Digital Divide In India's Education:A Sociological Study

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Abstract

Information and communication technologies are becoming more vital to the functioning of any civilization as time goes on. People from all walks of life may be found in India due to its diverse population. In underdeveloped nations, the "digital gap" is a significant challenge, particularly in this "Covid-19" age. Students from families with lower incomes have limited access to technology both in and outside of the classroom.The discrepancy exists because some students have access to modern computer systems, mobile phones, dependable internet connections, digital material, and technical know-how, while other pupils still need to. Because students in India may now access their course materials at any time, digital education is generally favouring the country's student population. Students have the opportunity to learn from highly qualified instructors while attending courses online at any time that is convenient for them. Education conducted entirely online is widely regarded as representing the education system of the future everywhere in the globe, including in India. This revolutionary programme will assist millions of individuals, particularly students who are now enrolled in educational institutions, in acquiring information and creating a brighter future for themselves. The percentage of the population that has access to the internet is correlated to a nation's level of socioeconomic development. As a result, the digital gap is detrimental to the socioeconomic development of a country. Information poverty is a problem in rural India because of the lack of access to digital technology. Due to a lack of access to information and communication technologies, children of socially disadvantaged groups risk being unable to complete their education or, even worse, abandoning it altogether. The objective of this piece is to investigate the problem of the digital divide and the influence it has on the educational system in India. According to the findings, the ease with which students may use technology is related to their socioeconomic position as well as their academic achievement. The gap between affluent and poor students is at risk of becoming much wider due to the digital divide.

***Keywords:** Digital Divide, Education, Social Disparity, Information Technology.*

Definition of Key Terms in the Paper

The "Digital Divide" is defined as the gap between the students (School, College, Universities) who have access to digital technology and those who do not.ere "Information Technology" refers to the use of computer, internet and Smart Phone."Social Disparity" refers to disparity of Social and Economic status.

Introduction

Digital Divide is a Socio –economic phenomenon. The disparity between people who have access to digital information technology and those who do not refers to this issue. The increasing use of information technology has restructured the global equation, changing the focus from a disparity in money to a disparity in knowledge.

The current epidemic has not only shaken the world's economics but also its governments and political systems. Despite some countries' economies being mired in a rut and others' struggling with significant dangers to their health, almost every country in the world has issues in their educational systems. Schools and other educational facilities in various countries have been shut down because of the fast spread of Covid-19. India is one of these nations. There was no specific timetable for these schools to return to pupils despite mounting worries about the immediate, short-term, and long-term effects of the protracted educational lockdown on children, parents, and society at large. Since the problem occurs in the context of school education, it is crucial to be mindful of the impact that COVID-19 will have on children who lack access to digital technology. In the context of online education the digital divide has magnified and perpetuated existing inequalities in the education system and in the society. On the other hand despite being mandated by the Indian constitution and the focus of several Central and state programmes, India's school education system has long suffered from inequalities related to socioeconomic status, caste, language, region, developmental class (urban vs. rural), and gender. (Basant & Sen, 2014)

Social Implications of Digital Divide.

Individuals, communities, and even whole societies may all feel the effects of the digital divide. Human capital's importance in setting certain societies apart from others in terms of their degree of competence is emphasised by the knowledge society idea. According to sociologists, the digital divide is not a technical problem but rather the result of structural social and economic inequalities. Thus, the digital gap is not a technical issue but rather a social one. "Equality of condition" does not exist since not all groups have access to the same information resources. The technocratic-meritocratic viewpoint is strengthened by the ease with which knowledge can be accessed and shared. According to this worldview, one's success depends heavily on his or her access to relevant information and opportunities to showcase their strengths.(Dr. Manzoor Hussain, Feb 2014)

Internet users in India

According to the World Telecommunication/ICT Indicators Database compiled by the International Telecommunication Union (ITU), just 43% of India's population has internet access. Only 42% of Indian women use the internet, whereas 58% of Indian males do, according to the IAMAI-Kantar Report ICUBE 2020. The National Family Health Survey ("NFHS") for 2019–21 reveals that the gender gap in digital inclusion is far more pronounced. As for women, just 33.3% have accessed the internet, while only 57.1% of men have. Figure 1 demonstrates that this gap between the sexes occurs nationwide.

