Digital Capacity and Education in the Time of Covid-19 in India

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Abstract

Given the impact of the global pandemic on educational institutions around the world, this article aims to describe current educational realities in India in the time of Covid-19. The article begins by situating the author’s practice and research, particularly that which is centred on digital technologies in the classroom. The article then provides data around access to education and to digital capacities in India, reflects on the impact of Covid-19 on education, and explores creative approaches to address gaps in access and processes for primary and secondary education in India. Solutions include more—and more equitable—access to internet and mobile services; professional development for teachers on differentiation, inclusive practices, and social-emotional learning; wrap-around services for families and communities; and creative partnerships with institutions of higher education.

Keywords: India, Covid-19, digital technology, educational access, professional development

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As a scholar and practitioner, my disciplinary home is Education writ large—the realm of teaching and learning. Within that broad arena, my scholarly endeavours have branched into several inter-related areas: literacy development; intersections of technology and education; and teacher education, including inclusive ideologies. Although seemingly disparate, these foci have allowed me to dig deeply into pedagogies and practices that enhance learning and teaching and have crossed international boundaries to include projects both in the US and in India.
They have emerged responsively from contemporary challenges in the field of education.

Specifically, in 2009 the research for my PhD centred on the fluid boundaries and intersections between in-school literacy practices and social and digital media in the US. That work provided some initial probing into the “haves” and the “have-nots” of technology for 21st century students, particularly Millennials, pre-Generation Z (Dimock, 2019). It also captured the importance of relationship-building between teachers and students, grounded in a critical social constructivist model, as the most effective way to establish effective learning environments in classrooms (Charles, 2009).

Subsequently, my work in India during my Fulbright Award in 2016 revolved around these topics: inclusion and disability, literacy, and teacher education. I was often called upon to provide professional development and expertise, and I later formulated an in-depth two-year research project with an Indian colleague, studying disability and inclusion in Indian schools. Our research led to an article in an international journal (Charles & Padhy, 2019) and conference presentations.

I often say, “I was not born in India, but India was born in me.” I feel a spiritual tie to India that is difficult to explain; even my name, by happenstance, is common in India. Three of my five children are from India, and I have been blessed and humbled through the privilege of parenting these children. During my previous Fulbright experience, I gave college lectures, workshops for teachers, and invitational addresses at conferences on topics such as Inclusion, Learner-Centred Pedagogy, and Literacy, and made countless visits to area schools.

In May 2019, I was invited as a scholar on the topic of cell phones in classrooms to be a guest on a nationally-televised (US) special with Diane Sawyer, called “ScreenTime” (ABC, 2019). I stressed the value of formulating strong relationships, of differentiating our reactions and responses based on contextualized realities and knowledge, and of growing with the times to acknowledge both the benefits and challenges of ever-newer technologies in the hands of our young people. Technology—including hand-held devices such as cell phones and tablets—have the capacity to adapt to individual learners across age groups, to provide supports and tools for those with disabilities, to enhance language learning, and to allow for increased communication.
and innovation. Teachers and students can learn together to leverage technology in and out of classrooms, such as using interactive learning apps, accessing databases of information and research, exploring new approaches to literacy and maths, and developing curricula that encourages divergent creative and collaborative work. (See, for example, Hicks, 2011; Velasco, 2018).

Technology and Learning

Even before Covid-19 appeared on the scene, students across the world had uneven access to technology that might be leveraged for learning (Marshall, 2019). In particular, children and youth from marginalized populations, those who have historically faced “opportunity gaps” (Great Schools Partnership, 2014) due to economics, race, gender, or disability, have faced more challenges in school due to that lower access. A 2011 report found that “well-documented” inequalities in education create poor ratings in the global human development index (Dehejia, 2011, para 7). Almost half the world’s population does not have access to the Internet, a “fundamental enabler of human rights” (Brown, 2020, para 4).

In my study (Charles, 2009), it was clear that US students from higher socio-economic homes had more and better access to technology and were able to leverage it to amplify their learning, whereas those with less access struggled across their academic programming. Note that this relationship is not causal, but correlative—those who had access to technology also had access to social, cultural, and financial resources and circumstances that encouraged academic learning.

India Context

In the past decade, pre-pandemic, India developed a series of reforms that have improved enrolment in primary and secondary schooling. In fact, according to Vegas, Shah, and Fowler (2021), “India achieved near universal enrolment of 96 per cent at the primary level by 2016 and made notable progress in expanding access to secondary education to different segments of the population” (p. 4). Despite this good news, pre-pandemic access to educational technology and tools in Indian schools and households was limited and uneven.

