young. I wanted to do better than this teacher and I wanted to impart something more positive in my students. I felt more certain of my career when I thought of how much I loved taking care of my siblings while growing up. I want to support and nurture my students. This has been the foundation of my passion as a teacher; to love and understand my students. Teaching before the pandemic I made some use of technology, for example using educational websites and YouTube for teaching resources, and emails for regular correspondence. Many other technological platforms were unknown to me.

Teacher Two added:

Namaskar! I am a happily married man and a teacher of mixed subjects: social education, computing and mathematics to primary level students in one of the private institutions in Kavre, Nepal. I became a teacher inspired by my family, some of whom were teachers. I am passionate about teaching my students but teaching with technology

was completely new for me. Before the pandemic started we followed a chalk and talk method of teaching.

Teacher Three said:

I am a homemaker, a mother of two and a secondary level English teacher in a public school in Kavre, Nepal. My choice of teaching was pragmatic. I could not get into the profession of my choice and I also had a serious need for an income generating career that made me opt for teaching. But gradually, my practice and exposure to different professional development programs not only deepened my knowledge of teaching, but also motivated me to develop still further. Before the pandemic started, the technological tools for education were things like YouTube videos, PowerPoint slides and audios were quite common in my classrooms. However, the approaching shift to remote teaching was something quite new to me.

The participant teachers seem to have intrinsic reasons (including the satisfaction of working with children, a love of a particular subject or passing on knowledge in general), altruistic reasons (they saw teaching as a socially worthwhile endeavour which made a contribution to the growth of the individual and the advancement of society) and extrinsic reasons (rewards and salary, social status and prestige, working conditions) for their career choice (see Low et al., 2017: 30). All had a passion for being as good teachers as they could be. All had some understanding of the use of technology and had taken advantage of online resources for classroom teaching, but the idea of remote learning was new to them. Making the shift had to be

supported by institutions, with appropriate guidance, but at heart development rests on the willingness of teachers themselves to address the problems they face; this is the very essence of teacher development, including the Transformative Learning Theory propounded by Jack Mezirow (Mezirow, 1997).

The experience of teaching online

Adiga et al. (2020: 904) modelled four stages of pandemic: pre-pandemic, acceleration, mitigation and suppression. But our teachers saw things as a much more fluid process, and here we talk about their first thoughts and how their learning was supported.

At the beginning of the Covid-19 outbreak, teachers shared a desire to do something, though also feeling unprepared and quite concerned about the spread of the virus. Teacher One captured this when she explained:

We went through a panic situation as we read about and watched a growing number of deaths in China, Italy and other countries. Gradually we started understanding that precautions can be taken to stop the spread. We were hopeful but also in a dilemma about the instructions we should give to our students. On the one hand we were asked to teach remotely; on the other we were totally new to the concept. We thought about it as 'Online' teaching and it seemed a possible solution. But our country was hit hard by Covid and there was death in abundance in Nepal and panic. So, we started asking, 'Why are we doing all of these? Everybody is dying.' However, with the vaccination now, we feel relieved. Then we were

introduced to remote teaching that has now become our new normal and we are exploring the best methods and learning every day to teach better.

Teachers needed support to get started with the technology, and Beteilie (2020) suggests three types of support for teachers during Covid-19: support for resilience, for instruction and for using technology. Ferren (2021) adds that support has both emotional and social dimensions. However, our three teachers shared that they did get significant support from family, institutions and from collaboration among peers. Teacher One explained:

From my institution, I got a laptop, monthly internet remuneration, and some professional development sessions. From my family, my son has been helping as he has an IT background. But I do realize how difficult it might have been for those less at home with technology and without help. I would have definitely suffered in that case. The best support has been self-exploration and learning and sharing among ourselves as teachers. It was very difficult in the beginning as we had never heard of Zoom. We doubted if its use was possible and felt amazed about its functioning. We had been using Skype, but the concept of teaching whole students using one App and learning while teaching at the same time scared us. But we teachers started learning and sharing among one another; if one was a teacher, others became students and gradually we started untying the knots.

Teacher Two felt there were gaps and that he did not get all the support he needed:

Family support I think is the main reason that we're still surviving. The management of the institution I am working in I think are not able to support us despite their wish to do so. As a private school, they too are dependent on students' fees. I have also been supporting myself. I have learnt a lot in this phase. The main thing is not to lose hope.

Teacher Three felt the support of colleagues was a key aspect of her development:

At first, I got scared about how to conduct online classes as I was illiterate in technological devices except for mobile phones. Our school circulated a message that we should conduct classes through Microsoft Teams, but this app was totally unknown to me. At this point, colleagues supported each other in learning how to use the app and to encourage each other to explore more about it. Furthermore, our institution conducted a day's training for teachers which gave us some basic knowledge about the use of apps in teaching and learning. Gradually, I understood that support and assistance between teachers would see us through.

Thus, our participants explained how they learned by doing and by sharing what they had learned. Over time they saw and used a variety of digital platforms, including Zoom, Microsoft Teams, Google Meet and Google Classroom; games and quiz applications such as Quizizz and Kahoot; and communication

software such as Email, Viber, Messenger and WhatsApp. They learned in more formal settings too, including school meetings, professional development sessions and teacher sharing sessions. All three teachers began to feel comfortable with working online. Teacher One said:

We feel somewhat good. Work from home feels comfortable now. It's easy and convenient kind of classroom management. Technology has been a blessing. We discovered about different online resources and apps and we have gone deeper into this.

Teaching online seemed to have helped them rethink teaching and want to go on using technology when back in the physical classroom. As Teacher One put it:

The experience and knowledge will definitely improve our teaching-learning process if we return to face-to-face, which seems quite possible as we have slowly begun to go to school.

Teacher Three also saw pandemic as a period of opportunities. Although being a mother of two children, she managed her time to grow as a technology-friendly teacher.

Obviously, lockdown saved my 'rushing time' but being a mother of two little children I hardly got leisure time. However, I managed my time by dividing the households' chores with other members of the family.

Overall, she saw the lockdown period as a learning one:

The strategies of remote teaching learnt during this pandemic surely have assisted me to grow as a reliable teacher even in the challenging situation. I could not explain this to someone who had lost family and friends but in some way I appreciate this lockdown has brought me such opportunities.

Teacher Two added:

Somehow, we've been managing so far. As a small school, they had been paying us less. But we got half pay and that continued till the month of September. This year I have been through a financial crisis which continues till now. Nevertheless, on the brighter side, I learnt many things: handling students in a remote space, facing the camera, using technology, dealing with parents and handling complaints. We have grown as teachers.

The overall experience of the pandemic and remote teaching so far made our teachers realise that change was inevitable and that they had to learn to adapt to change. They further shared that despite the hardships and challenges, the pandemic came as an opportunity to know more about technology, without losing sight of the devastation it caused.

Their stories are not to be over-romanticised. There was a price to pay. They felt a 'virtual fatigue' as they have had to work at the computer all day. It proved difficult for them to balance home and work and they ended up busier than before. They felt at a distance emotionally as well as physically from their students. Face-to-face classroom management issues did not go away but were

transformed to online ones: students' use of annotation, chatting, passive/less responsive behaviour, connection issues, late arrivals, irregular attendance. Over time they became more adept at addressing these, but teaching is never problem free.

Reflections

Listening to the accounts, we drew on the caterpillar metaphor as we believed these teachers were describing a transformation from one kind of 'normal' to a new normal: remote teaching. A butterfly is more beautiful than a caterpillar, but online teaching is not more beautiful than face-to-face teaching, it is just different. However, the willingness to explore, collaborate, learn, share and grow together is a beautiful thing. According to Mezirow (1997: 5), transformative learning is the process of effecting change in a frame of reference. In these accounts, the teachers seem to have been transformed by breaking their old frame of reference and adapting to a new one.

This process was an individual one but also a social one. Karla (2020) highlights that teachers need collegial support and interaction now more than ever as they face the ordeals of working in a new virtual environment. These reflections are borne out in our interviews. Indeed, the enduring lessons of the pandemic are to be prepared for the unpredictable, remember the moral purpose of teaching and help each other to transform.

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Teachers' resilience and their professional development during the Covid-19 pandemic: A case study

Dinesh Kumar Yadav ('Aastic')

Abstract

Teachers' resilience is their ability to come back from an unfavourable situation. Resilience relies on both internal or psychological factors as well as external factors such as the support and understanding of others. This case study revolves around teachers' experiences of the Covid-19 pandemic in Nepal, their enhancement of professionalism and their efforts for mitigating the loss of students in the lockdown. It draws on interviews with five teachers and finds examples of resilience, in particular in learning about and using online tools. However, it also reports on constraints in respect to leadership and access to technology.

Introduction

The lockdown caused by the Covid-19 emergence in 2020, plus its sequel in 2021, gave us restlessness, the agony of uncertainty and for some of us the pain of losing a job and, worse, of losing loved ones. As a teacher in the remote and poor part of the country, I had a terrible experience. Confined in the room with television for news and a mobile for news feed, normal life seemed to take an abnormal course. The news channels broadcast the Covid crisis as if the world was coming to an end and left me panic-stricken. 'Physical distancing' led to an

unimaginable distance from all near and dear. Schools were closed for long periods, a gap – both physical and emotional – opened up with colleagues and no regular salary coming in left me unsettled professionally. The Covid-19 pandemic appeared to me as the greatest curse for this planet.

The second wave of Covid-19 hit hard. Lots of stories were not shared. The National Campaign for Education, Nepal (2021) mentions that around half a million people in Nepal were affected by Covid-19, of which over fifty thousand people had already lost their lives. The crisis took away our assumption that the world would go on as it had always done. It took away the idea that social phenomena are slow to change and it challenged the teaching profession to keep up. We had to rethink our role and think seriously about our work post-Covid. I had two options before me: let my life go on as it was or take it as an opportunity to do something both personally and professionally meaningful. I chose the second one. This is because I could not remain silent. I was physically fit, mentally sound (though emotionally low) and had to find meaningful activity. I know that my teacher colleagues were also engaged in finding new ideas, applying different web tools and enhancing their knowledge base. They took this pandemic as an opportunity to read, learn, understand and strengthen themselves as teachers.

We needed to be resilient in addressing the Covid crisis, but the idea of resilience is a complex one. In the past, resilience was understood as a personal capacity to bounce back from adversity. However, resilience incorporates factors other than one's individual traits. Ainsworth and Oldfield (2019) wrote that the earliest research on resilience explored how a unique set of intrinsic, biological or personality characteristics allowed certain individuals to thrive despite adverse conditions. However, later research has incorporated Bronfenbrenner's ecological perspective and has shown how individual traits, the environment and the dynamic interplay occurring between these systems enable an individual to be 'resilient' (e.g. Ungar, 2013). Current research seems to focus on multiple factors that are responsible for teachers' resilience. Interpersonal relationships with peers, mentors, heads and students, social support for teachers, and the nature of the academic and working environment all make a huge contribution. Going into more detail, Gu and Li (2013) focus on the importance of cultivating trusting and collegial relationships with other adults; Ellison and Mays-Woods (2019) see strong support from school leadership as a key factor; and teacher perceptions of a positive school climate (i.e. professional development, academic expectations, school safety and relationship/collaborations) were raised by Ainsworth and Oldfield (2019).

In the Nepalese school context, teachers are vulnerable, and they need to be resilient. The workload shouldered by the teachers is heavy enough in 'normal times'. Many teachers face a work schedule with only one day's leave for personal and family life and at least 25 classes a week. Often there is no extra remuneration for extra work like examining, question design or performing responsibilities such as conducting extra-/co-

curricular activities. In school lockdown new demands emerge, and here I look at teachers' experience of the Covid pandemic and their attempts to maintain their professional development during the lockdown.

The case study

This case study looks at the resilience of teachers during the periods of lockdown in Nepal from April 2020 to September 2020 and from May 2021 to July 2021. I wanted to know how my colleagues experienced lockdown. I contacted five teacher colleagues and talked to them briefly about their resilience during lockdown and how they had developed their online teaching. I wanted to find out whether this had been a period of professional development for them as it was for me. This was a purposive sample, with teachers from different backgrounds, different subjects, different levels and different job statuses (see Table 1).

