

Digitalisation of Education: A readiness survey

Good start, but miles to go



Knowledge Partner



Messages



**Dr. Niranjana
Hiranandani**
President,
ASSOCHAM

The COVID-19 pandemic has caused significant stress to India's economy as well as the society at large, revealing a large disparity in our population. We are currently at an inflection point in the education industry, as the digital push that India has been vying for is closer to becoming a reality. While challenges still exist in the Indian ecosystem, but the innovations that we are witnessing amidst this crisis have the potential to be scaled up and serve the country at large.

We are now poised at a position to leverage our strengths and further develop our digital capabilities. The online revolution that India is taking steps towards will help bridge the existing education gap in society at large. A key indicator of progress, education plays an integral role in nation building and in nurturing a globally competent workforce. India's policy makers and industry stakeholders are making all requisite efforts to drive the education agenda which is aligned with the long-term economic vision of the country.



Deepak Sood
Secretary General,
ASSOCHAM

As the world struggles with the unprecedented health and economic fallout of COVID-19, the global education ecosystem is undergoing a transformation. In this current learning crisis, the Indian Government through their reforms are providing an impetus for transforming the current disruption in education. While the education sector embraces online learning, it is essential to ensure that school systems are not only adapting but progressing. At the moment when the world focuses on health, sustenance and economy, India must not let our focus on education falter, as learning has the power to change our future and help leverage our demographic dividend. There is an urgent need to create a parallel digital infrastructure for the Indian education sector, to ensure equitable learning for all, irrespective of economic background.

This ASSOCHAM and Primus Partners report attempts to garner a deeper understanding of the need of the hour by surveying the education industries key stakeholders: our teachers and students. The inferences and analysis in the report portray a dichotomy in the impact and capability of our institutions, which we hope to see action taken towards in the months to come.



Charu Malhotra
Co-Founder &
Managing
Director, Primus
Partners

COVID-19 has challenged the very premise of our schooling provision. With schools and colleges shut we need to innovate models leveraging edtech responsibly to honour 'no child left behind' in letter, spirit and action. Access to digital infrastructure will define the digital divide unless steps are taken to resource the reform.

This report showcases the current status of digital readiness in India, highlighting the need for digital maturity before we can declare ourselves ready to move our classrooms into the homes of students and teachers. Despite live interactive sessions, students sitting in remote locations tend to lose the learning perspective, a case of out-of-school-out-of-mind. Transitioning to a system around digital needs to be made viable for learning, with processes systemising remote learning. We need technology driven pedagogy, online and offline content designed for independent learning, accessible through multiple modes like TV, radio, mobiles; and very critical to this whole shift, we need to re-orient our teachers and students in progressing learning outcomes in this new hybrid mould.

“ eLearning is changing.
We will see new models, new technologies.
Let’s drop the ‘e’ or give it a wider definition ”
- Elliot Massie

Respondent States



Figure 1: Student and teacher respondent states (Indicative map)

In order to successfully navigate crises like the COVID-19, there is a need for India to readily adapt and develop resilience towards transforming our challenges into opportunities. We now have the opportunity to gradually move towards a digital (r)evolution for our education systems; however, in order to provide solutions, it is imperative to understand the current online readiness as well as challenges of our students, teachers and education ecosystem. The ASSOCHAM and Primus Partners joint survey was answered by 466 students and 483 teachers across various states in India, as represented in Figure 1. The respondents belonged to a variety of educational institutions across India; government, government-aided as well as private.

Access to resources across institutions and state

The COVID-19 pandemic has been termed the “great equalizer”, in that it affects all sections of society in all nations across the world. However, it will take more than a health crisis to bring all people at par with one another. What the virus has done instead, is expose the underbelly of inequality in the education system by bringing it further into the forefront.

