COVID-19 and the Challenges of Virtual Mode of Education in India – University Practice Connect

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By Balakrushna Padhi and Lalhriatchiani

The COVID-19 outbreak that led to the closure of schools has had an unprecedented effect on children's education and wellbeing. It is important to note that interrupting education services can have serious, long-term consequences for economies and societies, such as an increase in inequality, poorer health and nutrition outcomes, and reduced social cohesion. Therefore, the need to promote and safeguard every child's right to education as set out in the Convention on the Rights of the Child (1989) and the Right of Children to Free and Compulsory Education Act (RTE) should be given the utmost priority.

The impact of these unprecedented times can be different on different age groups. The impact on children from deprived, disadvantaged, or vulnerable sections can be expected to be far more adverse than on children from privileged backgrounds. A recent study of UNICEF (2020) highlights that almost 1.2 billion schoolchildren are affected by the closures of schools as they contend with the realities of remote learning in the midst of the pandemic, and this has raised concerns about a global learning crisis. Further, as a result of school closure across the world, as many as 369 million children are missing out on their daily meals provided by school, and many of these children depend on the school meal as their everyday source of nutrition. Other than this, a study by UNICEF (2020) shows that '… prolonged closures disrupt essential school-based services such as immunization, school feeding, mental health, and psychosocial support, and can cause stress and anxiety due to the loss of peer interaction and disrupted routines.'

With respect to virtual learning, studies reflect that the internet can be an essential pedagogical means for students, especially underserved students for providing unavailable resources and sources of information in developing countries (Levin and Arafeh, 2002). Also, a study by Karakara and Osabouhien (2019) informs that 'Wealth disparity and access to ICTs[1] could also affect the likelihood of a child getting full educational attainment.'

Inequalities of digital access

During this COVID-19 pandemic, the significance of ICTs has increased manifold across the globe. Besides, among ICTs, the internet particularly has the potential impact in breaking the intergenerational cycle of poverty and opportunities for learning and education for children, given that every child has access to ICTs and the gaps of the 'digital divide' close up. A 2017 UNICEF study highlighted, 'But digital access is becoming the new dividing line, as million of the children who could most benefit from digital technology are missing out.' A more recent UNICEF (2020) study reflects that 'The COVID-19 pandemic has exposed large inequalities in access to technology, such as between rich and poor, rural and urban, girls and boys, across and within countries. Online platforms have often been the first to be rolled out to enable children to continue learning from home; indeed, they are generally the most effective learning modality in getting some form of learning up and running. However, they have the lowest reach.'

A 2020 study by Ministry of Human Resource Development (MHRD) found that across the Indian states, the learning of about 240 million children who are currently enrolled in school got severely affected amid COVID-19. Similarly, a study of NCERT (2020) reflects that approximately 27% of the students do not have access to smartphones/laptops to attend classes in a virtual world. Swabhiman (2020) in, 'Digital Education in India: Will students with disability miss the bus' found that almost 43 lakh disabled students across states may drop out due to the inability to cope with online education.[2] Recent OXFAM study (2020) highlights that, the dominant mode of online education delivery is WhatsApp followed by phone calls between teachers and students. Further, half of the teachers faced problems related to expensive data and slow internet and almost 84% teachers reported facing challenges in delivering virtual mode of education.

Consumption patterns

The use of the internet shows a vast disparity among the high, middle, and low-income countries in general. The information relating to individuals using the internet (World Development Indicators statistics) shows that in India, the use of the internet was only 7.5% in 2010, and it significantly increased to 34.5% in 2017. Looking at the global level, internet use was 50% in 2017 with 85% in high-income and 46% in middle-income countries. Besides, the use of secure internet servers per one million populations shows that India is much behind the high-income and other middle-income countries (WDI estimates). This reflects the 'digital gap' when it comes to the use of the internet and access to secure internet among developed, developing and under-developed countries. In this regard, amid the pandemic, providing online education can pose a serious challenge for low-income countries like India, given the low level of internet connectivity and secure internet penetration.

