POOR CONNECTIVITY, SHATTERED DREAMS

Is Bridging Digital Divide Easier Said Than Done?

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COVID-19 has had an unprecedented impact on school education. As an immediate response to the pandemic, the Government of India has opted for a nationwide school closure. As per UNESCO estimates, around 32 crore learners are affected in India, of which 15.8 crore are female and 16.2 crore are male students. The bulk of these students are enrolled in primary and secondary schools (86%), followed by tertiary (10%) and pre-primary (4%) level of education (UNESCO, 2020).[1]

Moving learning from classrooms to homes at scale and in a hurry presents enormous challenges, both human and technical. However, as governments are obligated to respect the right to education of children, from April first week onwards, many schools have shifted their base from traditional classrooms to virtual platforms to conduct classes online.

PHOTO CREDIT: Tribhuvan Tiwari, Outlook

A girl attending her online class at home using a smartphone in a village in U.P.

Digital Divide and Learning Inequality

The pandemic has affected children irrespective of class, caste, gender, or place of residence. But the same has not been true for its consequences, as it has hit the vulnerable hardest. Widespread closures of educational facilities present an unprecedented risk to these children's education and well-being. Remote learning as an alternative to conventional classroom appears challenging for many students, given the vast differences in access to basic digital infrastructure.

Access to electricity is one of the basic components of digital infrastructure, whether for charging devices or connecting to any broadband service. While almost all households (99.9%) across the country have electricity connection, the quality of electricity (based on total hours of electricity available during a 24-hour period) is a serious challenge. In rural India only 16 per cent households received 1-8 hours of electricity, 33 per cent between 9-12 hours and only 47 per cent received more than 12 hours.[2]

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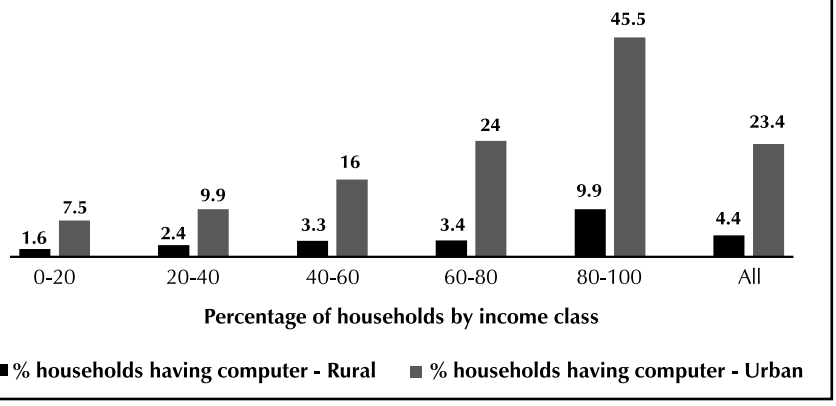
The other important component of the digital infrastructure is access to a device, preferably a computer --- desktop or laptop. While a mobile phone can also serve the purpose, it might not be convenient for carrying out lengthy assignments or doing research. Unfortunately, while 24 per cent Indians own a smartphone,[3] only 11 per cent of households possess any form of computer. This includes desktop, laptop, notebook, netbook, palmtop, tablet, or similar handheld devices (MOSPI, 2020).

The "digital divide" is evident across class, gender, region, or place of residence. The recently released National Sample Survey (NSS) report shows that only 4.4 per cent of rural households possess any computer, and the figure is 23 per cent for urban India.

Note: Since, income data is not available for household, the expenditure by households has been used as proxy of income. Source: NSS Report No.585: Household Social Consumption on Education in India

The rural-urban divide is starker across income class. Among the poorest 20 per cent households in rural India, only 1.6 per cent have access to a computer, and among the top 20 per cent rural households, the proportion is 9.9 per cent. While in urban India, 7.5 per cent households in the lowest income class and 45.5 per cent of the richest households have access to a computer (MOSPI, 2020) (Figure 1).

Figure 1: Percentage of households with computer by income class



The difference is apparent across states too. For example, the proportion of households with access to a computer varies from 4.6 per cent in Bihar to 23.5 per cent in Kerala and 35 per cent in Delhi. When it comes to the usage, among children of age 5-14 years, only 9 per cent could operate a computer and this proportion is 33.6 per cent for 15-29 age group population (MOSPI, 2020).

With increase in digital coverage, the number of internet users in India has grown significantly. Between 2014 and 2019, number of internet subscribers per 100 people has increased from 20 to 48 (MOC, 2019).[4] However, the penetration of digital technologies in India has been haphazard and exclusionary. There is still a large population with no access to the internet – particularly in rural areas, poorer states and in poorer households.