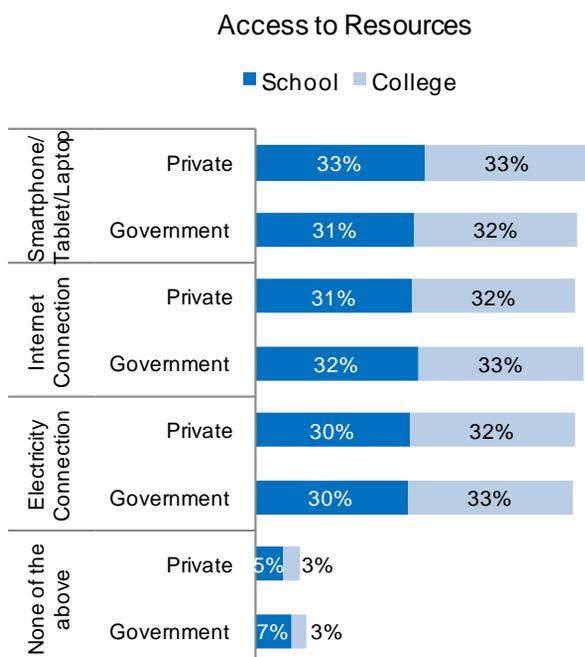


Figure 2: Student and teacher access to resources across institutes

Inequality in education stems from a lack of access to resources which may be attributed to an individual’s or household’s socioeconomic status. In order to completely shift to a remote or online system, it is paramount to ensure that all students have or will be provided with the supportive infrastructure or resources.

The survey recorded teacher and student access to uninterrupted electricity to charge devices, a stable internet connection for them to connect to education platforms online for at-least a few hours in a day, and electronic media/ platforms to disseminate digital content. Figure 2 illustrates student and teacher access to resources across government and private institutions. As is shown, there is not much difference in the resources available to students and teachers from government schools. However, despite having access, it is important to note that it is the quality of education and the utilisation of the resources that will have an impact on the learning.

In the next coming months, India will be tested on its ability to bridge the deepening gap in education between the technology resilient and technology resistant sections of our learning community. The current scenario that we are in threatens a rehashing of India's age-old struggle in ensuring that its children are educated. With unemployment on the rise and the situation wherein children in poorer socio-economic conditions or rural areas unable to connect to online or remote learning, we face the threat of a unprecedented drop in enrolment and an increase in out-of-school children. As the economy slowly starts to decline, a greater emphasis must be put on protecting our at-risk population from falling into a learning poverty trap.

Hours of teaching or learning being conducted across institutions and states

In order to gain a deeper understanding of the time spent on remote or online education, the survey recorded the average number of hours that private and government schools or universities conducted online classes for, as indicated in Figure 3.

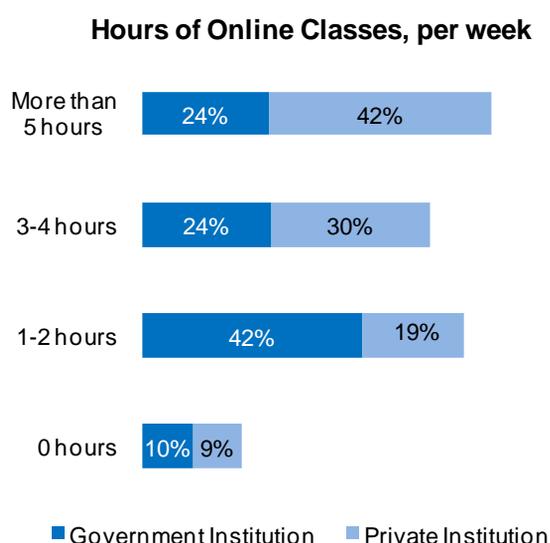


Figure 3: Hours of online/ remote classes attended by students and teachers across institutions

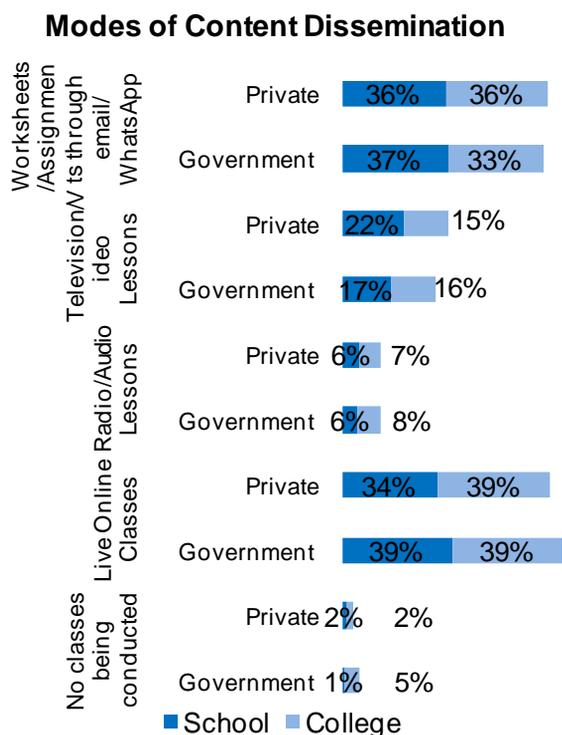
While 0 hours indicate little or no involvement of institutions, 1-2 hours indicate partial involvement of institutions, 3-4 hours indicate fairly supportive institutions and more than 5 hours indicate completely supportive institutions. It can be observed that a majority of private institutes held more than 5 hours of remote or online classes while a majority of government institutes held only 1-2 hours of online teaching.

