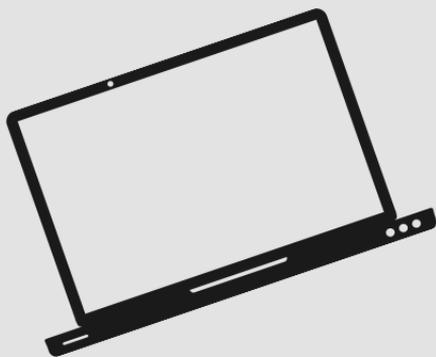




Digital Divide and the growth of EdTech



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The article explores the existing digital divide in India and the learning loss that might occur because of the shift towards online learning during the pandemic. It also attempts to understand if EdTech sector can be an alternative to the entire education system in India.

Introduction

The current K-12 school system in India is one of the largest in the world with more than 1.4 million schools with 250+ million students enrolled. According to an EY-FICCI report¹, schools have grown at a CAGR of 2.5% from 1.2 million in 2005 to 1.4 million in 2011 and enrolment has grown at a CAGR of 2.2% to reach 253 million students in 2011. The contribution of the private sector to increase the standards and quality of education has been significant. This has resulted in 25% of all schools in India are private schools accounting for 40% share in enrolment. The number of private schools has grown at a CAGR of 4% in the past 5 years, as compared to public schools. The report also states that based on current trends, it appears that the private sector may account for a 55-60% share in overall enrolment in K-12 schools by 2022. Key indicators that make them preferential today are the process of ongoing and continuous evaluation, comprehensive curriculum and syllabi based on practical applications, assessments based on interactive, skills and fun based learning which has led to better learning levels and quality of school education.



Photo Courtesy: Computer Shiksha

The scenario with rural India is completely opposite. One out of every four Class 8 students in rural India is unable to read even a Class 2 text. And over one in two Class 8 students cannot solve a problem that involves basic division. The Annual Status of Education Report (ASER) 2018² shows that while there are small improvements, the crisis in Indian education continues. The ASER survey covered around 3.5 lakh households and 546,527 children between the ages of three and 16 across 596 rural districts. Among the improvements, the percentage of students in Class 3 who can read at Class 2 level has been climbing slowly over the years. This figure has increased from 21.6% in 2013 to 27.2 % in 2018, the report claims. The data also indicates that only 73% of Class 8 students in rural districts can read a Class 2 level text. And 56% can't solve a basic division problem.

¹ <http://ficci.in/spdocument/20385/ey-ficci-report-education.pdf>
²

<http://img.asercentre.org/docs/ASER%202018/Release%20Material/aser2018nationalfindings.pdf>

The fact that basic learning levels were worryingly low before the COVID crisis and that further “learning loss” may be significant adds to the deepening concern about an already inequitable situation widening divides: disadvantaged children suffering further disadvantage³.

With the myriad challenges already hovering over the Indian education system, especially with rural India, we can expect further learning loss with the shutting down of schools during the current pandemic. COVID 19 has forced the entire country to go on a lockdown. Keeping in mind social distancing and to stop the spread of the virus, schools were advised to shut down. A seemingly obvious solution to this shutting down of schools, was to shift classroom based teaching to online and virtual classrooms. As much as this seems to be the logical and perfect steps, digital accessibility is not universal in our country. In the absence of physical classrooms and proper digital infrastructure, both teachers and students are facing unprecedented challenges. The major challenge of remote learning is disparity in access – from electricity and internet connections to devices like computer or smartphones.

Is digital feasible?

Access to electricity is pivotal for digital education, both for powering smartphones and computers as well as maintaining a sustained connection over the internet. While the government’s Saubhagya scheme to provide electricity to households shows that almost 99.9% of homes India have a power connection, the picture is less luminous if we look at the quality of electricity and the number of hours for which it is available every day. Mission Antyodaya⁴, a nationwide survey of villages conducted by the Ministry of Rural Development in 2017-’18, showed that 16% of India’s households received one to eight hours of electricity daily, 33% received 9-12 hours, and only 47% received more than 12 hours a day⁵.



