

DIGITAL TRANSFORMATION IN EDUCATION DURING COVID-19 PANDEMIC

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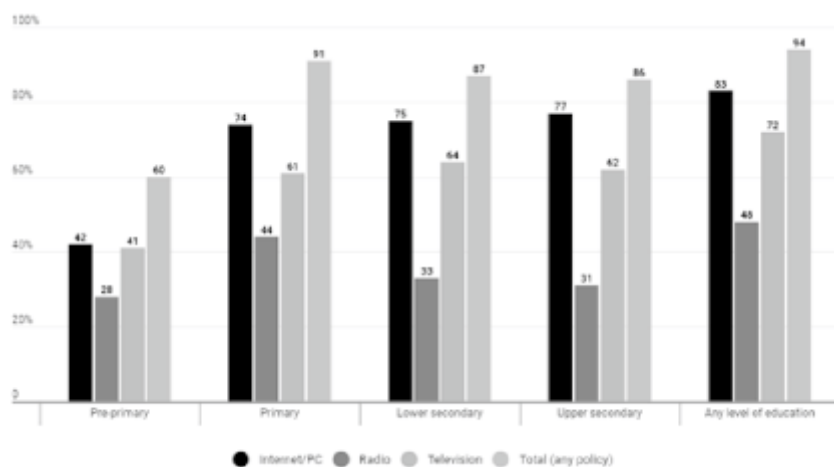
ABSTRACT

The global crisis of the COVID-19 virus has impacted the Education Sector tremendously. It has presented the education community around the globe with numerous challenges in continuing the learning process. The Indian Education system has also experienced an irreversible learning crisis amid the pandemic. It has impacted over approx. 315 million children of the country who are enrolled in schools or colleges. Extended school closures may cause loss of learning. The pandemic has forced the sector to shift to a virtual and blended mode of learning. ICT has helped the sector to survive and adapt to the new ways of online learning. The crisis has allowed various educational innovations to bloom. During the pandemic, the country has witnessed a number of ICT driven initiatives on national, state, and individual levels. Therefore, this is a critical moment to reflect how the current choices educational institutions are making might affect with Covid-19 education and online learning: This paper is reflect how all state works to minimize the effect of lockdown due to COVID-19 in education and how teachers and students adapt these technology.

Keywords: ICT Initiatives, Blended mode, Virtual mode of Learning

Introduction

The COVID-19 pandemic is widely considered to be the most challenging health crisis the world has ever faced, attacking societies at their core, as described by the World Health Organisation (WHO). The novel coronavirus has caused a tremendous loss of lives, jobs, and opportunities around the world. Almost every country has imposed complete or partial lockdowns to combat the spread of the virus. The education sector is no exception has been affected by lockdowns. The Indian Education system has also experienced an irreversible learning crisis amid the pandemic. It has impacted over approx. 315 million children of the country who are enrolled in schools or colleges. Extended school closures may cause loss of learning. The pandemic has forced the sector to shift to a virtual/blended mode of learning. ICT has helped the sector to survive and adapt to the new ways of online learning. The crisis has allowed various educational innovations to bloom. During the pandemic, the country has witnessed a number of ICT driven initiatives on national, state, and individual levels. Such technologization, often seen as neutral, is closely related to educationalization, i.e. imposing growing societal problems for education to resolve. [1]



percent of countries for upper secondary education. Many countries have also developed broadcast curricula (television- and radio-based), especially for primary and lower secondary students

ICT initiatives of india for continuing the Learning Process [2]

National Level ICT Initiatives

To address the challenge of remote learning, the Ministry of Human Resource Development (MHRD) has undertaken several initiatives to assist students and educators. Platforms like Digital Infrastructure for Knowledge Sharing (DIKSHA), e-Pathshala, National Repository of Open Educational Resources (NROER) were used extensively for supporting the students and teachers across the country with educational resources and relevant training by some ICT tools like TV, Radio etc.