Currently, the deployment of educational services has not been uniform. While on one end, students who are financially supported are more likely to have a greater number of teaching hours and private schools and universities supporting the digitalisation, those that belong to economically lower sections of society have few to no hours in government institutions that are not digitally integrated.

Mode of content dissemination across institutions

The mode through which teachers and students access online learning is likely to influence the quality of the instruction received. Learning through audio and video lessons are one-way processes of communication that encourage methods of lecturing, teacher-centric classrooms, rote memorization, and disconnected assessments. Audio or video lessons may be accessed on platforms such as radio or television, which could include traditional methods of assessment such as worksheets and assignments sent through mail or WhatsApp. On the other hand, live online classrooms indicate a two-way process of collaborative communication, which encourages dialogue and academic discussion. Additionally, if integrated well with supportive software systems, online systems could use holistic teaching tools such as gamification, interactive assessments, etc.

The survey recorded the modes of teaching or learning that schools and universities have adopted



during the COVID-19 lockdown, plotted against institution type, as indicated in Figure 4. On average, it was recorded that the most common mode of content dissemination was either through live online classrooms or documents like assignments and worksheets sent through either email or WhatsApp. It was observed that both government and private institutes share similar trends in terms of the mode they use to disseminate academic content. It is important to note that teachers are highly impacted by the modes of education as they could either enable our teachers with new skills or if they cannot adapt, leave them behind. Digital education has the capability of supporting our teachers in seamlessly organising the classroom, providing instruction, and sustaining creative inquiry in teaching methodology. These solutions may be customised to cater to teachers, to ensure quality instruction and support as well as teacher-counseling services.

Figure 4: Modes of content dissemination across institutes

What students are missing out on through online or distance education

With the sudden onset of online and remote learning, students are bound to miss out on the value added by a physical school environment. The survey analysed the aspects of a school/ university environment that students might miss out on while studying from home, as indicated in Figure 5.

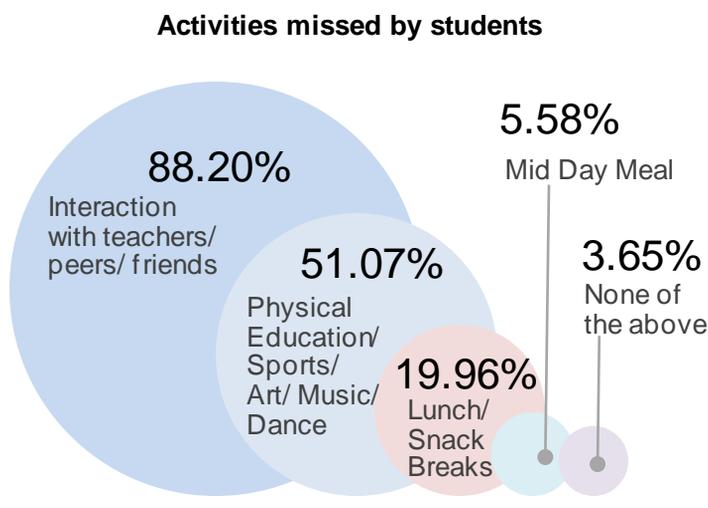


Figure 5: Activities students are missing when attending remote or online classes at home