As per the latest NSSO[3] social consumption on education survey (2017-18), it was found that almost 10.3% of households have access to the computer and approximately 24.3% of household have access to internet facilities. Further, the knowledge of computer and internet use is 17% and 20.1% respectively at the aggregate level. Access to the internet

in rural and urban India shows vast disparity. The access and use of the internet are much higher (43%) in the urban areas as compared to the rural areas (16%) (see Table-1). The use of computers is hardly 10% in rural areas and 32 % in urban areas. While that of internet use is 13% and 37% respectively, in rural and urban India. This can pose a huge challenge while providing virtual education access in the rural areas where both the use and access of computers and internet is low.

With regard to the knowledge of the use of internet among children (0-18 years), it shows that only 16% of children use the internet. Besides, the use of computer and internet also vary across gender; the knowledge of internet use is higher among males (25%) as compared to females (15%) (during 2017-18), while the use of computer is 20% among males and 13 % among females, respectively. Further, the use of computer by rural male and female population is 13% and 7%, respectively, and that by urban males and females is 37.5% and 27% respectively. Similarly, the use of internet for rural male and female is 17.1% and 8.5%, while in the urban area it is 43.5% and 301.1 % respectively. Overall, the existing gap pertaining to rural-urban, male-female access to the internet raises a serious concern as online education is the only available alternative for learning amid the pandemic. The disparity in access to digital technology will disrupt the achievements that have been hitherto made in education.

Table 1. Access and knowledge of computer and internet at household and person-level (%)

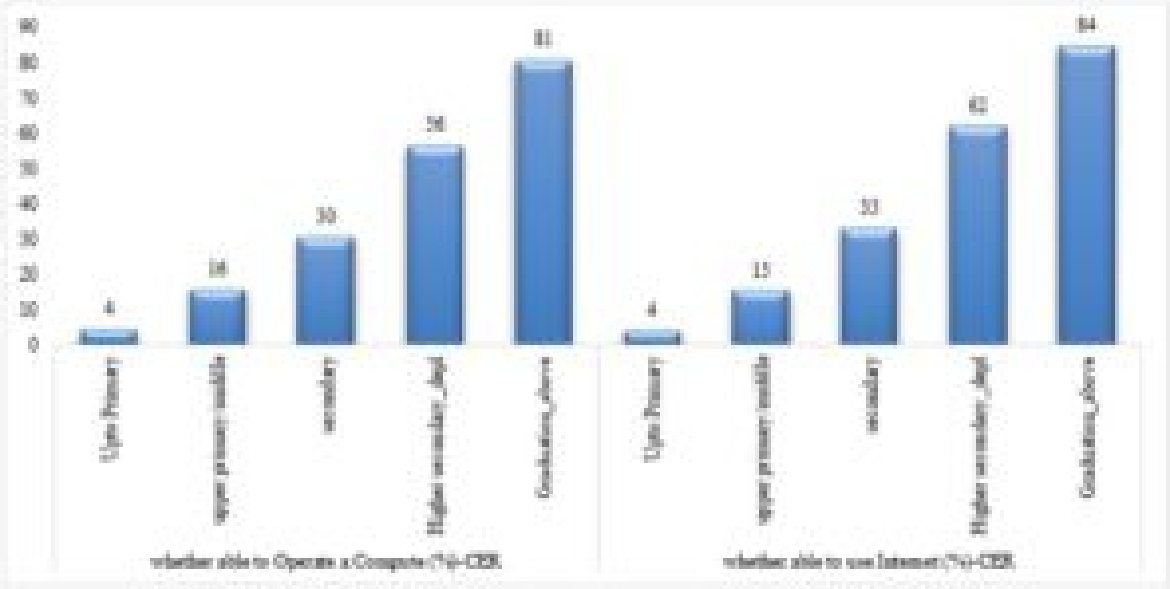
	Household Access		Person Use	
	Computer	**Internet**	**Operate Computer**	**Use Internet**
Rural	4.81	16.47	9.87	12.97
Urban	23.46	43.28	32.41	37.1
Male	10.35	24.81	19.98	24.95
Female	10.12	23.70	12.81	14.86
Total	10.23	24.27	16.53	20.1