Figure 1: Gender disparity among states' populations that have ever used the internet, expressed as a percentage
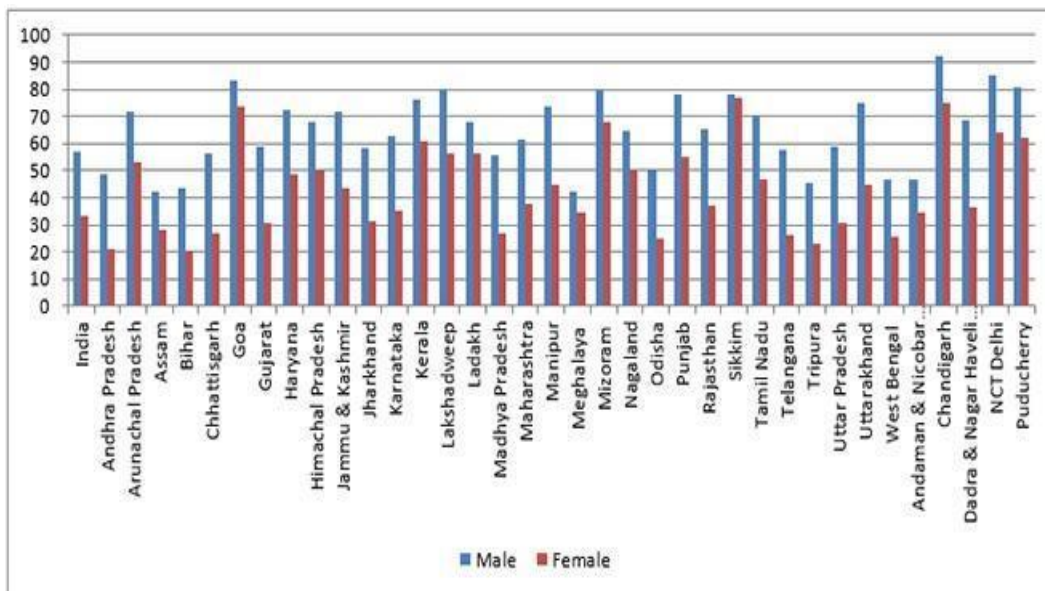
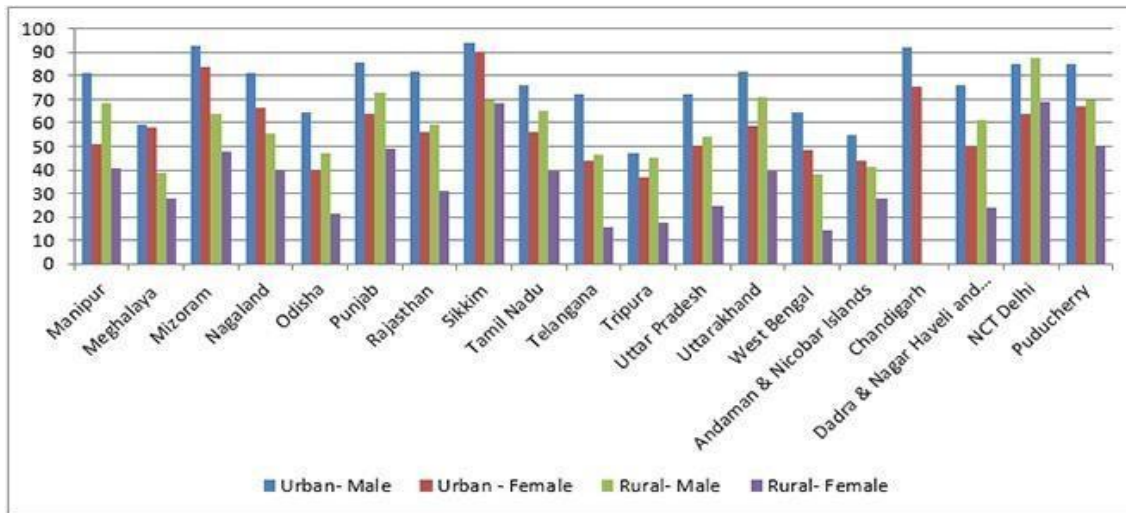**Source:** Data from NFHS 2019-21

The NFHS also offers information separated by urban and rural areas. While 72.5% of urban men and 51.8% of urban women have used the internet before, just 48.7% of rural men and 24.6% of rural women meet these criteria. As can be seen in Figures 2 and 3, the largest percentages are held by urban men throughout all states, while rural females hold the lowest percentages. (Blackwell, 2015)