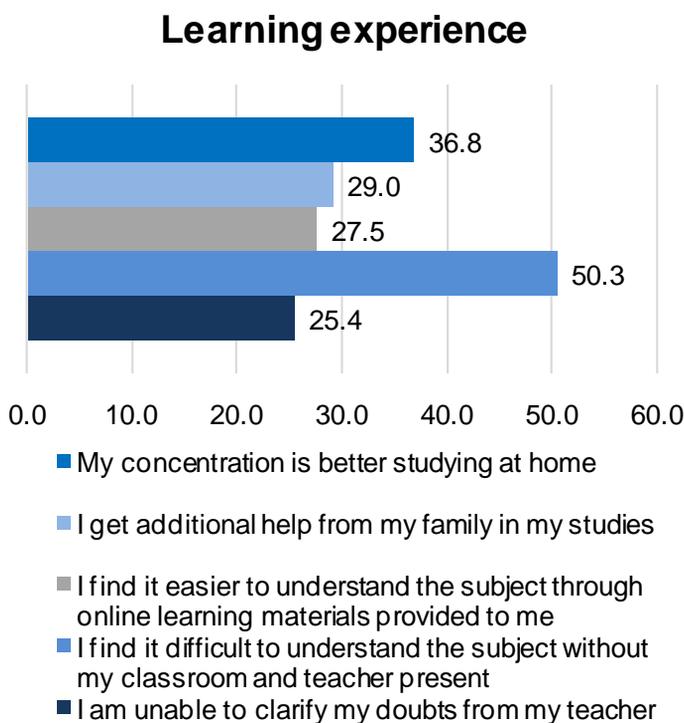
An 88% majority of students recorded missing out on interactions with their teachers, peers, and friends while 51% of students missed their extracurricular activities such as physical education, sports, art, music, and dance. On the other hand, only 20% of respondents missed meal and break time. Bonding activities like interactions with teachers, peers and friends are a contributing factor to emotional adjustments for students at school. Often, it is the presence of peers and teachers that motivate students to attend school. It is within the 40 hour week in the classroom that students develop their cognitive, social, and emotional behaviours. Additionally, having a daily timetable or schedule keeps discipline and structure in place.

Specific guidance will be required to replicate these connections that students share in an online classroom environment. Additionally, the shift to remote/online teaching has led to a spotlight being shed on academic subjects in a school curriculum, leaving extra-curricular behind. Students are now not getting access to subjects that may as well have been proficient in. Courses and specialty disciplines like physical education and sports, fine arts, music, dance, information technology, engineering and architecture are reliant on hands on and applied teaching methods. An absence or limitation in these fields could prove detrimental for the development of learners with heightened bodily-kinesthetic intelligence and may even impact their future career decisions. With the new digital learning systems, the holistic development of school children is taking a toll. This begs the following questions: will our schools and universities be able to support these students in getting the necessary skills required for their future careers? Will the academic content remain the same, or will it evolve to adapt to the platforms offered?

Another important reason why students are incentivised to attend school is the Mid-Day Meal Scheme implemented by Ministry of Human Resource Development. 11.59 crore children are currently covered under this scheme. The assurance of one daily balanced meal inclusive of food grains, pulses and vegetables has the dual benefit of ensuring nutritional standards as well as motivating parents and guardians to send their children to school. Keeping this in mind, the government has passed a provision ensuring that eligible children are provided meals even during school closure during the summer vacations, which may be fruitful towards keeping up enrolment rates post the lockdown. However, only 5.6% of the survey respondents were dependent on the mid-day meal.

Quality of online learning

The survey also recorded the quality of remote or online education as experienced by learners, covering all aspects: concentration at home, understanding in the home environment, effectiveness of online learning materials, clarification of doubts and additional help at home. Figure 6 illustrates the trend of responses as recorded by the survey.



Around 50% or half of the student respondents stated that they find it difficult to understand the subject without the classroom environment and teacher present. The home environment, being vastly different from formal classrooms, is often difficult to adjust to and make conducive for learning. Students require a space devoid of distractions and interruptions to be able to truly focus on their academics. Additionally, students often emotionally connect to and form psycho-physiological connections to the physical school/ university space and facilities where they learn, which plays an important factor in the learning experience. Conversely, a smaller size of 37% respondents stated that their concentration is better studying at home. It is safe to presume that this section of students does not seem to face any issues when transitioning from a school to home environment. It is also equally important to assess the quality and effectiveness of the learning materials being provided to the students.

Figure 6: The experience of attending online or remote learning classes

This factor is also reliant on the mode of classes being conducted, the better the platform, the better the student's experience. An advanced, digitally integrated platform will be more engaging than one-way, passive forms of teaching. However, the current digital offerings may be deemed inadequate as the survey recorded only 28% of respondents that found themselves understanding the content better through online learning materials. The ability to clarify questions and resolve confusion faced by students is the bedrock of a teacher-student learning experience. Only 25%, or a quarter of respondents felt their doubts were being unanswered. This may be due to the prevalence of live online classrooms for this population. Nevertheless, there still exists a group of students unable to express themselves in the digital environment. Unresolved questions result in an incomplete education, preventing students from fully understanding and applying a concept. Conversely, if a learner is fortunate, he or she studies independently or receives additional help from a parent, guardian, or older sibling. From the survey, only 29% of students received additional help from home in their studies. The new digital age gives us the capacity to change the face of learning, we must leverage new immersive forms of education to create technology supported customised learning for each student.