Table 1: The participants in the study

Participant	Gender	School (city/rural; public/private; primary/secondary)	Role and subject specialism
R1	Male	A secondary school teacher in a private school	Head of department (computing)
R2	Male	A secondary school teacher in a public school	Teacher of English
R3	Female	A secondary school teacher in a public school	Teacher of English
R4	Male	A primary school teacher	Teacher of science
R5	Male	A university teacher	Head of department (English studies)

After selecting my participants, I sent them my interview schedule. When I started the interview, I explained the background of the study. The interview process was unusual as I carried out relatively short conversations of around 20 minutes on three consecutive days. This enabled a more reflective conversation and let me check my understanding from one interview to the next. The total interview time for each participant was around one hour, with all interviews carried out online. The focus questions were:

1. What was your perception of the teaching profession before you joined it? And do you find it the same or different?
2. How did you experience last year's long lockdown period professionally?
3. Can you elaborate on the impact of Covid-19 in your personal and professional life?
4. What, in your opinion, is the significance of teachers' resilience in the adverse instructional situation brought about by natural calamities and environmental factors? Please relate your opinion to the current context.
5. If you were affected, what factors do you think contributed to being resilient?
6. Please share with us frankly what efforts you made to maintain professionalism, how you approached your students and

how you resumed your teaching in the pandemic (if you did).

I made notes from each interview, watched the recording and organised data around key themes.

What I found out

In this section I look at what the participants told me in respect to their personal life and resilience and the challenge of teaching online.

Teachers' personal life and their resilience

The teachers were found to be seriously affected by the Covid-19 pandemic. It had varying effects, including a reduction in income for some, more household work, more frequent visits of relatives which were not compatible with work and professional development, and so on. One of the participants received no salary and ended up having trouble paying the bills and loans he had to take out, which brought on depression. Another had a positive Covid test, which badly affected him. As he put it, 'I am not an exception [to the rest of the country] and when I went down with the infection my mind was not on teaching at all.' He had a genuine fear that his life might be over. All the participants lived in the shadow

of the pandemic, and not surprisingly their anxiety was found to have grown during the lockdown. In the beginning, the teachers were more relaxed, but when there was no sign of resumption of normal life, and news of a rising death toll, they found it hard to imagine going back to a 'normal' professional life and being able to meet their students and colleagues once more face-to-face. The lockdown broke the relationship of attachment between teachers and students. One of the participants (R5) mentioned, 'I have become unable to attend the physical classes and have lost my direct influence over my students.'

In spite of this backdrop, the participants had a positive story to tell. They seemed to have found resilience and reported on activities that left them feeling empowered. They reported that they had participated in online training, read profession-related books,

attended webinars by different professional organisations, learned the use of LMS and explored different web tools for online classes. One had been able to present on their own in a webinar for teachers in Nepal. They spoke too of the importance of informal ways of learning, for example conversations with colleagues and peer support through professional associations. As one put it, the bigger the circle in which he moved, the better.

Table 2 gives a summary. Most of the training was focused on using technology for online teaching, and while it left gaps, it set the participants up for their own online teaching.

Along with the challenges, Covid-19 seems to have worked as an opportunity too. Those who had never used videoconferencing before now used it for their own professional engagement.

Table 2: Types of professional development activity

List of activities	Activities accomplished by respondents				
	R1	R2	R3	R4	R5
Learned how to use popular web tools for online learning	Yes	Yes	Yes	Yes	Yes
Discussed online and other teaching with colleagues	Yes	Yes	Yes	Yes	Yes
Took part in training for online learning	Yes	Yes	No	Yes	Yes
Read books, journals and articles focused on teaching and learning	Yes	No	No	No	No
Watched films on YouTube and other platforms related to teaching	Yes	No	No	No	No
Attended webinars	Yes	No	No	Yes	Yes
Paper presentation	Yes	No	No	No	No

The challenge of teaching online

Participants had mixed responses regarding their efforts to reach their students during the lockdown. One (R4) reported that she wanted to teach her students virtually, but she could not. It was because her students were from a remote village and were not privileged to have electronic gadgets such

as mobile phones, computers and internet access. Another (R2) felt that very few students were able to access online classes in his school. In some cases, students had access but were not encouraged by their parents to take part, and R1 and R5 noted that some students who were often seen on Facebook were not attending the virtual

classes. R3 reported taking classes using FM radio as a way of getting round digital access – he posted the schedules of his classes through Facebook to alert others and asked them to pass the schedule on. He did not know how many students were able to listen in, but he received positive feedback from some students and from some colleagues as well. When giving their accounts, the participants spoke with pride about the efforts they had made to reach students and the satisfaction they had gained in the face of many challenges to stay in contact with their students.

At the institutional level, however, teachers felt that there was too little planning and whole-school working to make up for students' loss of learning. Except for book distribution, very few instructional activities were conducted online. R2, R3 and R4 reported that they were given some money for phone use and data packs for internet use. Secondary teachers were asked to focus on exam classes using online methods, phone or social media if needed. Local and central governments were seen as being reactive rather than proactive, and these teachers felt that too little was done.

Reflections

The Covid-19 pandemic, though one of the greatest curses of this planet, brought opportunities for some teachers to develop professionally, not least in terms of their knowledge of online learning. Despite the complete closure of schools and higher education, teachers engaged in finding new ideas, applying different web tools and enhancing their knowledge base. They took the pandemic as an opportunity to read, learn and strengthen themselves as teachers. They kept themselves alive professionally. The study shows the importance of teachers'

resilience, and that resilience carries both psychological and emotional dimensions. Collegiality, a sound relationship with the students and the sense of attachment with an institution and profession play a crucial role in gaining resilience.

Resilience is individual and social. The participants had their own motivation but would have benefited from leadership at school, and beyond the school, to set expectations and help them over the difficult periods. There seemed to be a gap of communication between the teachers and other stakeholders like policymakers, local bodies and others. A joined-up approach was needed so that parents could have been made more aware of the importance of their children's learning, and alternatives to online learning, such as the use of FM radio, mobile phones and village visits, explained with greater clarity.

Through this study, I learned the indispensability of teachers' resilience. Our ability to survive in difficult conditions is a remarkable thing. Without resilience, there will be no courage, perseverance, no rationality (Jackson et al., 2007). In this case study, the teachers showed resilience by holding on to their professional values. This enabled them to get connected to resourceful people whose guidance worked as a tool for their professional development.

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Juggling the triple work burden: Experiences of remote teaching among female teachers at a private school in rural Nepal

Monika Niroula

Abstract

This study explores the influence of gender on four female teachers' experiences of online remote teaching in a private school with around 1,000 students in rural Nepal. The school runs classes from grades 1 to 12. It finds that besides technological challenges, teachers faced economic and pedagogical challenges. Moreover, they were disadvantaged by time pressure due to their triple work burdens: in the household, in agriculture and in school. Differences were observed among these teachers based on marital status, size of household and age of children. It is recommended that the government and development partners include private schools and private school teachers in remote teaching programme design and implementation. Additionally, it is suggested that schools and other stakeholders employ a gendered lens when preparing for disruption to education in the future.

Introduction

The Covid-19 pandemic posed severe challenges for teachers. Schools remained shut during various lockdowns, which meant loss of income and jobs for teachers. However, the pandemic also proved to be an opportunity for innovating in virtual and

remote teaching and learning. This study explores the experiences of teaching during the pandemic among female teachers at one private school in rural Nepal. A gendered analysis of teachers' experiences of remote teaching in Covid-19 is an important focus, as studies often assume that teachers' experiences and challenges remain the same across gender lines. This study addresses a gap in our understanding of how gender influenced the experiences of teachers during the pandemic. The report is divided into four sections: the study, challenges, female teachers in focus and the conclusion.

The study

In-depth interviews were conducted with four female teachers at a year 1–12 school, and these were supplemented with a further interview with the principal of the school in order to understand the whole-school response to lockdown. Table 1 shows the teaching focus and family background of the five interviewees.

Table 1: Description of interviewees' teaching focus and family background

Participant	Curriculum responsibility	Life stage	Family structure
Interviewee 1	Secondary	Married with two children	Nuclear family
Interviewee 2	Primary	Married with two children	Joint family
Interviewee 3	Secondary	Married with no children	Joint family
Interviewee 4	Primary	Married with two children	Joint family
Interviewee 5	Principal	Married with one child	Nuclear family

The school is a medium-sized private school in a rural area of Nepal. The teachers belonged to agricultural households; they kept some cattle and grew crops in addition to teaching at school. The school had been shut down in the last month of the Nepali calendar (29 April 2021), and when the study took place, the school had remained shut for four months but with online classes for grades 11 and 12. From the fifth month, the school started online classes for all grades. Around 40 to 50 per cent of the students attended online classes.

Teachers used online platforms such as Zoom and Google Classrooms for the first time and were trained in-house by peers. The principal of the school led the initiative by first teaching himself to use these platforms over the internet and trained three teachers, who led the teaching and learning at primary, secondary and upper secondary school levels. These leaders then trained other teachers. Facebook Messenger was extensively used for the training. This model of collaborative leadership, despite limitations, was successful in the absence of access to any outside training programmes.

The school received no support or training from either government institutions or development partners as it is a private entity.

This caused some resentment among the teachers:

All training is focused on public teachers. The ones in crisis are private teachers. Even this training [on running online classes] could have been given to us by the government with some relief. They've done step-motherly treatment towards us. We have been marginalized. We have no support from anywhere. (Interviewee 1)

Once the teachers were trained, class teachers were responsible for communicating with parents of their respective pupils. The class teachers first called the parents over the phone to inform them about online classes, connected with them on Facebook and provided instructions on joining online classrooms over Messenger. Messenger groups were formed for each class as well as for each subject, and most of the communication took place over Messenger. Students also used these Messenger groups to submit assignments.

Most teachers used mobile phones to conduct classes on Zoom as they did not have access to laptops, and some used Google Classroom for posting and receiving

assignments. None of the teachers made use of radio or television broadcasts for remote teaching. One of the teachers who tried to engage her own daughter in these broadcasts commented:

Children don't show an interest [in television/radio programmes]. It doesn't work if it is just one way. Classes need to be interactive, that's why television/radio classes are not successful. They're boring. (Interviewee 1)

Another teacher remarked that because of increased access to platforms like YouTube, children did not use television/radio. Moreover, as teachers' focus was on online teaching, they had not considered television/radio programmes as a medium of teaching. The disassociation of private schools and teachers from government programmes indicated a lack of ownership of government-initiated activities such as television/radio programmes.

Challenges

The teachers reported economic and pedagogical problems as major barriers to effective online teaching. Moreover, teachers struggled to collaborate with parents.

Collaborating with parents

Parents had a significant role in supporting online learning as they had to facilitate access to devices, and to get those devices connected to the internet. However, the collaboration between parents and teachers did not always go smoothly. Teachers received no training or support in working with parents amid the challenges of a pandemic. They had a difficult time convincing parents to enrol their children in online classes. As one teacher commented,

'We have not been able to make parents understand.' (Interviewee 3)

Parents were not convinced about the effectiveness of online classes and were suspicious of the school's intention:

We have contacted [parents] many times. We've communicated with them, but they are not keen. They believe that this will not be effective. In their views, schools are organizing these classes just to collect fees. (Interviewee 5)

Economic constraints

Teachers struggled in dealing with the financial problems of their students' families while navigating their own.

Some parents tell us, 'We don't have mobiles. We have two/three kids. How can we buy mobiles, connect to the internet when we don't have enough food?' We [teachers] are also not in a situation to provide parents with any kind of assistance. What can I say to them? I'm finding this very difficult. (Interviewee 2)

Teachers too were constrained by finance, and the primary constraint to effective remote teaching was economic:

We haven't received our salary since Chaitra [last month of the Nepali year]. So instead of thinking about how to teach and manage resources for teaching, we have had to deal with the economic crisis wrought by Covid. Teachers are facing concerns about how to sustain the household. (Interviewee 1)

For teachers whose family members got ill due to Covid-19, financial problems got worse as they had to bear additional expenses from healthcare costs. To add to that, teachers needed to spend some of their own money to have a compatible device as well as internet connection. As Interviewee 4 explained:

On top of everything going on due to Covid, we have to now connect to the internet. Our old mobile phones don't support [platforms for online classes] so we must bear the added expenses of buying new mobiles.