Figure 2: Gender differences in internet users by state and whether or not they have ever used the internet (percent)
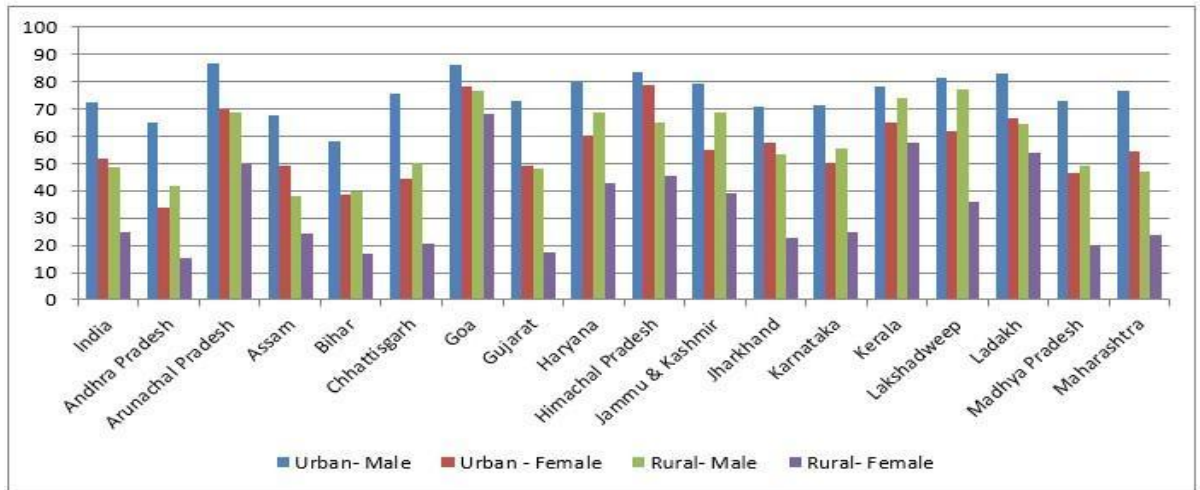
Source: Data from NFHS 2019-21

Figure 3 Percentage of residents who have ever used the Internet by gender and rural/urban location, broken down per state
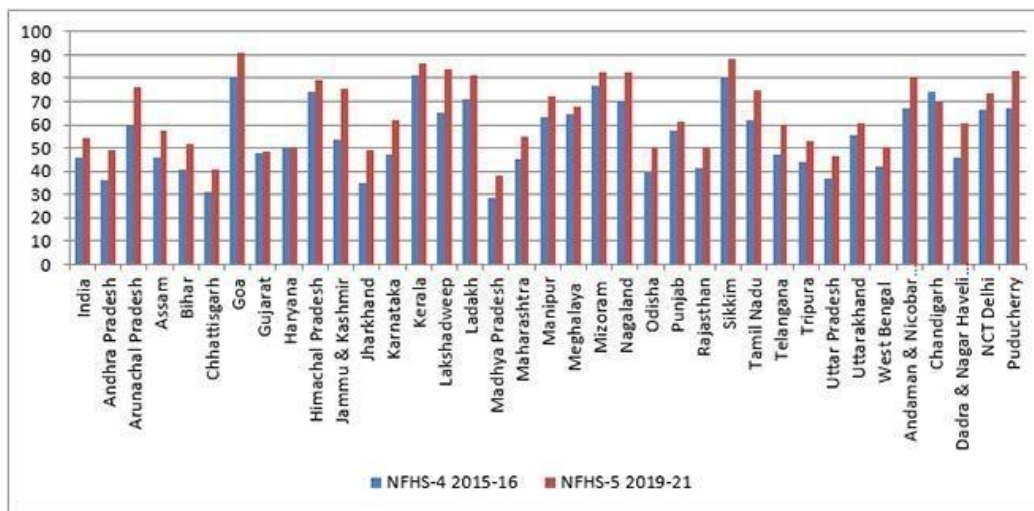

Source: Data from NFHS 2019-21 (Cont.)

There is also a significant digital gap between the most disadvantaged socioeconomic categories. That "ST folks had 27 percentage points lesser access to the Internet as opposed to the other individuals" is a finding from at least one study.