Level of teacher preparedness across institutions

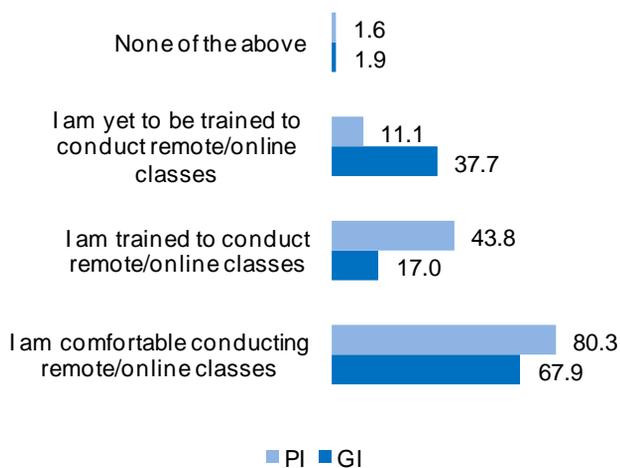


Figure 7: Teacher preparedness for remote or online teaching across government and private institutions

Level of preparedness for online teaching

The survey conducted recorded the level of comfort and preparedness for online instruction that teachers in government and private institutions are experiencing, as illustrated in Figure 7.

The survey recorded that while larger percentage of private institute teachers were trained to conduct online classes, a larger percentage of government institute teachers were yet to receive training. An 80% majority of teacher respondents from private institutes were comfortable conducting online/remote classes, whereas a lesser 68% of government institute teachers were comfortable. From the data it can be inferred that while teachers across institutes were comfortable using digital technology, they lacked structured training to use tools and conduct classes digitally.

The COVID-19 has been an unprecedented occurrence for industries and sectors across the globe. The digitalisation of education which was considered a luxury service is now being considered a necessity. Teachers across the globe are facing a tremendous burden due to the sudden switch to digital teaching methods. Instantaneously, teachers are expected to adapt their academic content to online dissemination and become proficient in using online platforms. This has placed emotional strain and anxiety on the teachers and will affect the way in which teachers conduct their classrooms and share inter-personal relationships with their students. The shift to a digital classroom will provide teachers that have adapted with an added skill but threaten the teachers that have not been able to cope with job security fears. The question then arises; will we be successful in maintaining the momentum in making education go digital by taking a step forward or will the sudden health crisis incapacitate us, and will we move two steps backwards? It is at this point that policy makers and industry will have to collaborate to develop a stable and resilient digital infrastructure with adequate teacher training and support and must make use of this opportunity to create a new benchmark for ourselves.

Quality of teaching online

The survey on teachers also recorded the quality of remote or online teaching for teachers, including factors such as concentration at home, forming connections to students, explanations of concepts, monitoring student understanding as well as doubt clarification. Figure 8 illustrates the trend of responses as recorded by the survey.

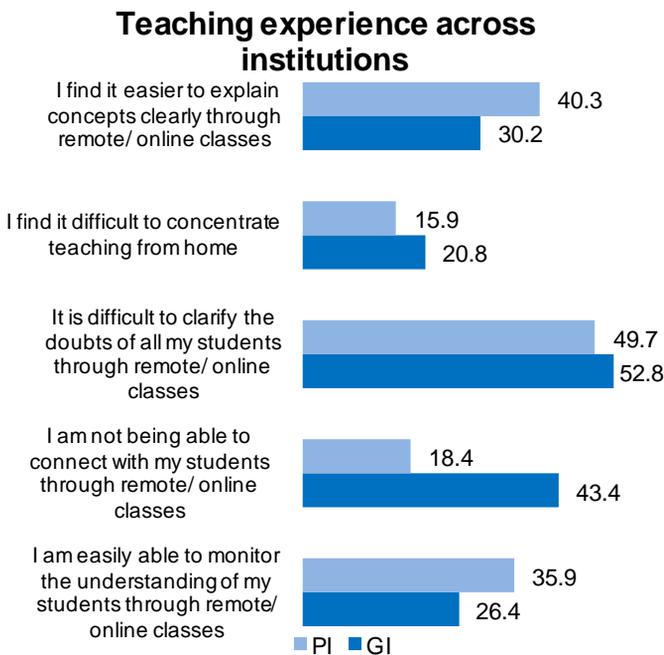


Figure 8: The experience of teaching remote or online classes across government and private institutions