Photo Courtesy: Computer Shiksha

³ <https://riseprogramme.org/publications/learning-loss-and-learning-gain-primary-school-years-what-do-we-know-india-can-help-us>

⁴ <https://missionantyodaya.nic.in/ma2019/preloginStateRuralElectricityReports2019.html>

⁵ <http://documents1.worldbank.org/curated/en/562191468041399641/pdf/Power-for-all-electricity-access-challenge-in-India.pdf>

Although a computer would be ideal for conducting online classes, a smartphone might also serve the purpose. However, the phone might be convenient for apps, but not for carrying out lengthy assignments or research. According to the research conducted by Pew Research Centre⁶ in 2019, while 32% Indians own a smartphone, only 11% of households possess any type of computer, which could include desktop computers, laptops, notebooks, tablets among many more.



Photo Courtesy: Computer Shiksha

Even the penetration of digital technologies in India has been haphazard and exclusionary. According to the 2017-'18 National Sample Survey⁷ report on education, only 24% of Indian households have an internet facility. While 66% of India's population lives in villages⁸, only a little over 15% of rural households have

access to internet services. For urban households, the proportion is 42%.

Apart from access, digital education also requires regular and predictable internet connectivity. To support online work from home during this lockdown period, telecom operators and broadband service providers have put across offers of facilities like additional data and free internet to their subscribers. However, there are emerging gaps in provision of continuous availability of internet connectivity. Quacquarelli Symonds (QS), an institution that comes out with the coveted global ranking for educational institutions, has reported that Indian internet infrastructure is not equipped for the paradigm shift to online learning. Major news portals reported that according to the report (2020) published by QS⁹ on usage of internet in India reveals that among respondents who use home broadband, over 3% face cable cuts, 53% face poor connectivity and 32% face signal issues. In case of mobile data, 40.2% face poor connectivity and 56.6% face signal issues.

⁶ <https://www.pewresearch.org/internet/2019/03/07/use-of-smartphones-and-social-media-is-common-across-most-emerging-economies/>

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http://mospi.nic.in/sites/default/files/publication_reports/KI_Education_75th_Final.pdf

⁸

<https://data.worldbank.org/indicator/SP.RUR.TOTL.ZS?locations=IN>

⁹ <https://www.igauge.in/news/2020/4/covid-19-a-wake-up-call-for-indian-internet-service-providers>



Photo Courtesy: Computer Shiksha

In lieu of the aforementioned existing systemic inequalities, merely moving classrooms online would not mean effective remote learning. One-to-one interactions among peers and teachers are very important for learning. On a digital platform, how students learn and communicate with others is largely dependent on the readiness of both teachers and students to accept digital learning. In the case of distance education, the onus of learning is more on students, which requires discipline.

There are challenges for teachers too. Not only are many of them digitally inept, a large number of teachers have never used an online environment to teach. Teaching a course online ideally requires preparation, such as designing a lesson plan and preparing teaching materials such as audio and video contents. This has posed new challenges for many teachers.

According to Educationist Mohd Miyan, a former member of UGC, governments should focus on raising the motivation level of teachers in their schools as this will go a long way in improving the quality of these institutions.

Learning demands a conducive environment for study. However, not all students have a quiet space for learning at home. For example, if a family has three children and only one smartphone, it would inevitably mean loss of learning for the children. While 37%¹⁰ of households in India have one room, it would be a luxury for many to attend lectures in an undisturbed environment. Along with this, having online classes on a regular basis has a cost implication too, as students have to bear the cost of internet services. This becomes an added drudgery for a lot of households, especially those whose families have lost income as a result of a lockdown-related job loss, will not be able to afford this.

Despite initiatives from the Central and state governments, there has not been enough expenditure on improving the digital infrastructure for remote learning. In fact, in 2020-'21, the Ministry of Human Resource Development budget for digital e-learning was reduced to Rs 469 crore from Rs 604 crore in 2019-'20¹¹.