Moreover, there was uncertainty about the salary teachers would receive for online classes, which reduced motivation and in turn effectiveness.

Pedagogical challenges

Teaching in the school was exclusively face-to-face prior to the pandemic; no virtual learning environments had been established, and teachers had not been trained in online teaching methodologies. The lack of pedagogical adaptation and training limited the effectiveness of remote online teaching:

The learning outcomes in online classes are not on par with the learning outcomes of direct physical classes because virtual classes have their own methods and approaches, which we have not been able to adopt. We have not been able to train teachers on the approach required for online classes. Just using the lecture method of teaching is not effective. (Interviewee 5)

Teachers mostly dictated and wrote down answers on the blackboard for students to copy and memorise in physical classes;

students were then tested on the same questions in exams. Teachers could not continue doing the same in online classes as most taught through mobile phones. However, to get around this, teachers took photos of answers and sent them to students. They also used the cameras on their phones to show students answers as they wrote them down on paper:

It is very difficult to write down and send them photos of everything. There are many things that have to be said and it was easy to do it face-to-face. I could write everything down quickly on the white board in class while now I talk and talk and they don't understand. (Interviewee 2)

The lack of pedagogical training meant that teachers struggled to make students understand lessons. As a result, teachers faced challenges in retaining students' attention; students were often found to be playing games or chatting with friends. Virtual teaching and learning could have been an opportune time to make teaching and learning more interactive, but this could not be realised in the absence of pedagogical training. Likewise, teachers struggled to provide feedback on students' assignments because of both the teachers' and the students' lack of familiarity with Google Classroom. Teachers provided individual feedback to students during class time on Zoom, which took time away from lessons. On top of these, teachers had to rush lessons to complete courses to make up for lost time.

Female teachers in focus

Unpaid care work (involving household work such as cooking, cleaning and direct care of people) occupies large amounts of women's

time, and women continue to do most of the unpaid care work even if they are involved in paid work (Chopra and Zambelli, 2017). This meant that female teachers faced the triple work burden: they had to manage work in the home, on the farm, which included activities such as taking care of the cattle, sowing, weeding and harvesting crops in the fields, and at school. It was challenging, as female teachers faced an acute time shortage and were overburdened with work:

Normally one does have to do household work. One has to have finished everything else before one can do one's work [job]. (Interviewee 1)

I work in the fields in the (early) morning and evening and go to school in the day. We also have a cow so I have to take care of feed, manage the straw litter, cook. No doubt, it's more difficult for female teachers. (Interviewee 2)

Their work burden was exacerbated when teaching from home; for many female teachers, household responsibilities interfered with work responsibilities, sometimes leading to conflict within the household. It has been found that as women's place is considered to be in the home performing unpaid care work, their work is considered insignificant and care expectations take priority over paid work (Xheneti et al., 2019). Consequently, class hours were often disturbed. Unpaid care work is known to pose major constraints on women's other life options (Kabeer, 2008). In the case of female teachers, having more responsibilities led to time scarcity, limiting the time they had to devote to professional growth and lesson planning. This had clear implications in terms of their performance:

Female teachers have a bit more responsibility. So, when we started sharing ideas about online platforms, male teachers learnt faster. Female teachers took more time to learn. Female teachers are busier in the house; they face a scarcity of time. So, they do not have sufficient time to equip themselves. This problem is less for male teachers. For this reason, female teachers suffer in terms of performance, learning to use online teaching platforms and technology literacy. (Interviewee 5)

Similarly, care work fell disproportionately on women's shoulders; when a family member got ill with Covid-19, women's work burden increased, limiting opportunities for professional training and consequently effectiveness:

I couldn't go to school to attend the training on virtual teaching because my in-laws were ill. Both my father-in-law and mother-in-law were ill and could not do anything. I had to feed them, take care of them. We live in a small house; we have only one bathroom; every time they used the bathroom, I had to clean it. It was a lot. (Interviewee 2)

Household responsibilities often interfered with female teachers' class hours. As Interviewee 5 explained, 'One of the teachers in my school is from my village and sometimes I see her running home with a load well after her class starts.' However, it is necessary to differentiate responses. The demands on these female teachers differed as to life stage, size of family, marital status and age of children, all of which determined roles and responsibilities within a household. For instance, a daughter-in-law had more

claims on her time than other women in a household. For Interviewee 2, 'Everyone has the mentality that the daughter-in-law has to do everything and so we are always busy.' A daughter-in-law was expected to be at everyone's, particularly the in-laws', beck and call even during class hours, which caused class disturbances while teaching from home:

Some people understand that you've got a class. But most times there is this expectation that I will do something, look for something or answer questions about where a certain thing is kept (even during class hours). If something comes up, my in-laws are like 'she didn't answer even though she is in the house'. They don't know. My father-in-law says there is no one to even take water to the wage labourers in the field. He says 'people [she] didn't answer, didn't do anything' even though they were in the house but I just stay quiet. I feel bad sometimes. If I were at school I wouldn't see any of that. (Interviewee 2)

Household relations dictated that when a daughter-in-law was at home, it was her duty to perform certain tasks, and it was inappropriate for someone else to have to do them. Such expectations hindered effective remote teaching:

I have to be in class from 9.30 a.m. to 4 p.m., and this has caused problems for the family. When it's time for making food in the day, when the daughter-in-law is at home, what can the mother-in-law make? I make food in the morning in a rush and then we also have some farmlands and cattle. I have to hurriedly finish my chores in the morning and then think of a midday meal. My class

ends at 4 p.m. so what can I make in the day? I have a 20-minute break in the middle, but it is not sufficient to make something. There was no anxiety of this kind when I went to school. Whatever household work there was, whether the cattle needed tending or clothes or other items had been left to dry I didn't have to worry about any of those. People in the house had to tend to them when the daughter-in-law was not at home. (Interviewee 1)

In contrast, female teachers living in nuclear households appreciated the ability to complete small household chores during breaks, which they would not have been able to if they were at school:

In the previous years, we had to give time to school from early in the morning but now we can even manage time to make lunch at home. At school there was the worry about the amount of work we had left at home and when we would be able to finish it in the evening. When we are at home, it feels as if we can fulfil household responsibilities even when we have little chunks of time and we give mere two hours to it. (Interviewee 3)

Marital status and age of children also differently affected female teachers' work burden:

For unmarried women, it's bearable. But for married women, it is very difficult particularly if the children are still small. That means added responsibility of young kids. (Interviewee 2)

Female teachers who had small children faced further time constraints due to added responsibilities of childcare:

I have my own kids. They also have classes at the same time as I do, and they call for help if they encounter any problems. Small kids in the house will say they are hungry. No matter what the problem is, whether it's a major problem or a minor problem, children never share it with their father. They first come to the mother, whatever the situation or condition. (Interviewee 1)

Conclusion

These teachers at a private school in rural Nepal expressed joy and achievement in being able to run online classes despite the challenges in a context where many schools were not operational at all. As most teachers, parents and students were Facebook-literate, Facebook Messenger was used to successfully facilitate communication and teaching. Peer learning worked well for teachers, who learned how to navigate online teaching platforms from one another.

Besides technological and pedagogical challenges, the major barrier to effective online teaching was the economic crisis teachers were facing. For female teachers, teaching from home meant that household roles and responsibilities often interfered with their ability to learn online teaching platforms and teach effectively. Time poverty was a significant hindrance. Differences are found based on female teachers' marital status, household structure and age of children.

It is recommended that as private schools and teachers are also struggling due to the pandemic, they should be involved

and included in teaching and learning programmes designed by the government and other development partners. Local-level governments might also look at supporting and engaging with private school teachers. This would enhance not only teachers' effectiveness but also ownership, effectiveness and impact of programmes. Furthermore, pedagogical training for virtual teaching should be provided to help teachers to take this opportunity to make teaching and learning interactive. Schools and other stakeholders should be flexible in scheduling classes and training for female teachers during the implementation of remote teaching programmes.

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Digital literacies and digital skills: A view from secondary school students

Puskar Chaudhary

Abstract

Digital tools have been essential for schools during the Covid-19 pandemic, and this case study explores secondary school learners' experiences of learning remotely through interactive focus group discussions. The data was generated, analysed and interpreted qualitatively. The study shows the importance of defining digital literacies to cover both technology know-how and the ability to exercise critical evaluation. Digital literacies have helped learners adjust to remote learning and to experience engaging online learning.

Introduction

Digital tools and technologies have transformed our lives, including our learning, over this century. They have revolutionised how we communicate, interact and consume information. They have greatly influenced the education system by digitalising teaching–learning activities. Education systems around the world are being reformed, but we should be aware that many of these reforms are being driven by political and commercial interests that misunderstand how real people learn and how great schools work (Robinson and Aronica, 2016: 14). Moreover, the shift from in-person to remote teaching and learning because of the Covid-19 pandemic has been problematic not only in terms of access but in the digital skills learners are expected to have.

In remote classes, learning takes place with the help of technologies, providing both students and teachers with the opportunity to present and communicate. Of course, access to the technology is a key issue if remote learning is to succeed, but another less reported issue is the level of digital literacy they have. Thus, this study focuses on the digital literacies needed in order to take advantage of technology-enhanced learning. Digital literacies cover the skills needed to effectively interpret, manage, share and create meaning using the growing range of digital communication channels (e.g. Dudeney et al., 2014). To take the case of English language students, they need to be able to practise reading, writing, speaking and listening digitally and they need to have the digital competency to access, manage and evaluate information, as well as create and share information (e.g. Hatlevik and Christophersen, 2013). Digital literacies do not simply mean the ability to operate computers and mobile phones and so on but to engage in the culture of communicating, dealing with and connecting information. Digital literacies equip both teachers and students with the knowledge necessary to make effective and principled decisions when choosing and using learning technologies in their own classes.

The importance of digital literacy has been accentuated in the recent school lockdowns in response to the Covid pandemic. The shift of in-person teaching–learning into remote

teaching has meant that learners need to use digital tools and technologies and use them productively. Peña et al. (2020) explain that children who have been engaged in remote classes have also been engaging with a wide range of media sources – TV, computers, tablets, radios, MP3 players, mobile phones, newspapers, magazines, books and more. They need the ability to access, but also to evaluate, information and to recognise that there are ‘misinformers’, who share disinformation and propaganda using the technology.

Since the onset of the Covid-19 pandemic, my school has had to facilitate remote classes and I had to become part of it. I had to equip myself with digital tools and be prepared for remote teaching. As I stepped into this new world, I experienced difficulties with unreliable connectivity, unfamiliarity with software functions, restricted access to digital devices and the low quality of digital content. Students were experiencing some of this too, though in the case of students, I also noticed that parents were becoming the key to their child’s success, as they were involved in supporting their children to make remote teaching–learning successful. Parents were needed to keep communication open and to help us support learning.

As a teacher of English, I was concerned with developing my students’ four language skills, but I became more and more aware of the increasing digital skills of the learners as they navigated their learning through a variety of digital environments. Knowing how to use technologies was not enough, they required the skills to communicate, build digital networking and understand the digital platforms appropriately. It was important for the learners to be critical and creative to manage their online identity and to be aware of online safety. Taking small steps, I invested time sensitising my learners to the benefits

and impact of enhancing digital literacies and I carried out this case study with some of my learners to explore their needs and perceptions in more depth. I wanted to know:

- What are learners’ perceptions of digital literacies?
- How do learners develop digital literacies?
- What is the impact of digital experiences on learning?

The methodology of the study

This is a qualitative study that used a case-study design to explore the above research questions. Case-study design is an important tool for exploring and describing a phenomenon in context while refining theory and identifying areas for more exploration. Data was collected from 28 preselected learners (15 boys and 13 girls aged 14–16) in one of the schools in the Kathmandu Valley. The participants were engaged in remote learning for more than 18 months from the onset of the Covid-19 pandemic.