Like students, teachers are also expected to face difficulties in adapting to teaching from home, where they have additional responsibilities. Teachers need to be comfortable teaching in an environment where they can focus on their lessons and their students. On analysis of the responses, it can be observed that on average, teachers from private institutions and government institutions had similar teaching experiences. Teachers in government institutions were recorded as finding it tougher to connect to their students than their counterparts in private institutions. Another important factor to consider is the ability of teachers to be able to clarify their student's doubts and continuously check for understanding in order to know how to adapt their delivery for maximum impact. Similarly, teachers in private institutes found it easier to explain concepts clearly and monitor student understanding as opposed to their government institute counterparts.

Although a majority of the respondents use live online classrooms, the current technology does not allow for the seamless questioning and answering of queries. Therefore, although teachers did not find it difficult to concentrate on work, they faced challenges when it came to delivery, doubt clearing and checks for understanding. It is an added responsibility for teachers to ensure that no learner is not left behind especially special needs children, marginalized groups, migrant or displaced or orphaned children. Incomplete implementation of digital education may cause teachers to go a few steps back teachers to one-way, passive, and solitary communication with their students. It is up to our policy makers on how we can support our teachers and sustain creative inquiry in teaching methodology.

Teaching and learning preferences across institutes

School v/s Online Classes

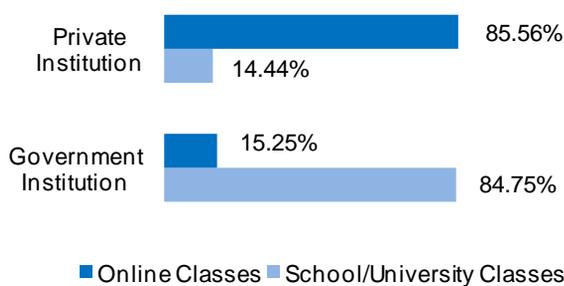


Figure 9: Overall teaching and learning preferences across institutes

In order to summarise the survey, an overall impression of the preferences of both students and teachers was analysed and plotted to the type of institution of the respondents. While an 86% majority of respondents from private schools prefer online classes, an 85% majority of respondents from government schools prefer classes at school or university. Therefore, there seems to be a clear disparity between the quality of content provided to respondents from both types of institutes.

Suggestions for improvement

“COVID-19 hit education in India is discovering it is ill prepared for self-study...and demands that the student remain embedded in the normal life of a grihastha and still manage to focus on acquiring learning”.

~ M Rajivlochan

The survey also provided respondents with the flexibility of providing a few suggestions that they would like to see implemented in their educational institutions, be it school, college, or university. A few noteworthy suggestions were:

Integration of electronic media, such as the sharing of PPTs, online assignments

Discussions on various other topics that are indirectly linked to the syllabus

More practical classes should be conducted in order to understand the topics easily

Implementation of online teaching in the school curriculum, homework and project work should be accessible directly by the students sitting at home

Organising peer teaching and group projects

Use of positive communication techniques

Similarly, the survey also welcomed suggestions for improvements teachers and students would like to see in their remote or online classrooms. A few suggestions were:

- 1) Video lessons to be made available offline in order to provide the flexibility to view when convenient and remove the necessity to attend these lessons live
- 2) Regular classes to clarify doubts and provision of written notes for the classes taken
- 3) Better Internet connectivity in remote areas across India
- 4) Training of faculty to switchover smoothly to online teaching and assessing

The future of education: Role of the government and our policy makers

As educators we understand that while the classroom may have its limitations, but it still remains a place for locating great possibilities of experiential learning. In the past few weeks of lockdown, we have gone from “Classroom” to “Zoom / Teams/ Meet Online Sessions “. While much has been written about the hastily made transition, it is important to understand that there has been a shift in the entire teaching and learning process and may impact generations to come.

The notion of a teacher or an educator who imparts content to students will no longer be suitable. We will need to redefine the role of the teacher in the classroom of tomorrow as students continue to access content, and even learn new technical skills, through a few clicks on their smart phones, tablets, or computers. This may mean that the role of teachers will need to move towards facilitating rather than just lecturing. This also implies building the capacity and skills of the teacher to reach out to the 21st century learner.

On the other hand, educators will have to start caring for students as complete people. They will have to work towards understanding each student's limitations and respond with flexibility. They will need to foster connections that facilitate learning and collaborate with students on their learning.