Because India comprises both rural and urban areas and is demo-
graphically diverse, literacy rates swing widely depending on town and district. According to 2011 census data (Census Population, 2022), India has an overall literacy rate of 74.04 per cent, below the global rate of 86 per cent, with state literacy rates oscillating from 61.8 per cent (Bihar) to 94 per cent (Kerala). In addition, literacy rates in India vary based on urban/rural identifiers with urban areas reflecting higher rates of literacy, and on gender demographics with higher rates for males than females. The literacy rates for Mumbai, Delhi, and Kolkata agglomerations are all higher than the national urban average of 85 per cent. However, in exploring a single example, disparities emerge: West Bengal’s literacy rate is 76.26 per cent; the city of Kolkata has a rate of 87.54 per cent; yet the district of Birbhum comes in at 61.48 per cent. It is easy to get lost in the numbers, but they help to point to the reality that India has vast divides of resources (including technology), education, and opportunities across many factors and demographics.

Technology in India

Agrawal (2018) delves into the remarkable and somewhat sudden pre-Covid surge of handheld devices to transform various aspects of society, including the education sector. He writes:

> India’s experience seems unique: ...800 million under the age of thirty, hungry for opportunities; a country with dramatically unequal access to telephony, electricity, transport, education, healthcare, and water... In no other country will access to the internet bring about a change so vast and deep, for so many people, and so quickly. In no other country does it have as much potential to disrupt centuries of tradition and barriers of wealth, language, caste, and gender... [These shifts] will have a profound impact on the lives of India’s poor (p. 7).

In India, as in many countries in the global South, mobile devices with data plans far surpass broadband internet connection. Handheld cell phone use has exploded in the past few years and continues to increase, penetrating remote rural areas in ways that broadband cannot. The following chart (Figure A) illustrates this phenomenon for India (Roser, Ritchie, & Ortiz-Ospina, 2015).

Cellular subscriptions (the right side of Figure A) show percentages beyond numbers of Internet users for a couple of reasons: (1) Some people have more than 1 cell subscription (see 120 per cent of the population
for the US), and (2) cell access may not include smart phone internet capacity. In India, about 30 per cent of the population has Internet access, as compared to about 75 per cent in the US (Roser, Ritchie, & Ortiz-Ospina, 2015).

There is little question that mobile technologies can help to close the digital divide around the world, including (perhaps especially) in developing countries (Banks, 2008; Radovanovic, 2014), and with effective planning and support (Ally, 2008).

However, with its dubious distinction of the “Internet shutdown capital of the world,” with 280 shutdowns since 2019, India faces frequent suspension of telecom services, including fixed-network and mobile services. Not surprisingly, these shutdowns vary widely state by state, ranging from zero or one shutdown in some states (particularly southern ones) to 319 in Jammu and Kashmir since 2019. Other states include: 5 shutdowns in Odisha, 12 shutdowns in Maharashtra, 30 in Uttar Pradesh, and 78 in Rajasthan, to name just a few. These shutdowns have a significant impact on the economy, personal freedoms, healthcare services, and access to education (Qureshi, 2021; SFLC.in, n.d.).

Covid-19 and Education in India

With the onset of Covid-19, we are all cognizant of the significant negative impact of the pandemic on schooling around the world. Not only are children dealing with disruptions to vital academic and social on-campus experiences, but they are often in challenging circumstances
in homes that may not have adequate resources. Children and youth with marginal or no access to on-site learning must by necessity rely on internet capacity and mobile devices to continue their learning. This reality also means that teachers must find new and creative ways to embed and encourage learning through technology-connected devices (Martinez, 2020).

As of this writing, India has had more than 35 million confirmed coronavirus cases, with several million more likely unreported (Chow, 2022), creating or sustaining widespread lockdowns, curfews, and curbs across the country (India Today, 2022). Covid-19’s impact on education in India affects 320 million students, many of whom are without internet access in an “immense digital divide” (Sahni, 2020, para. 1). Given this digital divide, children from Economically Weaker Sections are also at high risk of missing out on educational opportunities. As one director of a sponsorship and family services centre explained in conversation, the impact on schooling and services due to Covid-19 is “very traumatic to these children.” She further stated that the children in grades 8 and 9, who are “trying to figure out what to do with their lives,” are in a state of depression and anxiety (Personal Communication, July 8, 2020).

In a recent study on Covid-19 and school closures in India, researchers Vegas, Shah, and Fowler (2021) discovered distressing realities. They write, “Alarmingly, 1 in 5 children in our sample were enrolled in schools that do not offer any remote instruction during the school closures, and even among the children whose schools had begun remote instruction, only slightly more than half attended all the classes” (p. 2). This study in Chennai, Tamil Nadu, by means of phone surveys of 201 households (with 271 primary-school-aged children), discovered vast socio-economic differences in access to digital devices and educational activities.

Possible Solutions

**Better Access to Internet and Mobile Technologies**

First and foremost, one obvious solution to the challenges of education in India in the time of Covid-19 is to provide more—and more equitable—access to both internet and mobile services around India. One upside to this terrible pandemic may be the realization that all schools and school-aged children need access to reliable digital technology that provides
educational content and pedagogy; it is no longer a privilege afforded to the well-to-do, but a fundamental component to the fabric of society. This greater accessibility can be achieved through the use of digital hotspots; fewer government shutdowns of the internet in part through a better legislative framework, parameters and safeguards (Qureshi, 2021); and distribution of hand-held devices to families in all geographical areas and socio-economic circumstances.

