Transforming Education through Technology: The Case of COVID 19 Digital Learning in Nagaland

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ABSTRACT

Through the perspective of the COVID-19 pandemic and the disruption and opportunity it engendered, this chapter follows a transformative effect of EdTech and Digital education in India particularly in Nagaland through analysis. Drawing upon national policy frameworks, conceptual literature on educational technology, and contextual evidence based on the case of Nagaland, the chapter considers the rapid migration to digital learning as an emergency strategy (in response to the ongoing institution closures) based on the stark shifts in pedagogical practice, access to education services, and preparedness. The findings show that, including the ability of national programmes such as NEP 2020, SWAYAM, DIKSHA, PM e-VIDYA, and others, to promote access to digital tools was low within periphery or hill areas (e.g., Nagaland), due to lack of infrastructural resources, digital divide, unprepared teachers and economic/social divides, and more. The pandemic exposed the deep social and infrastructure divides in connectivity, device availability, assessment and learner engagement, with implications that were especially grave in rural and tribal settings. Although it accelerated the pace of innovation and the application of blended and low-tech learning practices teachers have been experimenting with digital platforms and the post-COVID recovery process, including remedial programmes and hybrid instruction. The chapter also discusses that blended learning is the most fitting, viable and sustainable approach for reaching the technological level in the field of educational technology at Nagaland. It implies that technology-mediated education can improve equity, quality, and resilience, but only under the conditions of inclusive policy design, strong digital infrastructure, vigorous teacher capability building, and culturally appropriate digital content.

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1. INTRODUCTION:

Education around the world is witnessing large-scale change in order to access, communicate and construct knowledge through new digital technologies. Educational technology including digital devices, virtual environments, and online technologies has emerged as part of education on a global level (UNESCO, 2020). Fast-paced development of information and ICTs has drastically reformed education worldwide. EdTech, generally known as educational technology, includes digital products, services, and teaching methods which are aimed at improving teaching and learning. In the developing world, technology is particularly promising

with respect to the longstanding challenges of access, teacher availability and regional inequities (Selwyn 2016). Policies and ICT investment have led the way in the recent decade on the digitization of education in India. According to the National Education Policy (NEP), 2020, technology integration is significant for quality improvement, access and lifelong learning (Ministry of Education, 2020). In Nagaland, a landlocked difficult terrain where the population is scattered and infrastructures are limited, digital learning offers challenges to them but also great opportunities. This chapter look at how the face of learning among the Nagaland people is shaping through educational technology. It situates digital learning in the state's political and socio-cultural underpinnings, and explores its possible consequences for equity, pedagogy and institutional practice. By focusing on Nagaland as a case study, the chapter aims to add some value to the existing debates on the role of technology-mediated education in the peripheral and hill regions of India. Also the COVID-19 pandemic was a landmark event, ushering in an era of enhanced student learning experiences, forcing institutions to deploy online education and remote learning at an unprecedented level (UNESCO, 2020). The nationwide lockdown that began in March 2020 closed educational institutions in India at every level and accelerated an adaptation to digital modes of delivery over traditional classroom instruction. While metropolitan and technologically advanced regions adjusted relatively rapidly, especially the North-Eastern states such as Nagaland, geographical locations, digital infrastructure, and socio-economic status posed unique challenges. In any case, the crisis provided openings for innovation, policy reformation, and re-focus on digital inclusion. This chapter also explores the post-COVID educational transformation that technology can create in Nagaland as well as institutional responses, technological initiatives, and early adoption approaches to digital learning, critically examining the challenges and potential to realize sustainable integration of educational technology in the state.

Conceptual Framework: Educational Technology and Digital Learning

Educational technology is the process of utilising technological resources in a systematic manner to support teaching, learning, and educational management (Roblyer & Hughes, 2019). Digital learning, a subset of educational technology, involves the use of digital platforms, online resources, and multimedia tools to facilitate instruction and learner engagement (Means et al., 2014). In that sense, the transformative power of educational technology comes from being able to:

- Enable use of high-quality learning resources across geographical boundaries;
- Facilitate individualized, self-paced education;
- Encourage peer and interactive pedagogy; and
- Offer continuing professional development opportunities for teachers (Kirkwood & Price, 2014).