1) DIKSHA (Digital Infrastructure for Knowledge Sharing):-

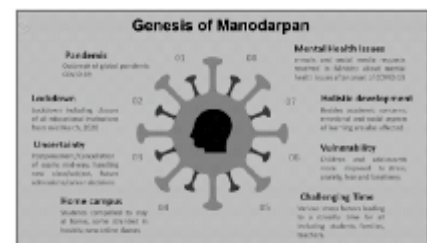
DIKSHA is an initiative of the (NCERT) and MHRD launched school education available for all states and the central government for grades 1-12. The government of India also launch a training module for Integrated Government Online Training” (iGOT) portal. The portal aims to enhance the capacity building of frontline workers to handle the pandemic efficiently. The portal provides agencies like the Health Department and NCC with the ability to upload their content. [3]



Source: <https://diksha.gov.in/explor>

2) Manodarpan

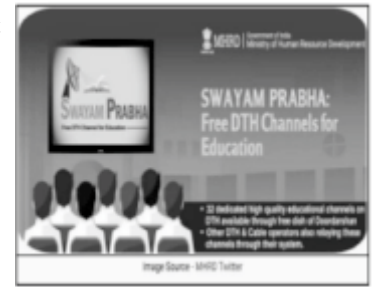
The MHRD launched the initiative MANODARPAN to provide psychosocial support to students for their Mental Health and Well-being during the challenging times. A national toll-free helpline (8448440632) has also been set up, which is managed by a pool of experienced counselors/psychologists and plans to continue beyond the COVID-19 situation. [4] Source: <http://manodarpan.mhrd.gov.in/>



3) Swayam Prabha:

Swayam Prabha is an initiative by MHRD to provide DTH channels that are meant to support and reach those who do not have consistent access to the internet. 'SWAYAM' stands for Study Webs of Active Learning for Young-Aspiring Minds.

32 channels are devoted on a 24x7 basis to telecast high-quality educational programs by the MHRD.



4) All India Radio :-All India Radio (AIR) is being used to broadcast virtual classes and other educational content through regional channels across the country. The platform is being specially used for children from primary grades (1- 5) in remote areas who do not have access to online resources. A Podcast called Shiksha Vani of the Central Board for Secondary Education (CBSE) is being effused by learners of grades 9 to12.

Sl. No.	Activities	Andhra Pradesh	Assam	Bihar	Chhattisgarh	Gujarat	Haryana	HP	Jharkhand	Karnataka	Kerala	Madhya Pradesh	Manipur	Mizoram	Nagaland	NCT of Delhi	Odisha	Punjab	Rajasthan	Sikkim	Tamil Nadu	Telangana	Uttar Pradesh	West Bengal
1	Digital Classroom																							
2	DTH Channels																							
3	Online Assessment																							
4	Online Assessment																							
5	Online Assessment																							
6	Online Teacher																							
7	Online Teacher																							
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15	Online Teacher																							
16	Online Teacher																							

SUMMARY OF STATES/UTS

Source: https://www.education.gov.in/sites/upload_files/mhrd/files/India_Report_Digital_Education_0.pdf [5]

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1. Andaman & Nicobar Islands

- a. Doordarshan:- This is a joint initiative by the DOE in collaboration with the Doordarshan, Port Blair to start the broadcast of pre-recorded tele-classes for the students of Class X and XII throughout the Islands from 20th April, 2020.
- b. Tele-Classes on Local Cable TV Network
- c. Radio Classes
- d. Providing Digital Learning contents Online by a YouTube channel “AN Education Dept Andaman”

2. ANDHRA PRADESH

The Department of School Education of Andhra Pradesh has undertaken several initiatives to mitigate the impact of Covid-19 on school education.