The implementation of digital education will only be successful if the platforms are sustainable and scalable. The nation's key policy makers currently have the opportunity to take education design into their own hands and set a baseline of online and digital educational standards across the nation; an opportunity to create the new normal.

The government is taking proactive steps to help children who do not have access to internet.

- a) **SWAYAM PRABHA DTH channels** to support and reach those who do not have access to the internet. 3 channels were already earmarked for school education; now another 12 channels to be added. This will benefit children living in urban and rural areas.

Provision is made for telecast of Live interactive sessions on these channels with experts from home through Skype. Tie up with private DTH operators like Tata Sky and Airtel to air educational video content to enhance the reach of these channels

Coordination with states of India to share airtime (4 hours daily) on the SWAYAM PRABHA channels to share education related content

- b) **PM eVidya programme** for multi-mode access to digital/online education to be announced and launched shortly. This will consist of DIKSHA, a one-nation, one-digital platform facility for school education One earmarked TV channel for each class (one class, one channel) will also be a part of this

*note: DIKSHA has had 61 crore hits since March 24

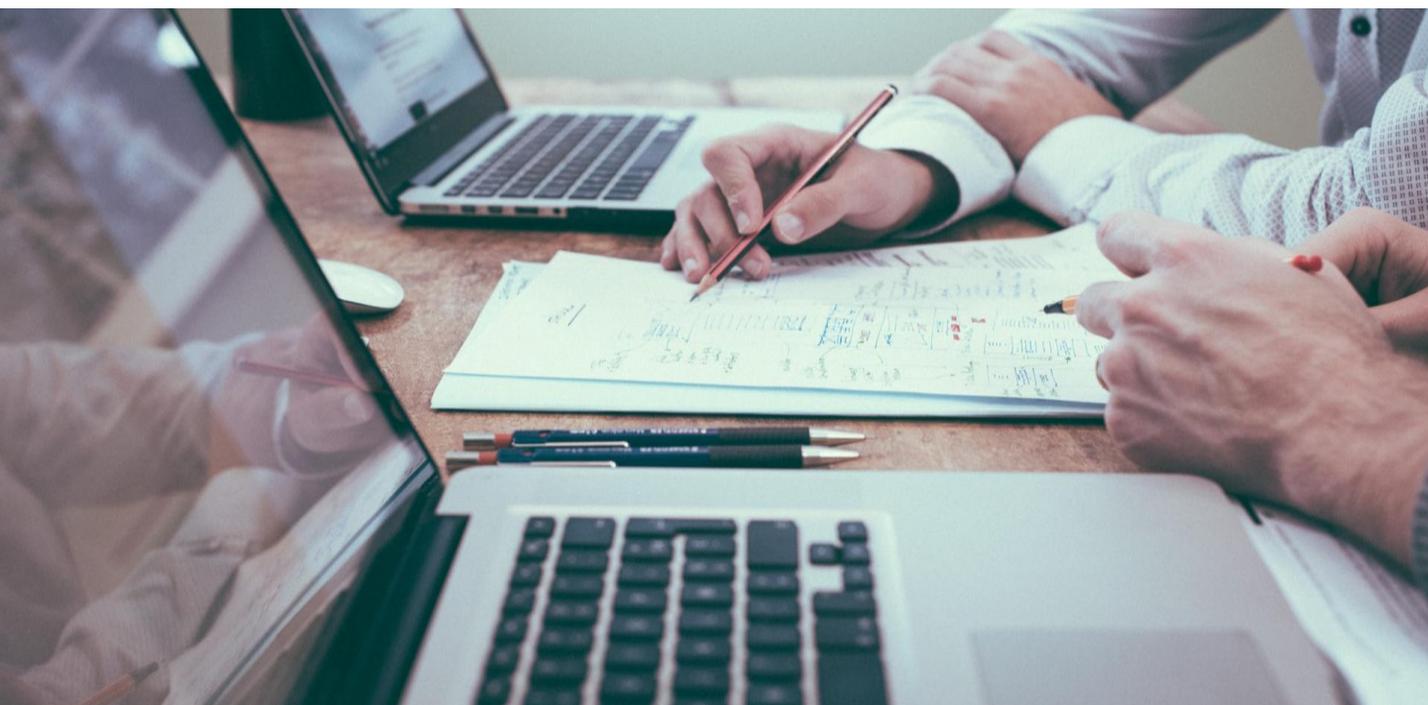
- c) Extensive use of **radio, community radio and podcasts, special e-content** for the visually and hearing-impaired students
- d) **Manodarpan Initiative** to extend psycho-social support to students, teachers and families for mental health and emotional well-being to be launched immediately.
- e) **Top 100 universities** permitted to start online courses by May 30th
- f) **New National Curriculum and Pedagogical Framework** for school, early childhood and teachers to be launched
- g) **National Foundational Literacy and Numeracy Mission** for ensuring that every child attains learning levels and outcomes in Grade 5 by 2025 will also be launched by December 2020.
- h) **200 new textbooks** have also been added to e-Paathshaala.