Source: NSSO Social Consumption on Education Survey (2017-18)

Further, access to the internet across various institutions varies across the country. As per the current enrolment rate, the household access to the internet in government institutions is 17%, while that of private added institutions is 36% (see for details, NSSO Education Consumption Survey, 2017-18). This poses a serious challenge for the government in providing an online mode of education to school children in government schools. Besides, this reflects the gap which exists in terms of access to internet facility across public and private schools.

The survey also found that the use of the internet and computer increases with the increase in learning, for instance, according to the current enrolment in basic courses, the use of internet and computer is much higher among the higher secondary and graduate and above category while the use is very low for the primary and upper primary-middle category (see Figure 1). The use of the internet is hardly 4% up to below primary level[4] and 16% in the primary and middle school level,[5] while it is 81% in graduation and above category. Similarly, the use of computer is also changing with the level of education, it is 84% in the graduation and above category, while only 15% at the primary and middle school level.

Figure 1. Whether able to operate a computer (%) & whether able to use internet (%) CER (2017-18)

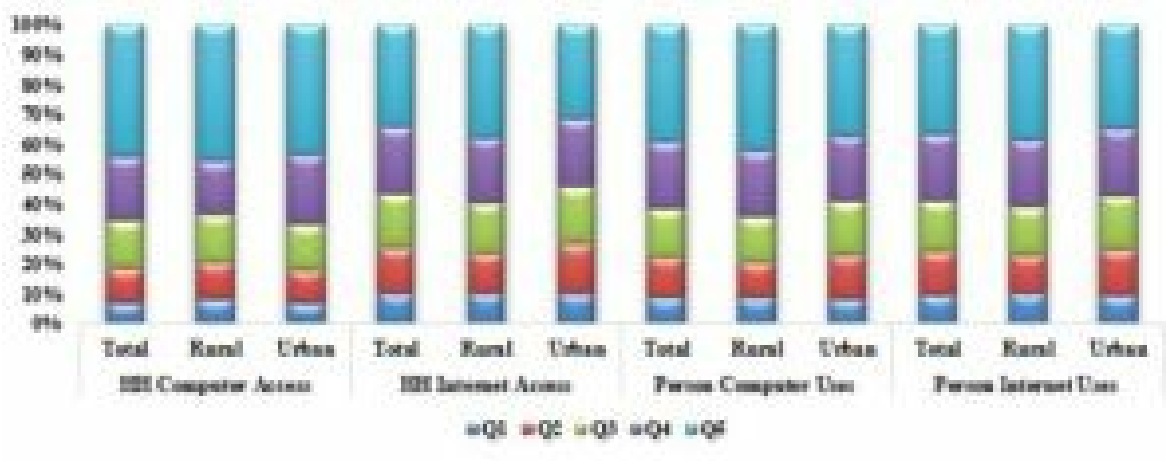


Source: NSSO Social Consumption on Education Survey (2017-18)

The NSSO social consumption on education survey shows that the household access to internet is only 12% for Schedule Tribe (ST) and 16% for Schedule Caste (SC) groups, 22% for OBC while for the Other (general) categories the share is 39%. This reflects the inequality distribution of digital technology across the social groups in India. Similarly, with respect to the knowledge of internet, the access is only 11% for ST, 14% for SC, 18% for OBC, and 31% for Other (general) groups respectively. This disparity in accessing and using ICTs also exists across government and private schools across major social groups in India. In the tribal belts, it will be a huge challenge to provide an online mode of education given the low access and use of ICTs.