Yet digital technology implementation depends on the conditions enabling learning to succeed which include stable infrastructure, qualified instructors, preparedness in institutions, and enabling policies. In settings characterized by digital divides, technology exacerbates inequalities when access and capacity-building are not equitably distributed (Warschauer, 2004).

In general, the education sector as a whole has been radically impacted by fast-developing information and communication technologies. Digital technology in knowledge and learning became a new means of access and quality improvement, and a tool to convert the teaching–learning interface in India. There is a potential digital transformation of sorts in Indian education system; with an emphasis on virtual education in classrooms giving more benefits for all as well as equal opportunities for education so that digital learning is available and equal education. Digital learning is supported by digital tools and platforms to guide teaching and learning. EdTech has its applications: online instruction, the teaching and learning technology itself; management system, mobile learning applications and learning management systems; virtual classroom; mobile application for virtual classrooms; AI-based tutors and multimedia materials on-demand learning systems. While India, like other parts of this story, has seen some success, such advances can be ascribed also to an impressive level of digital nationwide initiatives, with the widespread use of smartphones and internet, among other things: India's government policy and institutional support have been a major impetus for digital education. Digital India, SWAYAM (Study Webs of Active Learning for Young Aspiring Minds), DIKSHA (Digital Infrastructure for Knowledge Sharing), e-Pathshala and National Digital Library of India are the principal national initiatives made use of to drive up online learning with online resources and online study resources becoming available. As per NEP 2020, technology integration in every area of education such as electronic platforms, virtual labs, adaptive learning, as well as training of teachers on information and communication technology (ICT) are the main focus areas. The COVID-19 pandemic has created a rapidly growing digital learning ecosystem in India. Schools and universities were shut down in long lockdowns, online classes provided a way to send millions of students off to university and online classes were the only mode of learning. The persistent availability of online tools like Zoom, Google Classroom, Microsoft Teams, and other EdTech apps provided continuous learning. The emergence of platforms such as Zoom and Google Classroom, as well as Microsoft Teams and a slew of EdTech apps, helped to preserve continuity in learning despite the unparalleled turmoil in education at any time. This sudden turn resulted in accelerated development of e-learning for educators, even while accelerating teachers' and students' digital literacy, and technology-mediated education in bridging both geographical and temporal gaps between cultures. Digital learning is awesome for the Indian education system as a whole. It improves the accessibility of quality teaching content to students, and the quality of the education content specifically to the students who have no qualified teachers and to remote and regional schools. The relevance of online courses / Massive Open Online Courses (MOOCs) can facilitate self-paced flexible learning; to learn newly necessary skills according to the demands of industries. Educational technology (e.g., multimedia, simulations and interactive media) can make educational technology learning more enjoyable, more person-centred, more effective, and help us to better understand and recall. It does this while making learning more learner-driven with personalised learning and data-driven technologies facilitate personalized learning by personalising course content, based on different students' learning profiles and performance.

Nevertheless, challenges to digital education transformation in Indian education still lay before the success factor however on both sides of it there are many potential issues to manage. Top concerns: 1) The issue is the digital divide unable to get access to internet/devices equally to everyone or lack thereof and the capability of schools to overcome it. Poor children from poorer communities, remote spots and disenfranchised communities are often the ones who can't find access (or learn) online. Language obstacles, lack of regionally specific digital content and provision of infrastructure in government schools also increases these disparities. Teachers also require periodic training regarding technology integration into their pedagogy and assessment. Digital education and the introduction or management of quality and control are other problems of concern. This leads to a market that has so much competition with private EdTech companies currently in existence; however, concerns over content veracity and integrity, user data, questions, and well-being had raised concerns about academic integrity and professional ethics, well-being, and commercialization of education (Sahni et al., 2024). Models of education in which physical and digital tools blend to establish education as hybrid shape form a moderate alternative that draws on the best-of-both worlds' strengths, skills, and attributes found in traditional classes as well as the technology-led benefits of education. The digital learning journey in India is a hopeful but also an arduous journey. Artificial intelligence, virtual reality, augmented reality and blockchain all of which will greatly scale up the education technology and lead towards hyper-accomplished intelligent learning environments. If we invest in infrastructure, in policy support and in teaching our young people, and in enhancing digital fairness, then we can unlock this potential. Digital education will be a key space for social mobility and national development when significant collaboration between a range of institutions government, educational institutions, tech providers and civil society will be leveraged for its potential. This is where digital learning and educational tech is changing Indian education. They offer potential to expand access as well as quality and create innovation but their fate is in the hands of infrastructures, pedagogical design, and socio-economic considerations. We believe that India can fully take advantage of this transformative technology in enhancing the resilient, equitable future of education, if a regulated inclusive plan is built together to build on the capability of technology development in the building up a system fit for the future and resilient and fair for it (Balcı, 2017).