Mobile ownership

In India, 79% of adult males and 67% of adult females have a mobile phone, according to the GSMA Report Connected Women: The Mobile Gender Gap Report 2021. According to the survey, women's mobile phone ownership in India has been on the rise. Figure 4 from the NFHS shows that female mobile phone ownership in India increased significantly between 2015–16 and 2019–21. **(Elder, 2006)**

Figure 4: Those who have ever used the internet, broken down by state, gender, and rural/urban location (percent)

Source: Data from NFHS 2019-21

The NFHS data also shows a gap between rural and urban mobile phone ownership. According to the statistics, there is a noticeable difference in the rates of mobile phone ownership among urban and rural women. The situation differs in rural areas of various states and union territories like Kerala, Ladakh, Delhi, Andaman, and Nicobar. Figure 5 shows the disparity between rural and urban areas in terms of female mobile phone ownership across all 50 states. It's worth noting that there's a generational and social class divide regarding language use. (Raman, 1017)

Figure 5: Disparity between rural and urban areas in the percentage of women who own and use mobile phones, per state
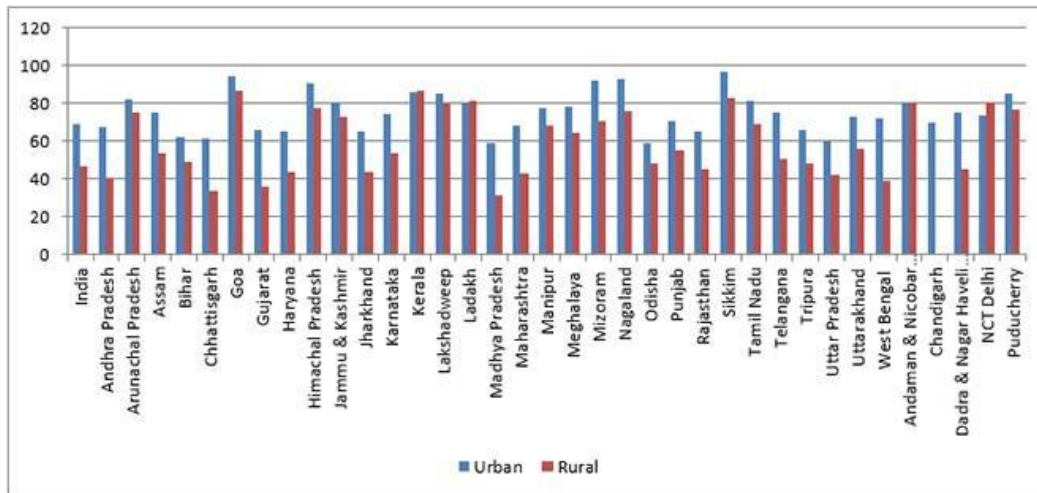
Source: Data from NFHS 2019-21

Movements in the Digital Gap

It has been noted that there is a severe digital divide in India, with significant differences in internet use and access depending on factors such as gender, rural/urban location, caste, and age. Men are more likely to possess and use both the internet and mobile phones, a trend that has been widely documented. While there may be some differences, urban males have it considerably better than urban women, rural men, and rural women regarding internet access and phone ownership. In a similar vein, rural women consistently come out on the losing end of the deal. For instance, despite owning more phones than urban women, rural women have less internet access. Nonetheless, progress has been made between 2015–16 and 2019–21 regarding women's access to mobile phones, suggesting that initiatives to narrow the digital gender gap are bearing fruit. (Virat, 2014)

The way forward

There are severe societal consequences to the digital divide. Lack of access to technology may exacerbate existing social exclusions and deprive people of necessities. The growing dependency on digital technology and the internet mean that the digital divide affects every facet of society, from health and education to mobility and safety to economic participation. Although numerous government programmes have been implemented to enhance digital literacy, such as the National Digital Literacy Mission and the Pradhan Mantri Gramin Digital Saksharta Abhiyan, New Education Policy (NEP 2020), Digital Infrastructure for Knowledge Sharing (DIKSHA), PM eVidya, Swayam Prabha TV Channel, SWAYAM Portal. As the time demand there is a need to amplify such efforts to guarantee that all members of society

have physical access to ICT, enhancing the current digital infrastructure is crucial. At the same time, disadvantaged communities need to be encouraged to use digital tools and taught the necessary skills to do so. (Renwick, 2017)

The Digital Transformation Of India's Academic Landscape And Its Potential Future Outcomes.

After the 2020 COVID-19 epidemic, education had to be rethought. In the wake of the second Covid wave, traditional brick-and-mortar schools in India have given way to a more modern system based on online education. The measure, formerly seen as a stopgap, is now the standard. The NEP 2020 also focuses on making the most of technological advances in the classroom to benefit students' education.

Now that classes have resumed after a two-year hiatus, it is up to teachers and administrators to make up for the time pupils were out of school by incorporating innovative technological tools into the classroom.