I collected the data by moderating the focus group discussion (FGD) with the help of the synchronous tool Zoom Cloud Meeting. The questions asked to the participants were unstructured and open-ended. Four FGDs were held with groups having between seven and nine members. The participants’ responses were recorded, transcribed, coded and analysed. I report here on findings that addressed my research questions.

Findings

The findings are presented in three sub-sections looking at learners’ perception of digital literacy, ways of developing learners’ digital literacies, and the impact of digital literacies on learning.

Learners’ perceptions of digital literacies

In the online FGD, the groups were asked to share and discuss their needs and perceptions

of digital literacies. The participants’ responses were put into two major categories and are presented in Table 1.

Table 1: Learners’ perceptions of digital literacies

Digital literacies perceptions (What)	Themes
Having general technological skills	Knowledge of digital tools and skills Knowledge of the basic function and features of modern technologies: mobile phones, laptops and computers Use of synchronous and asynchronous tools for remote learning Ability to use the internet and explore virtual and augmented realities for language learning
Advanced 21st-century digital learning skills	Digital responsibility Digital productivity Digital collaboration Digital creativity Digital learning

As seen in the table, the learners saw digital literacy as having both general technological skills and advanced 21st-century digital learning skills. When asked about digital literacies, one of the participants responded that ‘digital technology doesn’t get limited to the technology but various things that come through digitally.’ Another participant added:

Digital literacy is not just knowing how to use the internet, media or technology but also learning some kinds of skills from it ...

Digital literacy is thus more than being able to use tools; it is deriving benefit from their use.

Digital skills can support and extend the curriculum. During the remote classes, most of the students were aware of their growing digital literacy. As one of the participants said:

Honestly, I did not know anything more than searching questions in Google ... but after remote classes I can type well and search to different websites, research more, and use various tools like Canva and I did improve a lot.

The participants believed that they needed to possess knowledge of digital tools and technologies to be digitally literate. They also believed it was essential to be able to communicate and use digital content, collaborate with others and be creative and critical of the digital content found on the internet. One of the participants said, ‘I learnt how to analyse the content, how to use the information given over the internet properly’, and another drew attention to his growing creativity using video editing and presentation software.

The comments show that participants understood the twofold nature of digital literacy: first, to be able to use the technology, and second to be able to use it critically and purposively.

Ways of developing learners’ digital literacies

The participants were also asked to discuss and share ways of enhancing digital literacies. Table 2 organises their comments.

Table 2: Ways of enhancing learners' digital literacies in remote learning

Digital literacies (How)	Themes
Virtual platforms	<p>Attending synchronous and asynchronous classes with the help of videoconferencing tools (Zoom Cloud Meetings, Google Meet, Microsoft Teams)</p> <p>Navigating e-content on learning management systems; interactive web portals; learning from websites, podcasts, radio, television, YouTube and other social media</p>
Co-participating collaborating with teachers and friends	<p>Interacting, sharing, receiving experiences in digital platforms</p> <p>Participating in online games and quizzes</p> <p>Learning netiquette</p> <p>Interacting with teachers and friends during classes</p> <p>Connecting with others with Viber, Facebook, Skype and videoconferencing tools</p> <p>Engaging in email/video chat and social media for exchanging information</p> <p>Creating digital content and sharing learning materials</p>

As Table 2 shows, learners saw their skills developing, first by experiencing technology and, second, by mediating experiences through co-participating with teachers and friends. On the first, one of the respondents reflected that:

Personally, I feel like since the start of the online classes (because of the Covid-19 pandemic), I have learnt and experienced countless tools which have enhanced my learning skills digitally [...] primarily using learning management system (LMS) and Zoom meetings. Collaborating for presentation also helped understand the concept of Google Docs and I have learnt in general to share documents better. And use of new software and websites by teachers exposed me to new digital tools.

Another commented:

In my opinion, digital literacies are enhanced by practising the digital tools and techniques on a regular basis. Learning new digital skills and practising the skills enhances them. We can enhance our digital skills by learning

from teachers, from the internet or from courses. But I think that I have enhanced my digital literacies skills by myself. I took some classes from Coursera and Udemy.

On the second, one participant said:

I am able to improve my digital skills by engaging in online classes, collaborating with my friends and researching to get more ideas. My digital skills have been enhanced because of the online opportunities and environment that got me interested in this field.

The findings show that when the learners are engaged in the virtual learning platforms, they will learn to use digital tools to explore content, work on shared documents and interact with teachers and friends. This process is made easier if they receive feedback and support from teachers.

Digital literacies and learning remotely

The participants were asked to discuss the impacts of using their digital literacy in remote learning. Table 3 organises their comments.

Table 3: Impact on learners of enhancing digital literacies while learning remotely

Digital literacies (Why)	Themes
Developing digital skills	<ul style="list-style-type: none"> Learning basic computer skills Learning to create, save and format documents in Microsoft Word, PowerPoint, Excel and Google Docs Creating digital animation Accessing online classes and learning materials Using an internet search to find learning resources Navigating websites, including YouTube, to find content Exploring the features of learning websites and learning management systems
Developing language skills	<ul style="list-style-type: none"> Developing reading, writing, speaking and listening Understanding how to access reliable sources for language learning Accessing authentic resources and improving vocabulary, aural skills and knowledge of grammar structure Using online dictionaries Reflecting on language learning
Experiencing engaging online learning	<ul style="list-style-type: none"> Receiving and responding to digital messages, dialogues and email Using new knowledge in practice Creating digital content: videos, infographics, audio, memes
Participating in online assessment	<ul style="list-style-type: none"> Mastering the skills for online assessment Learning to create, save and format documents Moving content with cut, copy and paste functions Taking pictures and uploading picture files Converting files into different formats (PDF, JPG) Merging and splitting the files
Maintaining e-safety	<ul style="list-style-type: none"> Managing online safety Following the netiquette of the remote classroom Logging out of websites when finished Not sharing passwords Understanding digital culture and online privacy

From Table 3, participants appeared to have a nuanced understanding of their online learning experiences. They were able to talk about their growing digital skills – skills which would be used across the curriculum. Sometimes these skills became quite advanced, and one participant responded that:

Digital tools and technologies had undoubtedly impacted a lot on me. I have advanced my basic computer skills but I have also improved on programming language including Python and Java.

Of course, very few students became programmers, but all could talk about other online experiences and how these could improve their language learning. One participant said:

Before I wasn't aware about the apps like Zoom and remote learning but now, I am comfortable with the learning platforms and confident enough to use them. By communicating through social media and researching, I was able to improve my English language skills, by reading online stories and watching videos in YouTube.

Students were able to talk about how their online experiences helped enhance the curriculum, for example by engaging with different media and different sources. A key issue for students was to use online experiences productively. They realised that they could and did ‘waste’ a lot of time on the internet. With guidance, this time could be more productively used. As one said:

I was using the internet unnecessarily ... I mean that I couldn't make use of it for learning. But because of remote classes (and the guidance we were given) the hours that were not productive were converted into productive hours.

Another participant added that he was better able to balance ‘digital and personal life’ with more organised activity.

Issues around assessment were also raised. This is a topic which concerned both students and teachers, and the students’ comments show the importance of having the digital skills needed to be able to post work to teachers and to store documents in appropriate formats. Finally, students spoke about issues of e-safety: ‘Focusing on online identity is important and being safe in digital culture is what we need to understand.’

What I learned

My study investigates learners’ experiences and ways of enhancing digital literacies at a time of remote learning. My key reflection is that digital literacy involves both ‘how to’ technical skills and skills of accessing, evaluating, communicating and generally using information.

Digital literacies are needed to help learners adjust to digital education and develop

effective and engaging online learning experiences. Moreover, being digitally literate is a creative and innovative way to overcome the disruption caused by the transition from in-person classes to remote learning. But these skills should not be forgotten when in-person classes get going again. Learners require digital literacies to become successful, innovative, adaptable and productive in today’s rapidly changing world.

Monteiro and Leite (2021) believe that digital literacies can support lifelong learning, in particular by providing access to authentic sources. But learners need to balance their personal and digital lives and learn to be self-aware and critical in their online practice. This study revealed that learners can be helped to make productive use of digital tools and to re-evaluate their online practices, including their digital identities. In short, being digitally literate is not just about learning how to operate digital tools and technologies but about exploring ideas and new innovations and being creative, innovative and critical.

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Explore, engage and empower: My responses to forced transition to digital learning

Baman Kumar Ghimire

Abstract

This case study reports on one teacher's experiences of getting started with online learning during the lockdown associated with the Covid-19 pandemic. It describes a range of initiatives undertaken to support students' online learning, including online classes, inter-school and international online cooperation, gamification and the use of MOOCs and YouTube in supporting both teachers and students. It reports on students' positive reactions to engaging in innovative online work, but notes time and working to the curriculum as constraints. It recommends continuing the use of online work in a blended approach after the lockdown is over.

Introduction

The Covid-19 pandemic brought an abrupt change in teaching and learning across the globe. In an attempt to keep teaching and learning going, education systems gradually turned to technology. Some countries acted more quickly than others. UNESCO, for example, commented that China responded 'with prompt collaboration with the concerned authorities ensuring the accessibility of the students to digital learning opportunities and the teacher's skills to design and deliver online tutorials' (UNESCO, 2020). However, speedy adaptation was not always the case, and an immediate shift to

online learning in many countries proved difficult due to lack of experience, limited resources, inadequate infrastructure and gaps in digital skills in teachers, families and communities (see, for example, Dawadi et al., 2020; Salmi et al., 2020). Such difficulties did not stop all attempts at innovation. In India, schools shared a free digital e-learning platform (Ministry of External Affairs Government of India, 2021); in the Maldives and Bangladesh, tele-classes were promoted using state broadcasters; in Afghanistan, lessons were broadcast through television, radio, websites, portals and mobile phones; in Bhutan, social media applications were used to disseminate tests to students (World Bank, 2020). Such efforts clearly showed the desire to promote remote learning to compensate for the closure of physical schools in South Asia, even if the outcomes were not always as hoped.

What happened in Nepal?

The announcement of lockdown by the Government of Nepal (GoN) on 23 March 2020 left students and teachers feeling stranded. However, teachers were determined to find ways to engage with their learners. Students, mostly those in urban areas, took up online learning with technology, but for the majority in rural areas this was not possible. Teachers attended to their own professional development; they participated in virtual

seminars, discussed together and trialled some tools for online learning. However, a few teachers with whom I spoke were met with some hostility from friends. Some in private schools were mocked for starting online classes and even advised to stop by the teachers' unions or the local governments. If private schools were not receiving fees from parents, they could not pay teachers, and the union position was understandably 'No pay: no service.' There was a marked lack of direction. On 4 May 2020, the GoN cautioned schools not to charge fees for online teaching (Nepal Education Cluster, 2020). A few days prior to this, the government in Bagmati Province advised all the local government schools to facilitate alternative online learning opportunities. In a sharp contrast, the Education Department of Pokhara Metropolitan City in Gandaki Province warned schools not to operate online classes for fear of disadvantaging those without access. The situation was confusing to say the least.

Helpfully, but only in mid July 2020, the GoN came up with plans for reopening schools that included the identification of students in terms of their access to educational technology. This came with a commitment to continue coordinating with provincial and local governments to make online and media learning resources available for those children that did not have access to internet, radio, TV and mobile phones (Nepal Education Cluster, 2020). However, the response was held back due to gaps in policies and in communication with local government.

Schools increasingly saw online learning as an answer to school lockdown, but opportunities were restricted. As of March 2020, only around half of Nepal's seven million school students were likely to have regular access to online or other media (Nepal Education

Cluster, 2020). Virtual classes needed to and did go ahead, but schools needed to trial other media, including television and radio, to keep the learners engaged (World Bank, 2021). With no or low experience of digital tools in learning and difficulty in accessing the internet, an abrupt switch was not going to work for all. However, the switch largely worked for me, and in this case study I reflect on my experiences in the hope that this helps contribute to a debate on the role of technology in remote learning.