Lastly, the use and access to ICTs also vary with income levels. The higher-income group (higher MPCE quintiles) has a higher level of access and use of ICTs as compared to the lower-income groups (see Figure 2). With the changing level of education, the knowledge of ICTs also increases, but here, the major challenge lies for the bottom-level households for the access and uses of digital technology in India.

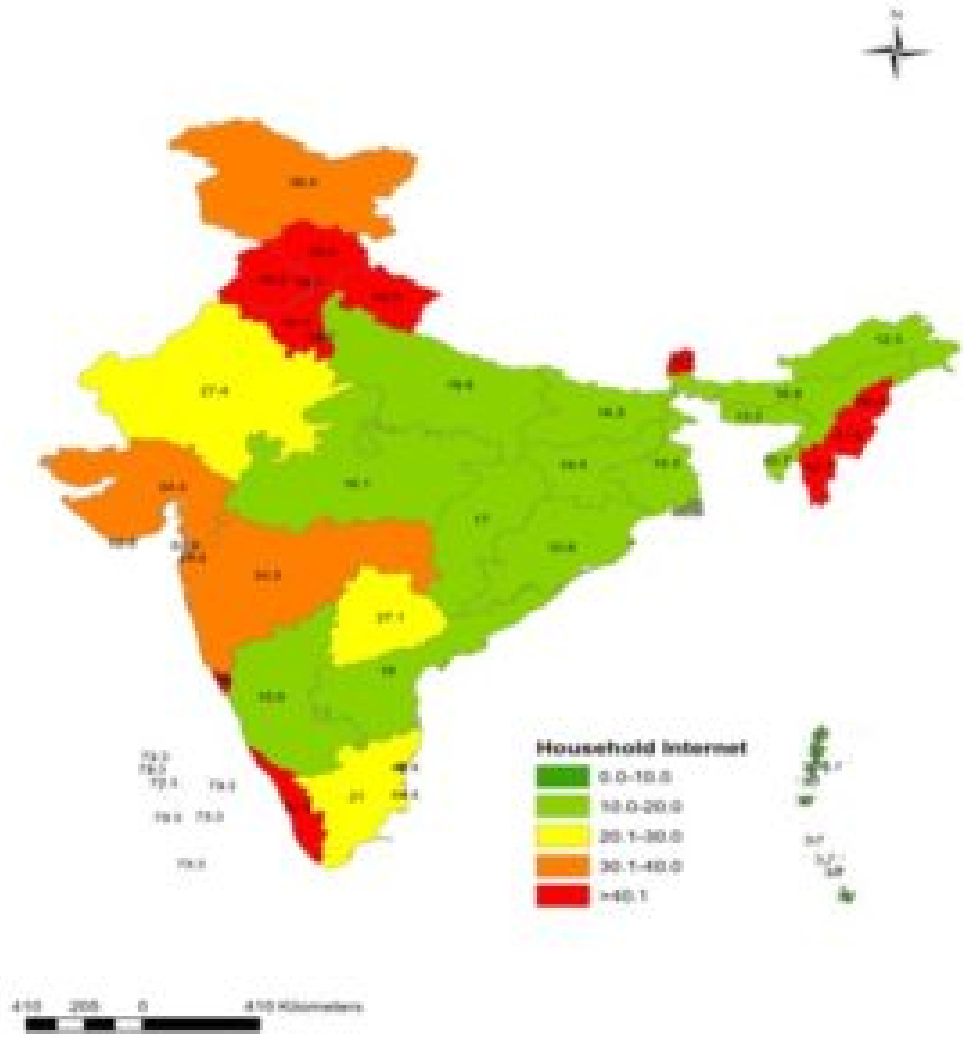
Figure 2. Access and use of ICTs across income quintiles



Source: NSSO Social Consumption on Education Survey (2017-18)