- a) Webinar Based ICT Training
- b) Abhyasa APP for teachers and students.
- c) Bridge course to primary school students through T.V
- d) Toll free Call centre and Toll Free Video call centre for students for understanding critical topics
- e) Creation of WhatsApp Groups for sending 10th class model paper
- f) Facebook live training program

3. ARUNACHAL PRADESH

- a) Radio School:- In collaboration with AIR, Itanagar, the Dept of Education, Govt of Arunachal Pradesh is broadcasting online radio talk for classes 1 to 5, on FM 103.1Mhz & MW 675khz . The first radio talk started with Class -1 then class 2, and so on.
- b) Online Classes Programme on TV Channels For Class 9 to 12 students
- c) Live Classes through EDUSAT
- d) Other digital platforms:- WhatsApp groups/webinars/Google meet is being used by lecturers to be in touch with their students directly.

DTH Services	Channel No.
Swayam Prabha	27 & 28
Airtel TV	437 & 438
Videocon D2H	475 & 476
TATA Sky	756 (pop up window)
DISH TV	946, 947, 949, 951

4. ASSAM

- a) Gyan Brikshya - Live Digital Classroom (Tele Education Classes)
- b) Biswa Vidya- Radio Learning Programme
- c) Tele Classes through Doordarshan
- d) Digital initiatives for Career Guidance:-From the portal <https://assamcareerportal.in/>
- e) By 'BiswaVidyaAssam' App

5. BIHAR

- a) An online learning programme/ initiative namely 'Mera Doordarshan - Mera Vidyalaya'. Also “Vidyavahini Bihar App” has been developed and e-textbooks of class I-XII have been uploaded on it. e-contents and other digital learning materials also available on the Mobile App “Mera Mobile Mera Vidyalaya”, official website www.bepcssa.in and YouTube channel of BEPC.
- b) Unnayan Bihar is a holistic learning project providing quality education in schools through interactive video lectures, supplementing the efforts of school teachers. The program is a multi-platform model which runs online as well as offline.
- c) Vidyavahini Bihar App
- d) Mera Doordarshan Mera Vidyalaya
- e) Digital Education Portal:- <http://www.bepcssa.in/en/digital-learning.php>

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- f) Bihar Easy School Tracking (BEST) – A Mobile Application for Real Time Monitoring of Schools

6. CHANDIGARH

- a) Project Phoenix
- b) Initiative to improve Mathematical Skill in Collaboration with Khan Academy
- c) Collaboration with ARPAN – Joy of Giving (NGO- INFOSYS)
- d) Online Teaching for Out of School Children (OoSC) under Special Training Centres (STCS)
- e) Online Teaching to Children with Special Needs (CWSN)
- f) Kishore Manch
- g) 200 Smart Classrooms through Extra marks (09 Govt. Schools and Khan Academy)

7. CHHATTISGARH

- a) The Department of School Education, Government of Chhattisgarh has been making strides in EdTech since a long time. The release of the platform – 'PadhaiTunharDuvaar' (Education at your doorstep) is a post-covid initiative.
- b) Some of the flagship EdTech initiatives launched by the state are as below:
 - i. PadhaiTunharDuvaar (PTD)
 - ii. DIKSHA
 - iii. DiGiDuniya (ICT at Schools)

8. DADRA AND NAGAR HAVELI & DAMAN AND DIU

- a. T.V Lessons
- b. Radio Lessons
- c. YouTube Channel for SCERT
- d. Webinar Based ICT Training

9. DELHI

- a) Online Maths classes of class 9 student
- b) Digital Entrepreneurship Mindset class:
- c) Happiness, Mission Buniyaad & activities through parents/students of KG to class 8
- d) Teachers Education/Online Capacity Building Programme (OCBP)
- e) SCERT and DIETS have also organized webinars on different topics

10. GOA

- a) E-content and Repository
- b) Initiative of the State to help students prepare for entrance examinations
- c) Online Training Programs for Primary, Secondary and Hr. Sec School Teachers
- 11. Gujrat
 - a) mobile application for CWSN, Live Classes through TV & radio, offline video lectures, simulations, digital classrooms, Samarth 2.0, Facebook workplace and workchat, VanchanAbhiyan etc.
 - b) Socio-Psychological Support for Children

12. HARYANA

Three approaches are adopted for E-learning

- a) EDUSAT Broadcast on Television
- b) Video on demand through YouTube Channels
- c) Live Classes on Zoom WebEx Google Meet