Digital education and educational technology: India. Introduction. Globally, educational technology is developing at an unprecedented rapid pace and India is no exception. Digital learning and educational technology have emerged as transformative tools that are enhancing access to, equity within, and quality of education. With vast geographical, socio-economic, and linguistic diversity, technology-enabled education is a unique approach to combat challenges such as shortages of teachers, lack of infrastructure, and unequal opportunities to learn in this country. Over the past decade, the government of India has made significant strides along with private sector innovations by making digital tools broadly accessible for teaching and learning. Technology in Education and Education Digital learning (DL) is an examination of all information delivered from digital medium to digital tech users through this digital technology. Educational Technology, on the other hand, refers to the systematic use (and implementation) of (teaching and learning) technology and

educational technology to improve educational outcomes (Roblyer & Hughes, 2019). From Indian point of view, digital learning comes via e-learning, blended learning, Massive Open Online Courses (MOOCs), technology-supported classroom instruction and other means. Scale digital education in this country is a key driver of growth. Digital learning has been a key component of national and flagship policies in India and the development of digital learning programmes has been supported by national regulations and flagship projects. In 1986, the National Policy on Education (NPE) emphasized the role of technology in educational advances, at the same time, great momentum was building up post the National Mission on Education through Information and Communication Technology (NMEICT) in 2009 (Ministry of Education, 2020). Later initiatives as SWAYAM, DIKSHA, e-Pathshala and National Digital Library of India, have developed complete digital repositories that are accessible to people through our national network. In addition, another initiative launched was National Education Policy (NEP) 2020 that underlined the technological role and digital infrastructure, online study, virtual laboratories and training of educators in educational technology were recognized as part of the future education system (Government of India, 2020). The COVID-19 pandemic saw digital platforms emerge as the predominant teaching system, representing strengths and challenges of technology for education in India. Among the best Digital learning platforms and projects. A few governments support the enabling platforms which served as important foundations for digital learning in the move to digital learning. The following are available online courses by SWAYAM are available for free through school to postgraduate level from a free online course, online, and DIKSHA is a national teacher training platform for teachers and the provision of digital resources on a platform for the teachers of the whole country (Ministry of Education, 2021). The PM e-VIDYA programme integrates TV, radio, podcasts and online channels to ensure that there is a sufficient amount of learning coverage in isolated regions of India and the whole country. Private ed-Tech firms such as Byju's, Unacademy and Vedantu and others have also added value in a number of ways (i.e. active modules, classes, personalized learning paths). These tools have certainly expanded access to good exams and skills training. THE DIGITAL LEARNING IN INDIA: BENEFITS. Digital learning, for India, has its own advantages. Firstly, it opens avenues for access since this form of learning addresses learners in remote and unaccustomed areas (UNESCO, 2020). And secondly It is flexible It encourages learning wherever the learner and/or at their own pace. In addition, the technology - based course-oriented teaching pedagogy is able to facilitate new pedagogies by allowing new and innovative educational modes, like flipped classes, adaptable teaching and co-operative online learning (Means et al., 2014). Moreover, via teaching, digital platforms through which teacher professional development (such as online training seminars and communities of practice) is encouraged. Using multimedia resources, simulations and virtual labs helps a more conceptual, more learner friendly approach as well. Challenges and Limitations. However, digital learning has big hurdles in India. The digital divide remains high level of concern, with the digital divide between urban and rural settings regarding the accessibility of devices, internet access and digital literacy (Assessment and Evaluation Centre, 2021). Certain students in low socio-economic grade areas lack the needed resources to learn through the net. In addition, teachers are often inadequately trained and resourced