My starting point

I was interested in technology even before the pandemic and I was keen to learn more. I had heard mention of Zoom from an American friend and later I googled 'Zoom' to see what it was. I decided to create an account and learned how to set up a meeting, share the screen and include chat as first steps. Equipped with this insight, on the fourth day of the lockdown, I trained some of my students on Zoom and started up a biology class. This went surprisingly smoothly and, in an attempt to foster both their learning and their leadership skills, I made the students the facilitators for different subjects. This involved them in taking responsibility for liaising with teachers, promoting discussion in class and helping to let other students know when classes were taking place. The way they carried out this role, they surpassed my expectations.

When I felt the motivation slipping, I tried linking my online classes with ones in other districts and invited other teachers to join. This created a more engaged atmosphere in which the inclusion of outsiders helped make my students more responsible. Other presenters came to the class, and they were well prepared for the lessons, students asked questions and new participants joined.

Such classes gave me hope and energy and seemed to work for the students at a time when their exams were postponed for an indefinite period.

Going beyond the curriculum

I regularly encouraged my students to engage in online learning activities beyond the curriculum.

In the course of my attempts to be connected with like-minded professionals, I got in touch with teachers from Myanmar and the USA. They were carrying out a weekly student discussion in something called the Global Quarantine Conversation Club, which had generated interest from educators from over 20 countries. The teachers noted and voted for a topic every week in a group in a Facebook Messenger forum and encouraged their students to take part in an opinion-sharing event and managed various breakout rooms in Zoom. I publicised the weekly events, prepared students by discussing ideas in advance, registered them for the event itself and accompanied them during their participation. In less than four months, I had around 70 students joining in.

By working on and promoting online events, I extended my professional network to over 40 countries. This in turn encouraged me to work with my students in new ways online. I wanted to promote the habit of reading online news portals and encouraged them to enter writing competitions. For example, over 50 students sent their articles to different newspapers and journals, and some had contributed to the essay of the week competition in *The Himalayan Times* (an English national daily).

I explored and assisted my students in creating international platforms where they could sharpen their competence and

performance. I had a special interest in developing English language skills, but my work was not confined to one subject, and I was interested in promoting life skills, for example communication technology and oral communication skills, too. In one example, students discussed and presented on contemporary issues including claims of 'false news' and disinformation, cyber security, climate change and economic development. Students produced video-recorded presentations, as if they were in the role of television journalists, and uploaded them to YouTube. This was a deliberated, pressured task, but turned out to be a joyous experience for the students. Students meanwhile continued to take part in cross-national events, including a Geo-Quiz organised by a school in India. Some took part also in a year-long discussion on 'global civic responsibility', which I promoted and that had been set up by a teacher from Boston Latin School, USA, in a project funded by *The New York Times*. Using Google Work Space, WhatsApp, Padlet, Flipgrid and a specially created platform named Narrative Atlas, the students interacted with their contemporaries from over 40 countries, discussing such topics as human rights, use of masks, democratic practices, dreams for their future and so on.

Massive open online courses

I encouraged students and teachers to take part in a massive open online course (MOOC). I ran workshops on why these courses were useful and brought in past participants to tell students what they had got out of them. I explained the process of assessment and how to upload assignments and carry out peer assessment. Most courses were free, but on some you needed to pay for certification. I helped students who had enrolled to apply for financial aid. Those who had successfully

completed a course or courses were celebrated in schools' social media pages, and this encouraged others to take part. Roughly around a hundred students and 40 teachers took one or more courses from Coursera, Udemy, Canvas and FutureLearn in a year. Amazingly, five of them completed over 50 courses.

Gamification

Online learning could become repetitive, and some students were losing motivation. This led me to explore other means to deliver my lessons. Thus, I began to use Google Form and Padlet in mid 2020 and used VoiceThread, Quizizz and Nearpod in language lessons. I did not limit my skills to myself, but with the support of my friends designed a workshop to benefit others too. The Regional English Language Office (RELO), US Embassy Nepal, funded us to reach over one hundred teachers across the country with gamification tools. The outcome was that these tools were used by many more teachers across the country, with those we had mentored becoming mentors themselves. We saw students as young as five years enjoying learning in Padlet, Nearpod and Quizizz.

High-school students are rarely reported to use social media, such as Facebook, for academic purposes, but the potential is there. I showed my students from Grade 12 how they could improve their language skills, creativity and critical thinking through creating a chain story. The idea of the 'chain' is that one student kicks off the story and others in turn add sentences, making the story branch into coherent but unpredictable directions. In less than a week, the students developed their own chain stories. I was simply a catalyst. The students themselves planned, opened, operated and moderated

the private Facebook group in which the chain story took place.

What did the students think?

In order to explore the impact of using technology in their learning, I carried out a semi-structured interview of ten students from Grades 10–12 from my school, this after getting parental consent. The impacts they told me about were varied, but beyond what I had hoped.

Student A said he had been transformed into 'Mr Extrovert' from 'Mr Introvert'. Before, he had been a timid student in class, but he had gained his voice through regular interactions in online discussions and presentations. In online platforms he feels less intimidated and explained that he found he could 'ignore the fear of being mocked or commented on badly' online in a way he could not do in class.

Student B noted that his interest in technology that had once been frowned upon had become an asset:

My parents used to scold me time and again on my engagement in internet now, they are proud of my MOOC achievements. The certificates help me be an example in my family and community in identifying myself as a global learner.

Student F found the breadth of opportunity for learning online had been more motivating. He welcomed the choices he had been given. He felt 'a freedom in learning now with so many chances for exploration'. Students C and E both added that taking part in the virtual Global Quarantine Conversation Club, the Global Civic Responsibility project and the Facebook chain stories had greatly

improved their confidence in writing, and they felt better prepared for exams. In addition, these experiences gave them an opportunity to see how diverse, yet joined up, the world they shared is. Student H agreed and had found that she could be a self-disciplined learner, keeping on track with both school assignments and wider opportunities. The opportunity to interact with her contemporaries around the globe gave her a sense of herself in a connected world.

Not all students were so positive. Student J had a different experience, as she had encountered parental concerns which curtailed her involvement. She felt irritated by her parents coming into her room. She had engaged in other different activities, but her parents could not understand her participation and even wondered if she was on a secret online date. Participation with technology was more difficult for Students G and I as well. First, they found it fun and novel, but they later found the schedule became overwhelming, and there were too many events and too much technology to learn. Student D had mixed feelings too. He felt he had lost out on some family and leisure time by taking part in so much online learning, but overall he had not regretted it.

On the whole, students who could engage online as they had access to the technology enjoyed it, but were constrained by time for participation, but also time to learn the technology. I felt some of this too. I was, myself, very positive about technology and this new way of teaching, but time was the biggest constraint for me as well. Exploring tools and platforms, studying pros and cons of different apps, motivating learners, convincing both the school administration and the parents and guardians of the value of the approach, offering regular feedback, getting to grips with gamification tools,

encouraging discussions and so on was tiring, especially when my mind had to be on making sure the day-to-day curriculum was covered as well.

Lessons learned

Reflecting on my experience of the use of technology in remote teaching, I offer the following suggestions:

- Extend your professional networks. Social media can be the best medium to discover these networks. There are many people who can give you advice and ideas. Many teachers are eager to learn from you too. Do not hesitate to share. Interactions with teachers from other countries can enrich you.
- Remember the seven Cs: ‘connect’ and ‘communicate’ with educator communities; ‘collaborate’ and ‘coordinate’ online spaces; ‘counsel’ the students with dos and don’ts; ‘convince’ parents/school administration of the value of what you are doing. Most of all, ‘celebrate’ the achievements with your learners.
- Make learners the mentors. Every learner feels glad to be recognised for their accomplishments. The mentoring opportunities help students gain self-respect.
- Respect students’ multiple intelligences/ interests: one technology does not fit all. Give students choices as to what to use and how to work.
- Teacher’s presence: be there. Prompt students and then provide timely feedback. Such presence provides learning opportunities and on-task behaviour among students.

My final reflection is that technology cannot be the only means to address lockdown as

so many students do not have the access they need. However, online tools are valuable, and if we are to use them, then we need to do so intelligently. This means planning, getting skilled up and reflecting on what has happened and how it can be done better in the future. My belief is that some of these tools need to stay even when we get back to physical classroom teaching. Technology can help motivate learners and show that learning is not confined to the four walls of the classroom. We need to help our students acquire the skills needed for a global world.

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Maintaining well-being during lockdown: Views of students in one school in the Kathmandu valley

Geeta Bhattarai

Abstract

This case study explores student well-being during the period of remote learning, using focus group discussions with middle school students. The paper describes their experiences of lockdown and at times their feelings of isolation, sadness and lack of support. It looks at the challenges of learning online and students' need for understanding from teachers and parents. It finds that students did experience distress during lockdown and, looking ahead, schools should not lose focus on well-being and teach values of sharing, respect and kindness.

Introduction

This generation of learners is sometimes referred to as 'Generation Z', i.e. young people born between the late 1990s and early 2000s. This generation has grown up in a connected society in which instant messaging and text messaging are common practices, and its members are sometimes referred to as 'digital natives', 'children of the screen', etc. (Cohen, 2016). Generation Z, according to Harmanto (2013), are tech-savvy, can work at speed, can multitask and are frequently socially connected. He further suggests that they are easily distracted and have a shorter attention span. Their excessive dependency on technology leads them to be more sedentary and this affects their well-

being. As is now well known, schools in Nepal closed down on two occasions during the Covid-19 pandemic, and learning migrated to online systems. My students, as members of 'Gen Z', might be expected to move seamlessly into online working, but was this in fact the case? I decided to interview my students about their learning, focusing on their experiences and well-being. Well-being has several dimensions, and here I focus on physical, mental, social and emotional well-being.

- Physical well-being is not limited to just the absence of diseases but living in a balanced state of body, mind and spirit. Moreover, it focuses on one's lifestyle, behaviour and choices. Getting connected to nature, creating productive connections with parents and teachers and engaging in physical activities can all help to promote physical well-being.
- Mental well-being is more focused towards handling stress and meeting one's own learning potential. Negative emotions and excessive worry about what can go wrong can lead to a higher risk of experiencing mental health difficulties, while lack of self-regulation can lead to poor academic performance. On the other hand, positivity and self-motivation can help increase enjoyment, persistence and interest in students.

- Social well-being emphasises feelings of social responsibility and maintaining good relations with others. Valuing each other's perspectives and accepting other people's ideas and opinions are important aspects of being social. Interacting positively with classmates can also come under social well-being. Physical and mental well-being can directly affect the social well-being of a child and vice versa.
- Emotional well-being can be described as the state of managing one's emotions. Being able to express oneself, sharing one's thoughts and reflecting upon experiences come under emotional well-being. In addition, controlling emotions according to the situation and acting appropriately can positively affect one's emotional state. A focus on self-esteem and self-respect are significant factors in emotional well-being.

The study

Mine is a case study, as a particular context or site is explored. In this case study, I interviewed 15 students (seven male, eight female) aged between 12 and 14 years and studying in one of the better-equipped private schools in Kathmandu valley, in which I worked.

To collect the data, I interviewed these 15 students in focus groups using Zoom Cloud Meetings during school closure. I divided the students into two focus groups, with seven and eight members in each group. Each student was at home. I wanted to know from this study:

- What was the general experience of well-being during lockdown?
- What do students look for in 'learning spaces'?
- What role was there for self-reflection in learning and reflection on values?

During the focus group I first began by asking about their experiences of lockdown and remote classes and then moved on to well-being and the kind of support they felt they needed from teachers and the school. The meeting was recorded. The data was transcribed and organised into themes to illuminate shared understanding among these students.

Findings

The findings were organised around the research questions. The first section is specific to the general experience of lockdown. However, the second and third sections look more broadly at teaching and learning – remote or otherwise.

What was the general experience of well-being during lockdown?

In the focus groups, the students explained that they had experienced a very difficult time since the onset of the Covid-19 pandemic. One of the participants explained:

Because of the Covid-19 pandemic and remote classes I'm mentally, socially and physically disturbed and I have been facing lots of problems while learning remotely.