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13. HIMACHAL PRADESH

- a) Har Ghar Pathshala Campaign:-To ensure students learning does not get hampered due to closure of schools in this pandemic.
- b) Boosting emotional well being, immunity and fitness of students.
- c) To ensure an inclusive learning environment for children with special needs.
- d) Teachers constructively use this time to do online self-paced training through “Teacher APP”
- e) Launch by State leaders and awareness through media
- f) Online inclusive Education for CWSN (Hum Kisi se Kam Nahi- Mera Ghar Meri Pathshala)
- g) Campaign for pre-Primary (Karona, Thodi Masti, Thodi Padhai
- h) Sampark Didi App
- i) Vocational Education
- j) Swayamsidham
- k) Sameeksha - Shiksha Saathi Mobile Application
- l) Integrated Learning Enhancement program (e- Samwad)
- m) Continuous Learning Programme for Professional Development of Teachers through TEACHER App

14. JAMMU & KASHMIR

- a) Tele Classes on DD Kashir and Local Cable Network
- b) Video Lectures Repository using JK Knowledge Network
- c) Promoting use of National Educational Portals like e-Paathshala and DIKSHA through various means.
- d) Free Laptops & Braille Tactile Readers for Visually Impaired: Under one of the major initiatives, 42 Laptops are being distributed to Resource Rooms established for Children with Special Needs in all the districts of J&K.
- e) JK Career Portal: “Manzelein”
- f) Distribution of Free Tabs: 2500 Tabs were distributed to schools during Covid period.
- g) Capacity building Virtual Online Workshop for DIET:
- h) Social Media: Enormous promotion is being made regarding ongoing Webinars, Educational Sessions, Tele Classes etc by National/International organizations like NCERT, NIOS, Google Education, UNICEF India, IGNOU etc
- i) Online Talent Hunt Competition:The Cultural Bonanza under the brand name “Skills & Thrills” is being conducted for Dance, Singing and Poster Making competition.

15. JHARKHAND

- a) The Jharkhand Government launched the DigiSATH program created a tremendous state-wide momentum ensuring continued learning through multiple means - WhatsApp, Television, DIKSHA App, offline learning.

16. KARNATAKA

- a) MAKALAVANI:- the department of Public Instructions started an innovative Edutainment Channel in Youtube “MakkalaVani” NaliyonaKaliyona'. The program telecasts daily Edutainment programs consisting of stories, songs, crafts, plays, riddles, proverbs and magic shows, science experiments etc., among other things.
- b) PARIKSHA VANI:- The department initiated the Exam preparation program aired through Doordarshan “Chandana” channel for Hr 1.30 Minutes on daily basis
- c) ETB (Energized Textbooks):- Department of Public Instructions, Government of Karnataka had already taken up 39 titles on pilot basis under Energized Text Books, with QR Code tagged content on DIKSHA Portal.

17. KERALA

Educational agencies like the State Council of Educational Research and Training (SCERT), KITE, Samagra Shiksha Kerala (SSK), State Institute of Educational Technology (SIET) etc

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18.LADAKH

- a. <https://www.dselyhomeschool.in/>
- b. YouTube Channel “Department of School Education UT Ladakh”

19. LAKSHADWEEP

All TV channels are providing KITE - VICTERS Educational channel, which is Kerala's educational TV channel available in Lakshadweep islands also. A public notice has been issued in this matter.

20. MADHYA PRADESH:-

- a. Digital Learning Enhancement Program (DigiLEP)
- b. Online Lectures/ Broadcast through TV/VC
- c. Top Parent App

21. MAHARASHTRA

- a. Development of the Learning Continuity Plan
- b. DIKSHA Abhyasamala campaign Initiatives Undertaken by Balbharti

22. MANIPUR

The Department of education, Manipur, is working with a large number of teachers for taking the class wise content is now getting produced and uploaded on a dedicated website www.laireek.net and also shared on a mobile app called 'Lairik'.