Despite widespread assumptions to the contrary, numerous universities have begun offering courses online. But as the old adage goes, "When push comes to shove, pull." Everyone was caught off guard by this seismic upheaval. Initially, there were numerous difficulties as both students and instructors had to get familiar with the technology and overcome hurdles to make it work. Teachers and students in India have quickly overcome the initial resistance to an online learning platform that provides a wealth of resources for making classroom time more manageable and enjoyable.

After the evacuation, blended learning was used as the new curriculum norm. Blended learning, or hybrid learning, combines traditional classroom teaching with digital resources to maximise autonomy and individualisation. Now that classes have resumed, this hybrid approach to education will help find the sweet spot between online and in-person instruction to give students the best of both worlds. (De & Drèze, 2009)

The Dangers of The Digital Divide For Online Education

Taking classes online was a godsend but brought attention to the digital divide. Unfortunately, not all students in India's public schools now have access to digital education. As a result, dismissing the value of participating in classes in person would be a mistake. Even while online education was considered a beneficial development during the shutdown, it was not accessible to all students because of the large digital divide in India. According to a study by the Azim Premji Foundation, Sixty per cent of school-aged children in India need access to digital learning tools. Oxfam India found that 50 per cent of urban parents whose children

attend private schools complained about slow or unreliable internet. One-third of those polled were concerned about the high cost of mobile data. One-third of all families had to take their lone child out of school due to financial difficulties. (Kingdon, 2020)

Fill the gap

When kids return to school, one of the biggest challenges will be figuring out how to bridge the gap between online and traditional learning via hybrid programmes. Further, to close the digital gap, India's educational system must establish a robust structure for creating accessible EdTech solutions. The Union Budget 2022 also acknowledged the significance of expanding access to digital education. However, many kids, especially those from low-income families, have been left behind these last two years, which may be considered a turning point in Indian education. The educational sector has seen a substantial rise in funding. The "one class-one channel" project, launched by the government under PM e-VIDYA, would fill this need by providing extra education in regional languages for students in grades 1 through 12. The goal is to get high-quality learning resources into the hands of kids who need access to the Internet.

Going forward

No one can argue that students would have been better off finding other ways to keep learning if not for the advent of online education. Now that we know that both online and offline modes need to find a happy medium to provide a well-rounded educational experience, we can turn our attention to the many pressing issues that must be resolved before we can build a future-proof system. Finding a middle ground between ensuring the safety of children on their way to school and making the most of technological advances in education is essential.

Although much work remains to be done, eventually, everyone will have access to the digital learning platform. Traditional classrooms will play a crucial role in making up for the ground lost to online learning when classes resume.

Increasing local populations' access to educational technology in India

The Indian education system has slowly adapted to the digital revolution, moving away from the more conventional blackboard classroom model. The National Education Policy 2020 called for an increased focus on developing "21st century skills," including critical thinking, creativity, and computer literacy. The 2020 COVID-19 epidemic caused widespread lockdowns, hastening the transition to greater reliance on digital systems. After being a luxury only the wealthy could afford, digital education quickly became the standard by which all students must be educated.

Major players in educational technology benefited greatly from this trend, seeing rapid growth in both their user base and the number of companies they acquired. These giants offer a

wealth of materials, but many must be locked behind paywalls or otherwise restricted to the privileged English-speaking students in large urban centres who already have access to the internet and digital gadgets. The truth is that over half of India's pupils attend government schools without such resources since their homes are located in locations with very low internet penetration. Only 29% of public schools have working computer labs, and even fewer have internet connections (12%). If you can get your hands on a smartphone, chances are it will be a shared household object connected to slow Wi-Fi. Before the pandemic, this population was already underserved because of underlying socioeconomic disparities. The growing dependence on EdTech platforms has exacerbated the digital gap, causing many already marginalised students to drop out of school for good. Maintaining a high level of education over time requires the government and local communities to acquire the knowledge necessary to synthesise top-down and bottom-up approaches using EdTech properly. (Verma & Saraswathi, 2002)

Government capacity building

Himachal Pradesh's education minister, Govind Singh Thakur, began the "Digital Saathi" smartphone giveaway initiative in July 2021 so disadvantaged children might use it for distance education. While this is a positive step in the right direction, the government also needs to provide open-access learning platforms, low-tech material (which uses less bandwidth and takes up less capacity on devices), and teacher training to realise the potential of EdTech fully.