According to the NSS report on Education (2017-18), only 24 per cent of Indian households have an internet facility.[5] While 66 per cent of India's population lives in villages, only a little over 15 per cent of rural households have access to internet services; for urban households the proportion is 42 per cent. Among the poorest 20 per cent households, only 8.9 per cent have access to internet facilities and in case of the top 20 per cent households, the proportion is 50.5 per cent (MOSPI, 2019). In fact, only eight per cent of households with children in the 5-24 year age group have both a computer and an internet connection.[6]

The gender divide in access and ability to use digital infrastructure is also stark. Among the internet users, 65 per cent are men and 35 per cent women. The disparity is more prominent in rural India, where the figures are 69 per cent and 31 per cent for men and women respectively (IAMAI, 2019).[7] Access to smartphone as well as intra-

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household allocation of resources like device and internet are likely to be gender-biased, and limit girls' ability to engage with home-schooling. There is apprehension that girls are more likely to miss out on online education and this will lead to an increase in learning gaps.

It is not only about access, but online education also requires a predictable quality internet connectivity. Poor connectivity and signal drop are some of the common challenges as neither states nor the private players have yet accomplished assured connectivity to all subscribers.

Other than the technical glitches, having online classes on a regular basis also has a cost implication as students have to bear the cost of internet services. Majority of the state governments or the Union government are not providing any free or subsidised data pack. In the current situation, many students, especially those whose families have lost income because of a lockdown-related job loss, are not able to afford this additional burden.

To expand access to technology and reduce the digital divide for students, UNESCO has recommended that countries adopt a variety of hi-tech, low-tech and no tech solutions to assure the continuity of learning during this period. Therefore, over time governments, private organisations, Non-Government Organisations (NGOs) and community --- all stakeholders are taking various initiatives to reach the maximum number of children and children at the remotest (MHRD, 2020).[8] However, the initiatives to impart virtual lessons through television, direct to home (DTH) cable, radio etc to students, without access of device or internet connection, seem to face challenges. According to a situational study, as on July 2020, only 37.5 million children in the major 16 states are continuing education through various education initiatives such as online classrooms and radio programmes etc.[9]

Teachers' Preparedness to Support Digital Learning

Distance learning and lack of digital infrastructure has affected teachers too. Not only are many of them digitally inept, but a large number of teachers have also never used an online environment to teach. Therefore, taking an online course at short notice, which ideally requires early preparation (like designing a lesson plan, teaching materials such as audio and video contents), has posed new challenges for them. A survey by ASSOCHAM and Primus Partners shows that only 17 per cent of teachers in government schools reported that they were trained to conduct online classes; in private schools, this figure stood at 43.8 per cent.[10]

With online teaching becoming the norm due to the lockdown, Union Ministry of Education and many of the state governments are conducting online teachers' training programme and building capacities of teachers and school heads across the country. However, online teachers' training programmes won't equip the teachers with every aspect of quality teaching.

National Education Policy (NEP) 2020 on Digital Education

In Part-III of the NEP, 2020, under other key focus areas, integration of technology with the education system and online and digital education have been discussed to a larger extent.[11] In the whole policy document, this is the only area of discussion where the pandemic has been brought as a reference point. The policy reads:

"The recent rise in epidemics and pandemics necessitates that we are ready with alternative modes of quality education whenever and wherever

traditional and in-person modes of education are not possible."

The policy has envisaged technology as an integral part of education planning, management, administration, teaching, learning, assessment, teachers' training, and professional development. Some policy measures like development of teaching-learning e-content in all regional languages and developing software 'accessible to a wide range of users including students in remote areas and *Divyang* students' are laudable. At the same time, proposals for new age digital transformation like exposures to the knowledge of coding, computational thinking, digital literacy in school; use of virtual lab etc., seem to be favourable for a certain section of students 'aligned with global world of technology, choice, and flexibility'.[12]

India has already 3.2 crore out of school children prior to COVID-19 and many children are at a risk of not returning to school post the pandemic period. Would the digital age be different for these children? NEP 2020 acknowledges the need to bridge the digital divide and improve digital infrastructure. However, without strengthening the existing public education system, extra effort put in reaching out to children through technology shows how poorly majority of the children's needs are understood in the policy.

Conclusion

For the last six months, digital education is the new buzzword in the domain of school education. However, in the renewed academic set-up of online education, learners in the most marginalised groups, who don't have access to digital learning resources or lack the resilience and engagement to learn on their own, are at risk of falling behind. The pandemic has showed the need for a blended education system. However, given the deep-rooted structural imbalances in the digital world across class, caste and gender, too much emphasis on digital and online education could only aggravate the existing educational challenges and perpetuate inequality. To remain relevant, schools will need to reinvent learning environments so that digitalisation expands and complements, but does not replace, the face to face interaction between students, teachers and peers. A coherent plan of action with timelines needs to be developed to ensure inclusive education.

(Endnotes)

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