Access to ICTs facilities across major social groups varies significantly across the major states in India. The disparity of access to computers and internet highlights the regional digital divide across India states. It is observed that household access to the internet is particularly low among the major poor states and high among the developed states. For instance, the household access to the internet in the states of Tripura (10.7%), Odisha (10.8%) and Arunachal Pradesh (12.3%), Meghalaya (13.21%) is very low, while in states including Sikkim (73.5%), Goa (68%) and Delhi (58.7%)the use of the internet is much higher (see Figure-3). Thus, household access to the internet varies across major regions of India as per the level of per capita income and geography of that particular region. Most of the south Indian states and West Indian states reflect a higher level of ICTs access as compared to the other regions of India. Also, there are regional differences across the rural and urban areas. This raises a dual challenge for poorer states, already burdened by poor infrastructure and educational achievements, now faced with the challenge of availing quality education on a virtual platform.

Figure 3. Household access to the internet (2017-18)



Source: NSSO Education Consumption Survey (2017-18)

Providing equitable access

With the wide disparity in access to digital technology and internet across the major states of India, online learnings can raise disruptions for many learners, especially learners from underprivileged, vulnerable, and remote sections. Besides, it can have a serious impact on children's opportunity and ability to learn. Many children who do not have access to online education may drop out. The longer the children stay out of school, the less they are likely to return, particularly those who were already attending school irregularly. Further, being out of school also increases the risks of child marriage, child labour, and other undesirable social practices.

A recent study of UNESCO (2020) highlights that 'In India, an estimated 71 million children aged between 5-11 years access the Internet on devices of their family members, constituting about 14 % of the country's active Internet user base of over 500 million. Two-thirds of internet users in India are in the age group of 12-29 years (data shared by the Internet & Mobile Association of India).

Data and statistics have highlighted that post lockdown, the internet has amplified the risk of cyber-bullying, including online discrimination for children and young people. 'It

is important to note that, while providing online learning to learners, providing them safe access to the internet is imperative as they may come across risks, such as online sexual abuse, cyber-bullying and potentially harmful content and children's privacy may also be at greater risk.' (UNICEF, 2020)

The Government of India has through 'PRAGYATA: Guidelines for Digital Education' issued guidelines for online learning. 'The duration for online classes for pre-primary students should not be for more than 30 minutes and for classes 1 to 8, the HRD ministry has recommended two online sessions of up to 45 minutes each while for classes to 9 to 12, four sessions of 30-45 minutes duration have been recommended.' Further, it has provisioned education through digital platform initiated through e-pathshala, NROER, Swayam,{note] For details, see World Bank. 2020.[/note] etc.

Providing and enabling additional economic support for availing the ICTs to unprivileged and marginalised students is the need at this hour. It is important that systematic intervention is essential to mitigate the gap of learners' access to ICTs. As the study, 'The State of the World's Children 2017: Children in a Digital World ' reflects that there needs to be faster action, focused investment, and greater protection of children from the harms of a connected world while harnessing the opportunities of the digital age to benefit every child.

In summary, it is apparent that digital divide and disparity exist across social categories, regions and sectors. In this regard, a proper institutional mechanism is needed to monitor, assess and bridge this digital divide, thus, taking this pandemic crisis as an opportunity to review the existing disparities in access and uses of ICT, especially among young learners to help achieve equity in learning. As the ILO study analyses, 'the crisis also provides an opportunity for the development of more flexible learning solutions that make better use of distance learning and digital solutions…First: human and financial resources have to be mobilised to ensure universal access to digital infrastructure, tools and modern learning technologies. Second, college managers, teachers, trainers and learners themselves need training and support to engage in distance and online learning. Third, education and training providers have to revise teaching and learning models to make the best use of digital resources and tools.' Besides, capacity-building of teachers is also imperative through proper training and the New Education Policy (2020) can play a crucial role in this regard. But this needs a critical exploration.

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