The establishment in 2017 of Diksha, a nationwide digital infrastructure that holds publicly available learning materials from numerous national and state boards, was

a significant step in the right direction. It's a hub where educators can share and collaborate on digital classroom materials, professional development materials, and assessment tools. The platform was promoted for at-home learning by educators and students during the epidemic. Diksha's app has been downloaded more than 10 million times. But more is needed for the government to provide a platform; they must also equip teachers and school leaders to use it well. Even state authorities have expressed frustration with the Vidyadaan uploading and reviewing procedure.

NGOs and private collaborations drive the majority of EdTech initiatives. Their responsibilities range from advising policymakers to working directly with local and state governments to roll out digital interventions to bolster the state's efforts to produce educational materials. The Sankalp initiative in Haryana, run by Avanti Fellows, uses online video lectures and peer learning activities to help instructors and students develop leadership skills. As part of their Ghar Pe School programme, they worked with the government to create a digital library and platform for organising live sessions to facilitate education in the comfort of one's home. To better education in Uttar Pradesh, Haryana, and Himachal Pradesh, the

consultancy company Samagra has been working closely with state governments. Along with their direct digital learning initiatives in 22 states, Pratham Education Foundation has also helped map curriculum-aligned material for states like Himachal Pradesh, Uttarakhand, and Haryana.

While the government's reliance on advice from outside sources is frequently essential, it may quickly become excessive. To learn about procedures, failures, and triumphs from educational professionals from NGOs and commercial organisations, local government officials must participate actively in the interventions taking place in their areas. These authorities may frequently provide light on the local setting and intended audience. The RCT conducted by Avanti Fellows and J-PAL demonstrates that compulsory use was a significant lever that boosted participation because of the added credibility it provided to the digital intervention.

The primary goal of government capacity development is to foster ownership and, by extension, ensure the long-term success of projects. Assuring legitimacy and regional contextualisation via familiar examples and local languages, government control over Edtech initiatives allows the digital gap to be crossed to some degree. (Blum, 2009)

Community capacity building

The schooling-from-home policy used during the COVID-19 epidemic disproportionately impacted children in rural India. WhatsApp, SMS-based learning, and television have been identified as the most popular forms of educational technology in rural homes. However, a lack of reliable digital infrastructure is a significant barrier to accessing high-quality distance education. Most rural families face brutal socioeconomic realities and systems, worsening the situation.

Due to the lack of and underutilization of digital infrastructure in rural regions, data on the impact of online education on community growth is scarce. However, the successful adoption of EdTech through all-encompassing community capacity- building has the potential to promote a culture of learning among communities in low-tech regions of India, so paving the way for more people to have access to higher education via technological advances.

A recent report by the Observer Research Foundation identified the lack of reliable electricity and internet access, the high cost of internet data, the low bandwidth of the internet in rural areas, and the absence of government support as the primary barriers to the successful transition to and adoption of EdTech in India's rural areas. The prevalence of gender, socioeconomic, cultural, and caste status disparities exacerbates the mystification of technology in rural areas. To remedy this, society must acknowledge and value its pivotal part in shaping children's learning experiences and eventual success. To do this, community capacity development strategies should be implemented that engage people of the community, not only government officials or school instructors.

Children's access to community-owned technology and a locally-relevant digital library, for example, may create a more inclusive learning environment and strengthen ties among students. As a result, well-respected community members are allowed to take the lead on EdTech projects, which might change how adults see children's usage of digital gadgets for learning, as opposed to just chatting and playing games. There is a rise in parental involvement and community support for their children's education, and more pupils have access to modern technology resources. Strengthening communities' existing abilities to initiate talks and collaborate on EdTech is crucial to supporting government efforts.

Community-driven capacity development may be helpful in educating people of all ages, from kids to adults. The community capacity-building framework encourages leadership, problem-solving, decision-making, and self-sufficiency in rural communities, particularly adolescents and teenagers, by rejecting the old privileged, restricted, top-down knowledge-sharing and education paradigms. (Furuta & Thamburaj, 2014)

Conclusion

Now that classes have resumed, there is hope that the epidemic's devastating impact on schools will soon be over. Many kids still need help with their educational technology skills, including those who may never return to school or have already missed so much academic development that they can't make up the ground. Indian government has enacted many program to bridge the digital gap. To fully capitalise on the gains realised via digital interventions during the epidemic, efforts to strengthen government and community institutions are now more crucial than ever. Creating a strong digital infrastructure with system-wide transformation in mind requires the concerted effort of all relevant parties. A concrete efforts at all levels of the Government, State and Centre, to ensure that adequate facilities are made available to children across social strata so that access to education is not denied to those who lack resources. In the long term , socio economic status may affect one's future career opportunities.

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