to implement early adoption, especially with respect to new technologies (Roblyer & Hughes, 2019). The impact of the quality of content, data protection, cyber security and learning motivation are challenges of sustainability of learning tech adoption in education. Future Prospects. Building digital resources, raising teacher readiness and making these three levers for teachers and accessibility, and ensuring equitable access will determine the journey ahead for India's digital learning on digital learning in the country. The NEP 2020 has issued a vision to establish the National Educational Technology Forum (NETF) for innovation and research on good practices to use educational technology (Government of India, 2020). Probably the most prevalent teaching mode will be blended learning approach which incorporate traditional in-class and online teaching content. Digital education is more promising for educational and education to become more democratic and provide people with better quality education and skills for knowledge economy of the future, provided policy support in the form of innovation in technology has made it feasible. Conclusion. Digitalisation of Education and educational technologies are part of India's transformation of education. While national and private involvement in efforts has brought great progress, equity, infrastructure and capability have lagged behind. In order Digital education in India to realise its full potential, it needs a good mix of technology, policy and pedagogy, as well as some regular review.

Education in Nagaland

Formal education in Nagaland began with the introduction of Christian missionaries towards the end of the 19th century. They introduced Western-style education and literacy, especially in the Roman script. After Nagaland adopted the status of a state in 1963, institutions at primary, secondary and tertiary levels were progressively established by the state (Jamir, 2015). Traditional Naga education that promoted community values, customary laws and vocational skills became incorporated into the modern systems of education. Education follows the national framework of education in India. The education system in Nagaland is administered by the government through the Department of School Education and the Department of Higher Education. Nagaland has a literacy rate of 80.11% (Census of India, 2011), above the national average. Male literacy is 83.29 percent and female literacy is 76.69 percent, which illustrates a gender gap in literacy that should be targeted in policies. Compared to remote or rural areas, urban places also have a higher literacy rate.

Education in Nagaland has become much improved and has a relatively low rate of failure since the government declared statehood in 1963 as well as a positive trend observed with regard to literacy rate as well as enrolment across schools (Government of Nagaland, 2022). Even so, there remain geographic inequalities, especially in remote and border regions where schools are difficult to access and access to trained teachers is low. Tertiary education in Nagaland is available through the different colleges and institutes and also through the Nagaland University. During periods when resources were limited and infrastructure was behind, institutional growth is to blame for educational quality that is less than optimal. It is in such a context that digital learning has evolved to a tactical weapon, closing the access gaps and fortifying instruction.

The state has implemented digital processes over time to transform education policy at both national and state-levels. The Digital India campaign aims to provide broadband, e-Seva and e-Governance facilities in

rural as well as urban areas (GoI, 2019). In education, open access has been offered to course contents and textbooks by platforms like SWAYAM, DIKSHA, National Digital Library of India (Ministry of Education, 2020). As reflected in that fact, the NEP 2020 stresses that in disadvantaged areas, technology can be brought in to break down physical barriers such as geography and language. It suggests the establishment of virtual labs, online teacher training programs and hybrid learning among schools at all levels of education (Ministry of Education, 2020). The State of Nagaland as well has started implementing steps like ICT enabled classrooms, smart schools, and digital teacher training programmes. The COVID-19 pandemic, even as all that opened education up even more, uncovered entrenched infrastructural and socio-economic inequalities too.

Pedagogical changes as well as Learning Practices. Digital learning has also begun to alter the ways teaching in Nagaland, which means, the development of new ways of delivery, evaluation and engaging learners. As for teachers: they have been using multimedia presentations, online videos and virtual discussion boards to supplement traditional classroom teaching. Online resources have been used in mixed-mode delivery in HEIs in tandem with face-to-face teaching in that of. When learner is at the centre, Online platforms are more flexible and independent. Students listen to recorded lectures, e-books, and open educational resources online, allowing them to learn at their speed. This has proven to be an extra benefit for remote-area learners who face geographical and climatic constraints leading to irregular school attendance. But the pedagogic potential of technology has been applied inequitably. Effective seaming into education is still challenged by teachers' and students' low digital literacy, language barrier things and essential technology support issues. And as Kirkwood and Price (2014) argued, "Real change in education is not just about adopting new technologies – it is about a revisiting, no less than the re-evaluation, of our teaching…and our understanding of learning itself."