Several of the students said they had felt unable to concentrate on their academic work and they often found ways of avoiding online classes. They reported some friction with parents, who complained when they saw their children turning off the camera or staying muted during the class. This was seen as unfair:

Sometimes I get disconnected because of connectivity issues. The voices are not clearly audible, my laptop gets frozen and I also have to turn off my camera. It is not that I do it intentionally but I basically face a problem with the technology when I'm having a remote class.

Difficulties with the technology, access to their internet and a lack of physical learning materials became barriers to remote learning for many of the students. They felt a lack of understanding about the issues, with one participant noting:

I get irritated when I have to restart my device to attend the class and I become late ... sometimes Zoom doesn't respond and it says it needs updating which delays me. The teacher knows I am late but doesn't know why ... teachers need to understand the problem.

When asked about the effects of lockdown on their well-being, they mentioned that their lives became insular as they were confined to their homes. They felt their emotional and social well-being coming under threat and they were doing less and less physical activity as they were no longer travelling to school or playing outside. Some explained that their parents were themselves suffering from Covid and had to leave the home to stay with relatives, and some students had to leave with their families to move to 'safer' districts. In addition, some of the parents had lost work, and family finances were under strain. Some of the students further mentioned that they had lost members of the wider family to the pandemic, and this had affected them and their families deeply. In short, many did not find the experience of lockdown easy, and to

varying degrees they experienced a sense of disorientation and felt that teachers lacked understanding of their situation. There was further a clear digital divide, so students who had better technological skills and reliable machines and internet connections were much more comfortable with remote learning, but those who had poorly functioning devices were not, and some simply could not access remote learning at all.

What do students look for in 'learning spaces'?

Turning to learning spaces, students talked about how they gained knowledge not only from the teacher but also from their friends and what educators call the culture of teaching and learning. Open and collaborative learning spaces were critical for maintaining students' well-being as these were where students picked up expectations and notions of identity. A learning space was not simply the arrangement of the furniture, textbooks and whiteboard but how students and teachers worked with each other. Thus, students felt that school was not just a site for academic learning but it was where much of their sense of well-being came from. Here, they felt, as one student said, that 'school could focus more on well-being' and another added:

... teachers should allow us to communicate with our friends and also let us play sometimes and also make us watch videos sometimes that make us feel good.

Most students agreed that learning spaces should be learner-friendly and enable learners to get the opportunities for developing planning and thinking skills. As one participant said:

If school is an interesting and safe place for learning it will help us to reduce our anxiety level and then we'd love going to school.

Students wanted more of a say in their learning and to be engaged in what they were doing. They wanted opportunities to ask questions freely, and to receive and give feedback to their classmates. Notwithstanding the difficulties with remote classes, students were positive about some of their experiences. They appreciated participating in breakout rooms in order to discuss tasks with their peers and plan ahead. They had the opportunity to produce PowerPoint presentations, sometimes on their own and sometimes in small groups, which they could present to the wider class. Working with others enhanced their social skills and with this their sense of social well-being. Sharing, appreciating, giving constructive feedback (whether in remote or physical classes) helped learners to become active and responsible. In creating this kind of collaborative environment, they wanted teachers to be aware of students as individuals and know how to talk to them in personalised ways. However, they also wanted activities to be organised and interaction to be monitored and, if necessary, managed carefully. As one put it, whether it was presenting, discussion or assessing, teachers needed to 'make it clear what they are expecting'.

What role was there for self-reflection in learning and reflection on values?

The experience of lockdown led students to turn in on themselves, and this showed the importance of reflecting on circumstances in a positive way. In fact, students thought that

in general schools could help them better comprehend their lives and better identify realistic goals for life. Students saw reflection as important in boosting their self-esteem and self-respect and so addressing their emotional and social well-being.

One aspect of the curriculum which could make a contribution to well-being was values education. This part of the curriculum generally covers aspects of spiritual development, citizenship education and personal development. Having values education in the curriculum can explicitly show the importance a school puts on well-being, but values should also be taught implicitly throughout the school. In my study, students believed that including values education in the curriculum helped them to enhance their social skills as it encouraged teamwork, communication skills and empathy. One of the participants mentioned 'being kind and spreading positivity' should be taught throughout the school. Another added 'being friendly to each other should be modelled in the classroom'. Values education came to be particularly important online, as students needed to be aware of netiquette and e-safety.

Conclusion

This study first addressed the general experiences of students during lockdown. Here it was found that many students felt their learning suffered either because of difficulties in accessing classes or because of their, or often their teachers', unfamiliarity with the process. Moreover, they felt that their well-being faltered during lockdown due to a sense of isolation and sadness. This was not the whole picture at all. To varying degrees they appreciated the help and support from family and teachers, and some spoke about good access to technology and

being engaged in classes. However, many were aware of gaps and had feelings of disorientation. This generation of students is often characterised as Gen Z, or digital natives, yet this study shows that even in one of the better-equipped schools in central Nepal, these students were not at ease with using technology for learning and yearned for physical contact.

The study addressed next what students looked for in a learning space. Here it was found that students valued collaborative group spaces in which they could express their ideas and feelings. At the same time, they wanted teachers to organise and monitor activities. They gave examples of collaborative group work on line. They spoke about how teachers should understand students' problems and support them in their learning (see Stanley, 2019, on the importance of digital support and Dysart et al., 2019, on instructional scaffolding).

Finally, we looked at the importance of reflection and values education. Here students believed that schools were not solely or even primarily there to promote academic learning but should play a role in helping them understand how to make their lives meaningful. Kristjánsson (2010) agrees and sees schools playing a key role in maintaining young people's well-being. Students wanted teachers to know them as individuals and how to support them, and in return students had a responsibility to reflect on their learning and contribute to the lesson.

Overall, working with these students showed me the importance of school in young people's lives and the distress that some felt during lockdown. Schools have a responsibility to support students as they leave lockdown and need help to catch up with what they have missed. Looking ahead,

schools should not lose focus on well-being and should teach values of sharing, respect and kindness both explicitly and implicitly.

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The importance of access to libraries during lockdown

Prateet Baskota and Kiran Shrestha

Abstract

This is a study of a school library programme at a time of lockdown. The library programme has worked to provide library infrastructure and training for schools in Nepal. The chapter describes the importance of creating physical libraries and ensuring they are sustained. It then looks at the challenges of providing access to books during lockdown. Three main strategies were used to provide learners with books: access to e-books, teachers taking books to students and controlled access to physical libraries. Recommendations are made for providing access in any future lockdown.

Introduction

Access to education has become more and more important. The Convention on the Rights of the Child in 1989 (see UNICEF, n.d. for a background) and the World Declaration on Education for All (UNESCO, 1990) were remarkable steps in promoting education to all children around the world. These declarations set the millennium development goal for education, something taken up in a meeting of the World Education Forum at Dakar, Senegal (UNESCO, 2020). Here countries again committed to deliver free and quality primary education to all children around the world by 2015. Yet a recent study by the United Nations (2021: 33–35) suggests that Covid-19 has wiped out 20 years of

education gains. Growing numbers of children are not being schooled, and disparities in educational outcomes are predicted to get worse.

In Nepal access to education has been addressed. According to the Fifteenth National Plan (National Planning Commission, 2020: 227–230) in 2017–18 the enrolment rate in pre-primary education was 84 per cent of the population, at primary level it had reached 97 per cent, at lower secondary level 92 per cent, though at secondary level the proportion was lower, just 46 per cent. According to the same source, the literacy rate among the 15–24 age group had reached 92 per cent. However, the same report draws attention to important shortcomings. These include failure to ensure full access to quality education and gaps in the continuity of learning. Thus, getting children in school is one thing, but providing engaging teaching and learning is another. A quality education requires leadership, a suitably trained teaching staff and a constantly evolving curriculum to reflect the times we live in. To achieve these goals requires a combined effort from policymakers, school leaders, teachers and communities. However, one, sometimes overlooked, element in a quality system of education is the school library. Not just the existence of a library but one stocked with appropriate books and with trained library staff.

The Educational Resource and Development Center Nepal (ERDCN) has been working in coordination with Room to Read to establish libraries in different schools in rural areas in a school library programme (SLP) since 2010. The ERDCN is a national NGO that works to support education, particularly informal education, by helping communities through savings schemes, literacy support and access to health services, while Room to Read is an international NGO with a special interest in promoting literacy and in girls' access to education. Working together with local communities, partner organisations and governments, our aim in the SLP has been to develop literacy skills and good reading habits among children and to promote an equality of access.

School library development needs to be planned. It requires understanding of the needs of the schools and community participation. The first step in the SLP is that schools bid for support so that school leaders take ownership of the idea of a school library. This leads to meetings and regular visits from the ERDCN team, leading to the setting up of the library space, stocking of books, bookshelves, furniture and book management systems. Libraries more and more are expected to support the use of ICT, and school librarians often become technology leaders in their schools (Wine, 2016). Altogether, the SLP has helped set up more than 200 libraries in Kathmandu, Lalitpur and Bhaktapur, with ongoing monitoring and support for the maintenance of these libraries.

The SLP is not just about providing the infrastructure for libraries – ICT devices, books, bookshelves, tables and chairs – but also the professional development of new librarians in bespoke training modules. For example, the SLP includes an entry-level basic

library management training programme which covers how to manage, run and sustain the library. Topics include introductions to library management systems and pedagogical strategies for motivating and sustaining children's interest in reading. Librarians are introduced to the Dewey Decimal classification, colour code classification and book levelling systems. Librarians' instructional work involves literacy and reading promotion, media and information literacy instruction, supporting and guiding inquiry-based learning, integration of technology to teaching and learning, as well as taking an active role in the professional development of teachers. One very important means of promoting reading is the introduction of reader clubs in schools, with the aim to promote the habit of reading and increased student ownership. The reader club provides a space for students to discuss what they are reading and carry out administrative tasks. In this way, students can directly help in the sustainability of the library. Thus, the aim of the SLP is not just the setting up of libraries but ensuring their sustainability through further supply of books and stationery, and continual training of staff. Regular and frequent monitoring visits are made by reading room facilitators (associated with the programme). Each facilitator manages up to 12 schools, which they visit at least once a month to evaluate progress and activities. They also attend meetings of the school's library management committee and provide support and advice for schools. Through the work of a SLP, a community school library network has been created, and this serves as an advocate for library provision in Nepal and a source of further support for teachers and library staff.

Libraries during lockdown

During the Covid-19 pandemic, every sector of life was affected. In Nepal the lockdown started on 24 March 2020. Faced with this situation, some teachers responded by providing online lessons; some used mobile phones as well as television and radio to help learners without access to the internet; some tried to visit students in their villages, while following physical-distancing guidelines. The results were mixed, with an accentuation of the digital divide very evident.

The lockdown created problems for those running school libraries as much as it created problems for teachers. Students could no longer come into school and access the physical library to access textbooks, recreational books or ICT. Something needed to be done, and three key strategies were used to maintain access. The first was to provide access to digital books which those with internet access could access. Here more than 1,700 books were made available from the Room to Read International Office, a significant number of these in Nepali. Care was taken to create a friendly interface so that the Room to Read portal was attractive to children, and there was an effort to coordinate provision of books with the Curriculum Development Centre of Nepal. Filters were provided so that books could be selected on criteria of language, content and level.

These e-books enabled access to reading throughout the pandemic. An important aspect of young people's literacy is sharing what they have read with family and friends. Young readers could use email and social media to discuss books with each other or with teachers. Teachers themselves could use social media to suggest books and pose questions about students' understanding of

the stories they had read. Of course, if they had access to the internet, students were not limited to what schools or Room to Read could provide, and some families used their initiative to access other books, including illustrated books aimed to attract young readers.

The second strategy was to get physical books to students in places where internet access was not available. This involved teachers visiting villages, where they would set up in a village central area (or *tole*) in the open air, and children would come for lessons, some walking for more than an hour to get there. In the course of these meetings, teachers and children might read together, and children could take away books from the library stock or ones sent specially by Room to Read. The programme was helpful to parents, teachers, communities and, of course, children themselves. These visits were further helpful in monitoring the health and well-being of students and sustaining a sense of connection.