¹⁰ https://censusindia.gov.in/2011-Common/NSDI/Houses_Household.pdf

¹¹ https://www.indiabudget.gov.in/expenditure_budget.php

Growth of EdTech Companies

In this backdrop of digital gaps in India and the move towards technology based classrooms, it is interesting to notice the growth of EdTech companies. A report by RedSeer and Omidyar Network India¹² says the coronavirus pandemic has proved to be one of the biggest game-changers for India's edtech sector. Online education offerings for Classes 1 to 12 are projected to increase 6.3 times by 2022, creating a \$1.7 billion market¹³. The key growth drivers propelling EdTech in India are the ability to serve a large audience at significantly lower costs compared to traditional in-classroom learning, significant growth in internet and smartphone penetration across India, steady rise in disposable income of the Indian households, and a large consumer base with over 37% of India's around 1.35 billion population falling in the 5-24 age bracket.

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bracket. It is reported that about 77% of the total funding (between 2014 and 2018) has been poured into just four edtech startups – BYJU's, Toppr, Unacademy, and Vedantu.

Evidently, technology in India's educational system is acting more as an alternative delivery mechanism while the process and system of education remain traditional. What these start-ups are doing is providing a digital delivery of content in a more accessible way to factions of the society that have the purchasing power. The ones doing this better are being able to attract more funding.

The EdTech sector is growing rapidly in India and currently, we are home to the second highest number of EdTech companies. The nationwide lockdown due to Covid-19 gives a ray of hope for the rise of online education as classroom learning is expected to continue to remain shut for a while and it might prove to be a blessing in disguise for the government to focus on uniform regulations governing this sector for the growth and benefit of the EdTech industry.

However, there is a lot of room to improve India's market share in the EdTech space globally, which is only around 2.09%. Lack of uniform government policies and

¹² <https://redseer.com/reports/edtech-in-india-an-omidyar-network-india-redseer-report-2019-20/>

¹³ <https://assets.kpmg/content/dam/kpmg/in/pdf/2017/05/Online-Education-in-India-2021.pdf>

financial incentives for research and innovation in the EdTech space, patchy internet connectivity especially in rural India and other socio-economic barriers are some of the impediments to the growth trajectory of this sector in India. The lack of central regulator for all aspects governing the sector and the lack of coordination between the centre and the state as well as various boards and institutes also remain major stumbling blocks.

Not only that, there is a mental barrier among parents in accepting technology based learning. Indian parents need to be taught to trust the new, digital system of education. This requires central and state education boards to make fundamental changes and adopt them across school curriculums. Once the government provides an impetus to alternative learning in schools, only then can edtech startups actively look at designing products for such learning and create a real impact on educational standards. Edtech startups, too, should get the socio-economic support they need to create the space for alternative learning in the Indian market.

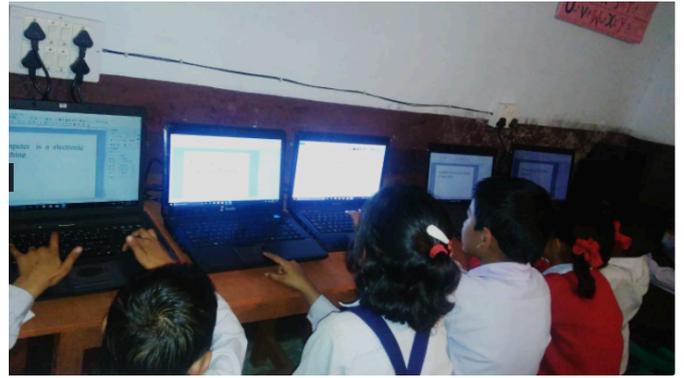


Photo Courtesy: Computer Shiksha

The Covid-19 pandemic has exposed how rooted structural imbalances are between rural and urban, male and female, rich and poor, even in the digital world. With the existing digital divide, expanding online education will push the digital have-nots to the peripheries of the education system, thereby increasing inequity and worsening the existing structural and systemic inequalities. In this digital age, it is important that we accept the ever growing importance of online education. The internet is no more a luxury. In fact, it should be considered as a basic right. Corporations can consider this an opportunity to step in and play an important role in improving digital access. While inequities will continue to persist, both in and outside the classroom, we must strive to bridge these gaps.