COVID 19's impact on Education in the state.

Due to the pandemic, with schools and colleges in Nagaland shut down the academic calendar and learning of the entire state has been affected to varying degrees. The COVID 19 pandemic have pushed to different kinds of digital learning technology and formats which were introduced in response to alternative and digital learning. For example, among those forms, are alternative and digital learning. There are online classes via Zoom, Google Meet and Microsoft Teams. Communicating was possible only with mobile apps like via WhatsApp, telegram and other mobile apps. Broadcast lessons over radio and in local cable networks when internet access is limited. Despite these initiatives, the transition to online learning exposed a severe digital divide. Many students lacked smartphones, computers, reliable electricity, or internet connectivity. Remote villages, particularly in districts like Mon and Tuensang, were disproportionately affected. As a result, a large section of learners could not participate meaningfully in online education (World Bank, 2020). Prior to the pandemic, the use of digital tools in teaching was minimal, making the sudden transition to online platforms particularly disruptive (NITI Aayog, 2018). The announcement of nationwide lockdowns in March 2020 led to an immediate suspension of classroom teaching. Teachers were instructed to continue academic activities

through online platforms such as WhatsApp, Zoom, and Google Classroom. However, many teachers in tribal areas lacked prior exposure to digital teaching tools and online pedagogies, resulting in confusion and inefficiency (Government of India, 2020). Teachers had a difficult time transitioning to online pattern, struggled to adapt traditional teaching methods to online formats. Subjects requiring demonstrations, practical work, or interactive discussion were particularly affected. The absence of physical classrooms reduced opportunities for immediate feedback and student engagement, making teaching less effective. Conducting assessments and monitoring student progress emerged as a major concern. Teachers found it difficult to ensure academic integrity and track participation, especially when students shared devices or lacked regular internet access. As a result, evaluation processes became largely informal and inconsistent. Teachers found it difficult to ensure regular student participation due to device sharing within families and inconsistent internet access. Interactive teaching methods such as discussions, group work, and demonstrations were difficult to implement in online settings.

The pandemic period increased workload and stress among teachers. Apart from teaching responsibilities, teachers were required to prepare digital content, communicate regularly with students and parents, and comply with administrative directives. Uncertainty regarding academic calendars and student learning outcomes further contributed to anxiety and professional burnout (UNESCO, 2020).

Post-COVID Developments and Recovery Mechanisms

Remedial & Learning Enhancement Programs Samagra Shiksha Nagaland has also devised a Learning Enhancement Program (remedial teaching) aimed at recouping the lost learning through the use of remedial classes for secondary and higher-secondary students via specialized programs such as those used to remediate lost learning (example: intensive programs from December 202-February 2022). These programs also involved catch-ups in person and e-documents when they were convenient used (samagra). University documents and state papers indicated that blended learning designs utilization of both digital resources and traditional classroom-based teaching as well as online/blended testing were also among the designs adopted by educators and students, and were associated with a portion of online/blended examination practice that began during the COVID-19 pandemic. Nagaland University was also a blended education institution. (Nagaland University)

Institutional and flagship initiatives like upgrading infrastructure, educating educators and providing model sites for districts to embrace technology-enhanced learning, e.g., at multiple schools such as Lighthouse School Complexes as a model site, and digital learning hubs, we can also see. (The Times of India)

The following suggestions for how educational technology in Nagaland can be both sustainable and equitable:

1. Invest in grid and physical power supply in rural areas: Broadcast media are a short-term stopgap measure; the longer-term equity depends more on wider connectivity between homes, schools and electricity, and more reliable electricity. (Priority: high.) (World Bank)