A third strategy came in when lockdown measures had eased but schools were still closed. Here it was possible to open the library for a session every day, but with only one grade allowed in per day. The idea was to sustain teaching and learning and promote reading throughout the Covid-19 pandemic. Again, it was important to respect safety measures and keep physical distance between the students.

Reflections about library access during lockdown

There are still many unanswered questions about teaching and learning during lockdown, but four key reflections are offered below, based on our experiences.

- It was important, and it will be important in any future lockdown, to introduce compensatory measures to sustain learning. These measures should include a mix of access to e-books, visits to villages and controlled face-to-face teaching. Community involvement will continue to play an important role in the promotion of literature; for example, through the use of mobile phones it proved possible to involve parents in the support of their children's reading, and through the use of social media, reading can be a shared experience.
- E-books need to be carefully chosen to cover a range of topics and levels and need to be made attractive for young readers. Access to e-books is not a threat to physical libraries or the role of the librarian. Rather, librarians around the world are showing readers how to access these books and discussing with pupils and teachers which ones are engaging and appropriate for different age levels and different interests.
- Whatever the value of e-books, a good library also provides students with access to physical libraries with physical books. Students need a comfortable place to sit and read and the opportunity to take part in reader clubs in school. Libraries need to be planned, and support is needed to promote and sustain the habit of reading.
- Promoting literacy in or out of lockdown is a combined enterprise, involving teachers, librarians, parents, students and the support of government and NGOs.

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For more on the Educational Resource and Development Center Nepal go to [online] www.erdcn.org

For more on Room to Read go to [online] www.roomtoread.org

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Whole-school development during a lockdown: The views of stakeholders

Amit Bikram Sijapati and Tirtha Raj Kandel

Abstract

A three-year whole-school development project (2020–2023) was set up between the British Council and the Kawasoti Municipal Education Committee. This case study reports on the experiences of stakeholders in one school, who were directly benefiting from the programme. The stories of these stakeholders were collected through direct interview and focus group discussions. The study shows the recurring importance of practical CPD, or peer support, distributed leadership and that students will engage with activities that involve solving problems in creative ways.

Introduction

A three-year whole-school development project, involving cooperation between the British Council and the Kawasoti Municipal Education Committee (KMEC), was designed to support stakeholders in 40 community schools in Nepal (British Council, n.d.-a). The project focused on four areas in particular: school leadership, CPD for teachers, active student engagement in projects and clubs, assessment and accountability mechanisms. The aim was to involve leaders, teachers and students themselves in school improvement, and the programme would involve training, mentoring and peer support. When the project got under way in August 2020, it was understood that support would involve blending face-to-face and online learning, but

conditions changed with the lockdown and much of the support ended up online. It was also realised that the programme would have to evolve to have a focus on helping schools in their transition to online teaching. In this chapter we do not want to present a detailed review of the project and its impact so far – that is a much larger and more detailed study – rather we want to use our involvement in the project to reflect on teacher and student experiences of online learning and online CPD. We do this by presenting the voices of some of those involved.

The study

The study is based on the views of stakeholders, all of whom had been involved with the International School Award (ISA) project during lockdown and we interviewed:

- the head teacher of a secondary school located in a semi-urban area
- the school ISA coordinator, a teacher in the school
- a section officer (KMEC).

In addition, we carried out focus group discussion with:

- a group of six teachers from different schools
- students from classes 7 to 9 in one secondary school.

Interviews were semi-structured, covering themes of attitudes to digital technology, significant developments and constraints during lockdown, and lessons for the future. Ethical guidelines were followed, and the names of schools and interviewees have not been given.

Findings

We present key findings from each stakeholder.

The view of a head teacher

The head teacher was an enthusiast for the project in general and talked about training events and student projects which had set a new tone for the school. He himself took an online CPD module on leadership and found this had helped him reflect on learning and develop his pedagogical leadership in the school. He also found the module had led him into a more distributed model of leadership which had been particularly needed during lockdown. He himself lacked experience of online teaching, and during lockdown it was important not only to be responsive to the skills and interest of teachers but to value their knowledge and give them responsibility. He commented:

I have learned new ideas for sharing leadership practice and have devolved the authority to the teachers in different areas after understanding the significance of distributed leadership.

He further mentioned that teachers themselves had taken online modules after school. He felt that teachers who had experienced this training had developed a more child-centred pedagogical practice, or at least had become less didactic. This proved useful when teachers went out to teach in the

villages during lockdown (this was in order to reach those that could not access online classes). He noted that teachers were trying to be participative by involving students in their learning. This was reflected in the language teachers used when explaining new ideas and questioning students about their understanding.

Online tools were very helpful for teachers and students during lockdown, not least because they allowed teachers to communicate with classes and to send resources for learners for self-study. Teachers had gained a basic understanding of how online classes could be set up and how to use interactive features to make online learning interesting and engaging. The head teacher commented that without these online classes they would not have been able to keep teaching and learning going. However, online classes themselves were not ideal. Not all students could join them, and frequent power cuts and connection difficulties made lesson flow difficult. He was disappointed that some of the students would go 'off-task' in ways they would not do in the physical classroom. This was perhaps because it was easy for students to switch their attention to computer games rather than follow a lesson on their device. He noted that students might ask for mobile phones for study, but he suspected they spent more time chatting with friends.

Overall, this head teacher was learning about technology and saw it as useful, but he was himself not a great enthusiast and knew some of the teachers had similar views. Some of this was based on his own experience. He felt the CPD sessions he had followed were valuable, but he would have preferred if they could have been carried out through face-to-face classes and with face-to-face mentor support.

The view of the ISA coordinator

The ISA is a global accreditation scheme recognising good practice in incorporating an international dimension into the work of schools (British Council, n.d.-b). Our second interviewee was a teacher in a secondary school who was appointed as coordinator of an ISA project. He was actively involved in designing and carrying out the range of curricular activities required to be accredited as an ISA school. He enthusiastically shared his learning about virtual collaboration with schools abroad and spoke about how the use of technology had broadened horizons. In the past, the school had not taken part in any international projects, but now his students were conducting collaborative activities with schools from Pakistan, India and the UK. One of the projects he mentioned was ‘Yoga for healthy life’, carried out in collaboration with a school in India. He noted that his students were very nervous when interacting with other students in the beginning, and he had to speak on behalf of them. However, they were now much more confident, and some students from class 9 and 10 were able to run the virtual meeting and interact with the partner school for themselves.

He felt that students would grow into online activity as long as it was interesting and interactive. Of course, online access was always an issue, and he was aware of the difficulties and unfairness this brought. He felt that with more support, he could have involved more teachers in projects. However, he recognised that international projects were time intensive. Overall, activities he had undertaken had offered gains to students and had given him learning opportunities as well.

The view of the section officer (KMEC)

The official represented the municipality authority in this programme and was involved in all aspects of planning the

project. He found that the schools in the municipality had developed online learning effectively. He noted that prior to lockdown only a small minority of students had email addresses and the use of ICT tools in physical classrooms was negligible, but now almost all teachers had email and they were using online tools to teach and share tasks. He believed that teachers had created action research projects, and many of these had shown creativity and imagination as well as confidence in using digital tools. However, he observed that teaching in lockdown, and engaging in intensive teacher development, had put some teachers under considerable pressure, and this had to be addressed if innovations were going to be sustained after the pandemic.

The views of teachers

Overall, teachers appeared enthusiastic about the CPD offered and found it impactful ‘even though it was conducted online’ – and, as with the head teacher, they would have preferred it to be face-to-face. But the content of the CPD was more important than the means by which it was delivered, and they particularly valued examples and models of teaching that could be directly implemented in the classroom. One impact on the training was that teachers had a heightened sense of the importance of eliciting ideas from students in order to engage them in lessons, rather than simply giving them the lesson content. One teacher explained how she was able to take this approach and apply it to online learning so that she had started organising students in groups and giving them discussion tasks. Another spoke about using strategies like ‘think, pair, share’ to support students’ collaboration. Motivation was a key issue when it came to teacher development. One teacher explained that, at first, she could not connect to a Zoom CPD session, and when she did, she was not engaged in the event.

Only later when she could see the direct relevance of what was being covered in the online training did she get more from it. The stability of the internet and access were key problems in taking ideas and putting them into practice online. There was also a tension between the need to cover a scheme of work that had been organised for a physical classroom and adapting it to an online setting.

The views of students

Students were aware that some teachers had tried to be more interactive in online lessons, and one said that a science teacher had engaged them by asking them to design their own PowerPoint slides and present in front of the class. Some of the students said that teachers had started dividing them into small groups and asked them to come up with their own ideas. This they enjoyed, but they also mentioned that they were covering too much material 'in order to finish the course'. In talking about alternatives to online learning, some found educational programmes on FM radio were helpful. One mentioned a programme that had covered aspects of science and presented this as a story. From his perspective, radio programmes had a focus on learning rather than teaching, and the 30 minutes that the programmes last lasted by.

Most of the students stated that they knew about the ISA initiatives as well as the Microbit challenge (this is an international project designed to promote computer coding for students aged 8–18 by tackling global problems with practical solutions to simulated problems (BBC, n.d.)). They were enthusiastic about learning which involved practical problem solving, for example working out the cost of a building through measuring the size of the walls and costs of raw materials, and ones which involved creativity in devising

solutions. The Microbit challenge was a good example of this, as they could learn and use coding to control a device in many different simulated settings. Further, some of them were involved in international links with students from Pakistan and India, tackling projects on topics including health sanitation and the environment. Talking to students abroad was engaging, and they could see how similar students were in these countries and what they shared. Being involved in ISA projects was a new kind of learning to them.

Lessons learned

Of course, there are always going to be diverse opinions on teaching and learning, and there were diverse experiences in the schools included in this study. Yet there was also a strong degree of overlap in the views of the stakeholders, and these are summarised around views of online learning, CPD, student experience and school improvement.

Online learning:

- Online classes were needed to provide students with continuity in their learning and their everyday socialisation during lockdown.
- Alternatives to online learning were needed to address some students' lack of access. These included visits to villages and the use of television and radio.
- Online learning could be an effective way to cover a scheme of work. Online lessons could be carried out in a didactic style, but they could also include more interactive teaching styles, including small- and large-group discussion.
- Online learning came into its own when it allowed students new experiences they could not have otherwise, for example participation in international projects.

CPD:

- Short courses provided practical models for teaching. The design of CPD was more important than whether it was taught online or face-to-face.
- Short courses on topics such as questioning or interactive teaching styles could prove useful for teachers working in both online settings and physical classrooms.
- Most teachers were able to teach online and, at the least, were able to deliver the style of lesson they were used to teaching face-to-face. However, with peer support, teachers could be encouraged to exercise creativity and imagination when teaching online.

Student experience:

- Projects which involved practical problem solving and collaboration across schools were particularly valued.
- Students were aware that teachers were trying to involve them more in lessons, but could become distracted when online.

Challenges to school improvement during lockdown:

- Access to digital devices, and reliability of connections, was always an issue and one that could not be solved at the school level.
- Online learning sometimes came into its own, but it was not as engaging or easy to run as face-to-face teaching for many students and teachers. They wanted to get back into physical classrooms.
- School improvement imposes stress on some teachers and there was a difficult work–life balance to maintain.
- There was a tension between using technology for international projects and working to a pre-existing curriculum or scheme of work.

We learned from this study the recurring importance of practical CPD, or peer support, distributed leadership and that students will engage with activities that involve solving problems in creative ways. We learned that online learning is a viable solution to keep learning going during lockdown but does not provide a ‘magic wand’ to solve practical and pedagogical problems.

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What I learned about leading my school during lockdown

Sunita Swar Suri

Abstract

The waves of school closure and reopening have demonstrated how important good leadership is in order to maintain teaching and learning using all possible strategies. This study reflects on the actions of myself as a leader of a school and the voices of staff, parents and students, centring on their experiences of teaching and learning during the Covid-19 pandemic. The study is based in the semi-urban setting of Far Western Nepal, where students from diverse socio-economic and geographical backgrounds live. The data was collected using focus groups and interviews. The findings are organised around the themes of stages in development, the importance of communication, and the enduring importance of caring, connection and compassion.