If implemented well and supported by our policy makers, we will be able to use forced digitalisation as a crutch to progress further towards modern and improved forms of teaching and learning.

Recommendations

- Creation of a collaborative government-private ownership of this space
- Servicing students that are home-schooled – expanding the scope for EdTech solutions
- Embracing processes and integrated systems to support remote and/or online education both at home and institutionally
- Doing away with obsolete institutional structures; streamlining the administrative process
- Working alongside partners at the grassroots level – relying on local skills at the rural level
- Adopting best practices in curriculum design & educational pedagogy
- Online education portal/ database with sufficient resources to support all stakeholders in education
- Ensuring that growth towards digital education is feasible for all sections of the society, collaborating with internet providers for an education centred subsidy

If implemented well and supported by our policy makers, we will be able to use forced digitalisation as a crutch to progress further towards modern and improved forms of teaching and learning. The nation's key policy makers currently have the opportunity to take education design into their own hands and set a baseline of online and digital educational standards across the nation; an opportunity to create the new normal.



About ASSOCHAM

ASSOCHAM initiated its endeavour of value creation for Indian industry in 1920. Having in its fold more than 250 Chambers and Trade Associations, and serving more than 4,50,000 members from all over India. It has witnessed upswings as well as upheavals of Indian Economy, and contributed significantly by playing a catalytic role in shaping up the Trade, Commerce and Industrial environment of the country.

Our legacy has helped build a strong foundation for future endeavors wherein we serve as the Knowledge Chamber for the industry and become the conduit between them and the Government to foster development of a New India. Seen as a proactive and forward looking institution, ASSOCHAM is fully equipped to meet the aspirations of Corporate India in the new world of business.

ASSOCHAM has emerged as the fountainhead of Knowledge for Indian industry, which is all set to redefine the dynamics of growth and development in the technology driven cyber age of 'Knowledge Based Economy'. We aim to empower Indian enterprise by inculcating knowledge that will be the catalyst of growth in the technology-driven global market and helps them upscale, align and emerge as formidable player in respective business segments.

Aligned with the vision of creating a New India, ASSOCHAM works as a conduit between the industry and the Government. ASSOCHAM is seen as a forceful, proactive, forward looking institution equipping itself to meet the aspirations of corporate India in the new world of business. ASSOCHAM is working towards creating a conducive environment of India business to compete globally.

As a representative of Corporate India, ASSOCHAM articulates the genuine, legitimate needs and interests of its members. Its mission is to impact the policy and legislative environment so as to foster balanced economic, industrial and social development.

ASSOCHAM derives its strength from its Promoter Chambers and other Industry/Regional Chambers/Associations spread all over the country.

About Primus Partners

Primus Partners has been set up to partner with clients in 'navigating' India, by experts with decades of experience in doing so for large global firms. Set up on the principle of 'Idea Realization', it brings to bear 'experience in action'.

'Idea Realization'— a unique approach to examine futuristic ideas required for the growth of an organization or a sector or geography, from the perspective of assured on ground implementability.

India is and will continue to be a complex opportunity. Private and Public sector need trusted advisory partners in order to tap into this opportunity. Primus Partners is your go-to trusted Advisory for both public and private sector organizations involved intricately with nation building, and the creation and growth of robust corporations as engines of progress.

Our core strength comes from our founding partners, who are goal-oriented, with extensive hands-on experience and subject-matter expertise, which is well recognized in the industry. Our core founders form a diverse cohort of leaders from both genders with experience across industries (Public Sector, Healthcare, Transport, Education, etc.), and with varied specialization (engineers, lawyers, tax professionals, management, etc.).

Primus Partners brings experience of working in more than 30 countries with private and public sector, including working with Government of India, building and leading large consulting teams at the leadership level, and creating one of the largest public sector consulting practice in India. They also represent 200 person years of experience in leading global and Indian consulting firms and the public sector.

The founding team is supported by a distinguished advisory board that includes experts with leadership experience across government, large corporate and notable civil society organisations.



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