2. Scale teacher development in digital pedagogy: Continuity of professional development (CPD) must focus on pedagogical design for blended learning, formative assessment online, and inclusive practices for low-tech settings. (IJTER)

3. Implement remedial and diagnostic assessment systems: Maintain the remediation of the Learning Enhancement Program (LEP) style remediation work, using diagnostic assessments to target for learning shortages. (samagra)

4. Preserve multi-modal content policies: Continue to deliver TV and radio lessons on low-connectivity and grow high-quality online resources for those urban learners and semi-urban learning (asynchronous video library, teachers' resource banks). (Press Information Bureau)

5. Watch outcomes and assess them: Establish clear frameworks to monitor blended models educational interventions and remediation and to analyze results to inform changes to interventions (Education for All in India).

The Advantages and limitations of Online Learning.

The positive outcomes of educational technology in Nagaland included:

1. Enhancement of Access and Flexibility: With online platforms enabling remote learners to obtain quality educational aids and specialist teaching in locations where distance is not an issue (OECD, 2021).

2. Continuity of Learning: Technology-based instruction can maintain continuity of academic practice in the midst of disruption brought on by pandemic, natural disaster, or socio-political instability.

3. Creative Pedagogy: multimedia and simulations, interactive assessments, game-like interactive lessons, etc., to encourage engagement and individual learning paths.

4. Professional development: E-learning programmes provide access to educator development and peer to peer cooperation.

While promising, the uptake of educational technology in Nagaland is still not without limitations:

1. **Digital Infrastructure:** Unavailability of broadband, unreliable electricity, and data are expensive and limited Internet access, even more so in rural and interior areas.

2. **Digital Literacy:** Poor teacher and/or classroom skills in schools translate into limitations on practical adoption of educational technologies (UNESCO, 2021).

3. **Equity and Inclusion:** Socio-economic divides magnify the digital divide, with students from low-income families and underserved communities feeling the brunt of the impact.

4. **Pedagogical Adaptation:** That will require, among other things, overhauling the curriculum and restructuring the structure of classes as well as institutional changes that can shift so much of the blame for what happened previously to the students in traditional classrooms and put the burden on those who are using blended, and also online, teaching methods.

Challenges and Constraints

Nagaland is a predominantly tribal state with a large rural population. The state has relatively high literacy but uneven distribution of educational facilities and technological infrastructure. Digital tools and technology were rarely used in classrooms, especially in the rural or interior government schools before the pandemic (Census of India, 2011). Likewise, a significant proportion of students had no personal smartphone, tablet, or computer. A single device was often shared between multiple children that prevented participation in online classes in many families. Educators relied on their own devices and mobile data, putting them under a financial burden. Too much screen time, being distant from classmates, and insecurity about examinations had affected teachers and students psyches too. Teachers faced increased workloads and students became less motivated, anxious, and experienced learning fatigue (UNESCO, 2020). The prospects are good, but digital learning in Nagaland faces a massive set of roadblocks. Gaps in infrastructure from unstable power supply to scarce internet connection, particularly in rural or hilly areas are ongoing challenges. Connectivity imbalances are one of the important limitations in developing country digital education accessibility (UNESCO, 2020). Disparities in socio-economic status also affect access to digital devices and learning spaces. And the vast number of students lack personal smartphones, computers in their homes or quiet places to study so they can participate fully in online instruction. Digital access is still gender skewed, too, one symptom of an overall inequality in life opportunities. And then there's institutional capacity. Teachers have little training in digital pedagogy; little technical assistance. Digital learning is not sustainable in the long run without proper education/professional development and institutional investment.

There is a need for technology to transform education: the possibilities of technology for international learners who wish to study at home; for teachers who really need to adapt culturally sensitive pedagogy; while the kind of initiatives which can be implemented within a community that seems more conducive to being closer to home – those should be of particular value at such English and Chinese schools as well. Digital learning represents a good opportunity for Nagaland to take advantage of its educational future at the same time as making educational materials available in a greater diversity of languages, as well as language learners in the curriculum itself for that matter. But it does exist in a variety of languages and at multiple times. Virtual classrooms or online mentorship programs might even connect graduates of schools in Japan to international academic networks elsewhere. So a variety of tactics will be required to take advantage of these opportunities. The main focus is on: • Enhancing the digital infrastructure and last-mile connectivity; • Expanding ICT integration and online pedagogy curriculum for teachers; • Promoting affordable access to devices and data services; and • Creating locally relevant digital content in locally meaningful local languages. Public–private partnerships and community participation can thus forge inclusive digital ecosystems. Digital learning is seen, as a platform for sustainable education development in Nagaland, by aligning technological innovation with social equity.