Introduction

Leadership is one of the most crucial elements in the success and failure of the education system at every level. The response to the global Covid-19 pandemic has shown the role of educational leaders more clearly than ever (David et al., 2020). However, the people we find in the role of leadership are not necessarily inherent leaders. They tend to grow into roles, but the path can be hazardous and leave gaps (Kruse et al., 2020). Likewise, crises such as school lockdown do not appear by prior

appointment, and leaders are tested as they adapt – sometimes succumb – to events (Gnawali, 2020). On a personal level as a principal, I found leading a school during Covid was challenging, at times sad as I heard about the impact of the pandemic on people's lives, but it was always professionally engaging. In this chapter I reflect on the actions of myself and my school during the lockdown and hear the voices of my staff and of parents.

Researching my school

My secondary school is situated in a semi-urban setting which accommodates students from diverse socio-economic and geographical backgrounds, with a noticeable number of students from Tharu – an indigenous community of the far-western plains of Nepal. My study draws on my notes during the lockdown and on two focus group discussions with, first, students and, second, parents and a round of interviews with staff (Table 1). These were open-ended discussions, with the data later organised around three key themes as reported in the findings.

Table 1: Interviews and focus group discussions carried out. Student Council members are students in Grades 8, 9 and 10; parents are randomly selected. All names have been changed.

Focus group discussions		Interviews
Student Council members	Parents	Teacher participants
Rita	Mr Shahi	Ms River
Sita	Ms Chaudhary	Mr Shiva
Hitab	Mr Bhatta	Mr Deep
Ishu	Mr Bhandari	
Anita	Ms Chand	

Findings

The findings are described around three key reflections on the experience of leading the school during the Covid lockdown. These are that responses come in stages, communication is core, and caring, connection and compassion are enduring values.

Responses come in stages

The first focus of my reflection was the sequence of events. As an early response to this global crisis, the Ministry of Education, Science and Technology, the Government of Nepal, issued a brief notice on 3 March 2020 that said all year-end examinations should be conducted in March and all educational institutions were to close by 15 April. In response to this notice I could identify a series of stages in my school's planning and implementation of our responses: laying a foundation; engagement; integration and a move back to face-to-face; integration and a move back to online learning (see Table 2).

- Laying a foundation covered the planning for the response to school shutdown and meant helping teachers get ready for online teaching and identifying leaders who could support their colleagues.
- The second, engagement, phase covered the period when teachers got started with online classes, but more support was offered and demonstration classes proved particularly useful. It was felt that preparing teachers was not a one-off event but rather a series of events supported through conversation between teachers.
- Phases three and four covered integration. Here the school was able to provide both online learning and other support with a degree of confidence and we could slip into and out of online teaching as circumstances changed, according to government guidelines. The online programme became integrated in that many of the activities we carried out as teachers – teaching and assessment of students, monitoring well-being, showing presence – became a matter of routine even as our physical school remained closed.

Table 2: Timeline of stages in response to Covid-19 pandemic measures

What	When	Key events
Laying a foundation	March–April 2020	<ul style="list-style-type: none"> • Dissemination of Covid-19 awareness messages • Evaluation of tech readiness • Launching of MOOC campaign to motivate teachers and students to be familiarised with online learning • Workshop ‘Alternatives in education: use of technology’ • Mid-level leadership engaged
Engagement	April–July 2020	<ul style="list-style-type: none"> • Further training events with UK partner school • Collaboration, mentoring sessions with US volunteer consultant, real class observation opportunity • Workshop for virtual class lesson planning with a demonstration class • Dissemination and induction meetings with parents and students • Virtual learning programme formally announced • Classes run alternate days (three days a week with a further day for assignment and attendance tracking)
Integration and move back to face-to-face	August 2020 – March 2021	<ul style="list-style-type: none"> • Virtual classes now five days a week with further day for reflection and progress discussion • Online exam introduced • Parent meeting and survey to identify parents’ opinion on sending children back to physical school • Classes resumed with combination of online and in-person activities [Grades 8–10 and students with accessibility issues attending physical classes] • Whole school moved back to physical mode and term-two examinations • Support programmes launched
Integration and move back to virtual classes	April 2021 – present (September 2021)	<ul style="list-style-type: none"> • Second wave of Covid-19 and announcement for all classes to move back online • All classes and administrative operations shifted to virtual [weekly worksheet package and one-to-one telephone meeting for students with accessibility issues] • Final exam – online and results announced • New admission – registration started for AY 2078 • Learning clinics [students visit school (once a week) and meet their teachers one-to-one]

Table 2 makes clear the importance of not asking teachers to leap into online classes without some modelling of lessons. The interviewed staff commented on the importance of planning and that teachers should be prepared and supported. As one noted:

It would have been little overwhelming to follow the plan if madam had not created a safer environment for us to ask our queries, concerns. She wanted things to be accelerated but also made sure we are equipped. (Ms River)

This quote illustrated that many teachers felt preparation for teaching online needed to cover more than training events and that there should be spaces in which doubts and worries could be raised. In fact, teachers had several worries. One worry was that students would know more than teachers did about the technology. Mr Deep commented that:

Students are finding ways to access information and educate themselves and such advancements pushed educators to raise the bar even higher when it came to coaching children in addition to subject-specific content and skills.

This quote illustrated that being a teacher meant knowledge of subject matter; knowledge of the curriculum gave teachers their authority in the classroom. However, pedagogical knowledge, in particular how to access information online, was also important. Without it the fear was that teacher authority might be diminished. Mr Shiva echoed this concern:

There was a time when I went through an anxiety of thinking that I might not be sufficient or good enough to progress to the next level or knowledgeable enough [to teach online].

There were tensions, but at some point we as a school really did have to get on with it, for after a certain point, confidence could only come through practice. As one teacher put it, it was important to 'release responsibility gradually', but release it nonetheless.

The importance of communication

Leadership is, then, not just about telling others what to do but giving permission for them to raise their doubts. Communication was vital throughout the lockdown, and as a leadership team we needed to listen to teachers and identify teachers' knowledge and skills and understand their decision-making process, team working, critical thinking and problem solving. One teacher commented that:

We were able to share information about our daily priorities and ask questions about how certain decisions would affect the other plans throughout this period. For example, at the daily morning and evening briefing, the principal madam provided information about the daily schedule, changes in plan, cancellation giving middle leaders plenty of time and forewarning to make further decisions. (Mr Shiva)

Teachers had concerns about students' well-being and not just their learning. We tried to address both physical health, in particular by explaining the nature of Covid-19 and what safety measures were needed, and also students' mental health. This was picked up

by one teacher discussing an alternative award ceremony. Mr Deep explained:

Many of the students expressed their frustration at having to cancel all family celebrations, festivals. With [the] great support of our Students Council, we arranged award ceremony and some fun based activities virtually like poem contest, exhibition of scientific invention and other competitions virtually, with fancy dress, extempore, drawing, and cooking.

Communication with parents was important throughout. Parents were needed to support their students, but most had little knowledge of online learning on which to draw. As one student noted:

Due to uncertain lockdown our parents were really worried about our studies. When the school made an announcement of virtual learning, my parents were both excited and gratified but they were worried about their ability to support us. (Rita)

As a school we needed to know which parents had access to communication technology and hence which students could access online learning. As Mr Deep explained:

We tried to understand the situation seriously; we carried out several telephone surveys and categorised students on the basis of their technological and psychological readiness and we designed the learning support package accordingly.

The survey revealed that most parents were keen to support their children, though many did not have access to the internet and some relied on digital mobile phones. Thus, SMS and messages through WhatsApp or Messenger were a key part of the school response to engaging in contact with parents and pupils. Some students were able to go fully online, but some students were unable to access online classes at all (see Table 3), and this was the thinking behind allowing hard-to-reach students back into school as a priority when this was possible.

Table 3: Result of a survey into students' access to technology (April 2020). The data is rounded to the nearest five per cent.

Category of access to technology	Percentage of parents
Parents with Wi-Fi and smartphones/laptops and able to engage their children in online learning right away	15
Parents with Wi-Fi and smartphones/laptops and ready to arrange access to online learning when possible	20
Parents with smartphones but no Wi-Fi willing to engage their children to online learning using pre-paid data	25
Parents with Wi-Fi and smartphones/laptops but not sure about virtual learning	10
Parents with smartphones only but limited access using pre-paid data	10
Parents with digital phones, willing to support their children's learning but not knowing how to do so	15
Not able to contact	5

Overall, it was essential to involve parents in the response, as they were the ones needed to organise students' access to devices and to answer questions and support their children. The school established virtual meetings once a week to keep a line of communication with parents and to encourage them to support their children. One parent noted:

We are so grateful that our principal madam produced social-emotional support tools for parents, and she established a virtual platform from the very first week of lockdown to provide a common forum to communicate and share the tides of our personal and professional life. (Ms Bhatta)

However, communication could not rely solely on mobile phones and the internet; physical meetings were important, though this needed to respect physical distancing. One member of the parent focus group explained:

Teachers looked for ways to go to our houses and stand on the border to talk to children and parents. (Mr Bhandari)

Caring, connection and compassion

The focus groups covered themes of resilience, trust and respect, awareness of self and others, and inclusion. The clear picture emerged that staff and students saw teachers' values and commitment as key to keeping the work of the school alive during lockdown. Mr Deep explained:

We have realised a school is not just an institution to impart education and accredit a formal degree, it can also extend support for overwhelmed and isolated families and students as

community leader, our principal placed a high value on getting to know each child individually and on establishing and maintaining interpersonal communications with parents.

However, working with parents and families could create emotional strains for teachers:

Care and compassion was a primary need. My heart goes out to some students and families when I recall the time of first quarter of lockdown, it was around July 2020. We found some cases, really pathetic cases particularly two suicidal parents who required regular social and emotional care. (Ms River)

I felt these strains as school leader as well and needed the support of others. I connected with a network of other school leaders, and this was one of the most important support mechanisms for me. I felt grateful to my friends, especially the ones who understood the challenges I was having and offered suggestions, were encouraging and helpful. Connections like this made me feel as if I was not alone.

Faced with lockdown we all had to keep on going and this was not just about covering the curriculum but staying connected and feeling a sense of balance. One student commented:

The virtual learning programme has provided us an easy platform and safer environment to express our mind. By connecting to our teachers and classmates on WhatsApp and Messenger groups we can approach for help anytime. (Ishu)

However, parents noted that their children missed meeting other children at school and everyone wished schools to reopen as physical sites for learning as soon as was possible. Physical meeting was vital for academic and emotional growth. Meanwhile, parents were being asked to take on additional roles: a supervisor for learning, counsellor, mentor and guide. Some parents described supporting their children's well-being through joint yoga and other physical activities, while others suggested family dance time, playing snakes and ladders, carom board, role plays or anything that involved a refocus on having fun.

Teachers are often parents too and had their own stories of balancing family needs with their teaching. Some would feel overwhelmed and burned out at same point, and school leaders needed to understand these pressures. Children too needed to understand what their parents were going through.

Lessons learned

My experience as a principal during the Covid-19 pandemic is that it is possible to maintain the work of the school through planning and flexible delivery of learning, through taking care over planning and implementation, through communicating with all stakeholders and through remembering professional values of care and compassion. It is not possible to get everything right, but we can learn as we go along. There are some smaller take-away points behind this big picture.

- We never know when, where, in which form crises will pose a threat to education. We as leaders and teachers need to work in 'normal times' to create a school with funds of goodwill and

professionalism on which to draw in times of emergency.

- School leaders cannot do it by themselves. Parents, teachers and, of course, students need to work together. Beyond our own school, there needs to be good communication with other schools, professional associations, local authority and federal education bodies.
- Online learning is an important way of keeping teaching and learning going, but it is not the only way and it is not going to work for everyone.
- Teaching the curriculum is important, but so is a focus on children's, parents' and teachers' physical and mental health.
- Planning is important, but at some point you just need to try things out and see how they go.

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