There are possibilities for learning to happen through online applications and tools, and India has a variety of possible platforms and tools. (See, for example, Ali, 2020; Chaubal, 2011). In fact, the Indian government has an app of its own offering “e-books, audio files, and videos on all subjects for primary and secondary school students” in addition to testing support “in order to catch up with their syllabus in school” (Ali, 2020).

Strong Educational Processes

Access is only part of the challenge, however. We must also ensure strong educational processes—innovative pedagogies, present teachers, and a focus on social-emotional learning—and data-informed outcomes. In my own work in India, I have travelled to schools and programmes to offer workshops and roundtable discussions on topics of understanding differences, inclusive practices, differentiated instruction, and literacy development. In today’s world, more than ever in light of the emotional toll of the pandemic, teachers need professional development on Social Emotional Learning. One outstanding framework is provided through the Collaborative for Academic, Social, and Emotional Learning, or CASEL. CASEL’s model is that of a “wheel,” with concentric circles of context centred on a hub of five key competencies: self-awareness, self-management, social awareness, relationship skills, and responsible decision-making (CASEL, 2022). Based in ample research, this model is readily accessible with additional tools and resources to successfully implement it at any age or grade level.

Similarly, educators can enhance both academic growth and social-emotional well-being by building responsive classrooms, whether virtual or in-person. Educators must work to create not only accessible classes, but ones that are safe, joyful, and engaging. Again, one model, with ample resources, to consider is Responsive Classroom (2022).
Wrap-Around Services for Families

Families also need support, both in terms of resources and of services. An example of one organization providing “wrap-around” services for families in these challenging times is the Study Hall Educational Foundation in Kolkata. When Covid-19 closed down schools in India, the Study Hall Educational Foundation (SHEF, 2012), with a “digital study hall” hub in Kolkata, was able to connect with about half of their students via mobile phones (Sahni, 2020, para 3). In this case, once basic needs were met, the teachers galvanized an army of digital volunteers in the communities tasked with sharing the information on their devices to students without access to technology. To reach those low-tech students, teachers used voice messages, text messages, and phone calls. For high-tech students (i.e. with smartphones), teachers sent longer videos and used WhatsApp groups for discussions. To reach girls, most of whom had no access to phones, teachers even called fathers to ask how they were doing and to enlist their support for their daughters’ education (Para 5). This organization urges schools to (a) address the digital divide, (b) develop strong relationships grounded in lived realities and creative thinking, and (c) empower teachers. They argue, “Digital capabilities, the required infrastructure, and connectivity must reach the remotest and poorest communities. Access to technology and the internet is an urgent requirement in the information age” (Sahni, 2020, para 6). This organization was prepared to step up to meet the digital demands of school closures for the most vulnerable students.

Partnerships Between Higher Education and K-12 Education

Another creative approach is to consider virtual collaborations between primary or secondary schools and institutions of higher education. For example, I have established virtual “field placements” for my undergraduate students at Bates College in Maine (USA) in classrooms around the world, including South Korea, France, Iceland, and India. These 8 to 10 week partnerships have been successful in assisting classrooms in India and beyond, through assistance with lesson planning, engaging conversations, projects, and one-on-one tutoring, and they exist entirely online.

Conclusion

As the largest democracy in the world, India has strong policies in place
that aim to ensure effective education, including the Right to Education Act (Ministry of Human Resource Development, 2019), the National Policy on Information and Communication Technology in School Education (Ministry of Human Resource Development, 2012), and the Persons with Disabilities Act (Ministry of Law and Justice, 2016). The country has a robust system of government-run and private schools, and strives for high rates of literacy and university entrance (AngloInfo, 2020). Internet connectivity is rapidly increasing across the country. Despite these efforts, the reality of schooling in India sometimes belies the intentions of the policies, particularly in this current pandemic. Pupil-teacher ratios remain high; many children are not—or do not remain—in school; gender and socio-economic disparities continue; and literacy rates in some areas remain low (ASER, 2020; UNICEF, n.d.).

In these times of Covid challenges, children are in dire need of supports to access education and to succeed in both virtual and in-person environments. Children and youth in India (and around the world) are faced with challenges of internet and mobile access, social-emotional impact, and loss of schooling. There is an urgent need for equitable and far-reaching access to mobile and internet technologies, and to strong educational programming. Teacher professional development will enable teachers to gain additional knowledge and skills around building responsive classrooms, and families can benefit from “wrap-around” programming that allows them to be active partners in their children’s education. Despite the daunting challenges, schools and programmes for children and youth must think outside the box to develop engaging educational opportunities for both social-emotional and academic growth.

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