Recommendations

1. Strengthening Digital Infrastructure: Improve internet connectivity and electricity supply in rural and remote areas.

2. Teacher Capacity Building: Provide sustained training in digital and blended pedagogies.

3. Blended and Low-Tech Models: Combine online learning with offline resources such as printed materials, radio, and community learning centres.

4. Device Accessibility: Ensure equitable access to digital devices for disadvantaged students.

5. Psychosocial Support: Integrate mental health and counselling support within the education system.

6. Localised Digital Content: The development and adaptation of culturally-sensitive and culturally appropriate multilingual digital learning resources that are adapted to local curricula.

7. Monitoring and Evaluation: Systematic monitoring and evaluation of digital learning initiatives to drive policy direction and practice with the most recent evidence.

Conclusion

Viewed from the perspective of technological evolution and the unprecedented turmoil and dislocation induced by COVID-19, this chapter has explored the recent context of educational technologies and digital learning in India, with particular reference to the case of Nagaland. This analysis reveals the increasing importance of educational technology in education as something not just a luxury but as core structural elements of modern systems of schooling that can enhance access, pedagogy, institutional practices and governance. On more remote and socio-economically diverse places like Nagaland, the emergence of digital learning appears a huge opportunity as well as a huge challenge. India's digital education ecosystem has expanded at a national level too rapidly, driven by policy initiatives like the National Education Policy (NEP) 2020 and flagship systems such as SWAYAM, DIKSHA, PM e-VIDYA. These initiatives have extended access to educational resources, aided continuity of learning during crises and resulted in enhanced trial of online and hybrid learning models. But, the chapter emphasizes, technological expansion simply doesn't equal equitable or efficient learning in itself. Chronic digital divides determined through the gaps in infrastructure, socio-economic status, languages, gender and digital literacy continue to limit educational technology's potential for positive interventions, especially for learners in rural, tribal and peripheral areas. Digital learning has strategic implications in Nagaland given the state's challenging geography, dispersed population, and uneven infrastructure and teacher preparedness. A number of weaknesses in the education system such as poor connectivity, lack of devices, readiness of teachers and assessment and student engagement were in place because of the pandemic. At the same time it galvanized institutional innovation and encouraged the emergence of online platforms, low-tech options such as radio and television broadcasts, and post-pandemic recovery tools like remedial programmes and blended learning measures. Perhaps the upshot of these developments is that the digital adoption during a crisis was uneven, while lessons learned from these developments add a valuable dimension to future reform efforts in the long term. Results provide some positive assurance that blended learning emerges as the practical and feasible approach to embedding

educational technology in Nagaland sustainably, and it can improve its success in particular contexts. Blended models allow for the combination of face-to-face teaching and digital/ low-tech and/or high-tech materials, eliminating infrastructural limitations and keeping classroom interaction as effective as possible. But implementing effective models of this nature will require significant investments in information technology in digital infrastructure, access to electricity, cost-effective devices, and ongoing teacher training. Just as important but equally crucial is the design of local, multilingual, and culturally relevant digital resources that are responsive to the local community and the need for the curriculum. This chapter makes the assertion that educational tech and digital learning may be the most powerful vehicle for improving access, equity, and quality of education in Nagaland and this must certainly be possible when an inclusive, pedagogical and equity centric approach is laid. Technology should not be seen as the end but rather as a means to meaningful learning, social inclusion and human development. A multi-disciplinary approach from government agencies, educational institutions, technological distributors and local communities is needed in order to reduce digital divide and ensure that technological developments lead to resilient, equitable, and future-aware education and training systems for students in Nagaland and similar peripheral locations in India.

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