23. MEGHALAYA

the Department of Education, Government of Meghalaya, announced the pilot launch of the e-scholar portal (<https://niceinfotech.co.in>).

24. MIZORAM

SCERT, Mizoram has conducted several workshops to create high quality e-contents for QR Codes of Elementary school textbooks. SCERT faculty and teachers have been trained to develop contents on the workspace of DIKSHA App.

25. NAGALAND

'DoSE Nagaland' and also through the Facebook page 'School Education, Nagaland'.

26. ODISHA

- a. Madhu App a syllabus based e-learning App in Odia language has been developed to provide virtual classroom experience for self-learning and self-assessment.
- b. E-Vidyalaya App:-
- c. Odisha Education Resource portal (OERP) is a comprehensive one stop portal, catering to the educational needs of the students, teachers & parents. The OERP is a unique initiative of Center for Modernizing Government Initiatives (A society under GA (AR) Department, Government of Odisha) for utilization of the School and Mass Education Department, Government of Odisha.

27. PUDUCHERRY

State Project Office, Samagra Shiksha and Directorate of School Education, Puducherry is collaborating with Learning with Vodafone (Pratham Education Foundation), Sri Aurobindo Society, Azim Premji Foundation and Atal Incubation Centre, Pondicherry Engineering College to encourage the role of civil society in taking up Digital Education.

28. PUNJAB

Punjab is already providing Online Education to the students by various modes like Mobile App(s), YouTube Channel (named “Edusat Punjab”) Radio, E-books, WhatsApp and various DTH/Cable TV Channel.

29. RAJASTHAN

- a. SMILE program- Social Media Interface for Learning Engagement
- b. Shikshadarshan – Educational content via TV

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- c. Shikshavani - Radio broadcasts for students who don't have access to smartphones
- d. Hawamahal – Joyful Saturday Conducting live sessions for students on career guidance via YouTube
- e. Kala Utsav – Summer Camp
- f. DIKSHA content
- g. E-content invited via ShalaDarpan

30. SIKKIM

- a. SIKKIM EDUTECH APP
- b. SAMVAAD TV
- c. SCHOOL RADIO
- d. facebook page: link: <https://www.facebook.com/Hamrovarta12/videos/1528683480615566/>
<https://www.facebook.com/Hamrovarta12/videos/873903153090386/>

31. TAMIL NADU

- a. Tamil Nadu Teachers Platform (TNTP)
- b. TN-DIKSHA for Students & Teachers
- c. Tamil Nadu Teachers Platform (TNTP)
- d. TNSCERT YouTube channel
- e. KalviTholaikatchi (Television Channel for Students)
- f. Tamil Nadu VagupparaiNokkin (Classroom Observation module)

32. TELANGANA

Digital / Online Education – Action taken by the State

DIKSHA, TELANGANA is a digital platform launched by the School Education Department, Govt. of Telangana for the teaching

community to create and exchange e-resources to bring about qualitative changes in the teaching learning process.

33) TRIPURA

E-Classes are recorded in Studios. After editing and other technical works, the same is then sent to SCERT, the State Academic Authority for vetting. After obtaining vetting, the episodes are then transmitted over Doordarshan and Local Television Channels. Copies of the Digital Classrooms are also uploaded in the YouTube Channel of the Department, titled: 'TripuraSikshaBandhu'(<https://www.youtube.com/channel/UCoOarQM2xtN4HxXjgwR7oYA>).

34. UTTAR PRADESH

The launch of Top Parent, a first-of-its-kind free-of-cost mobile application that provides parents of 3-8-year olds with language, strategies, and resources to actively participate in their children's learning. The application currently houses three high-quality EdTech apps for children – Chimple, Maths Masti and Google Bolo.

35. UTTARAKHAND

The Uttarakhand state education department has started virtual lessons for primary level students through a mobile app 'SamparkBaithak App' developed by Sampark Foundation.

36 WEST BENGAL [6]

E-Textbooks for all the classes can be accessed at: <http://www.wbsed.gov.in/etextbook.php>.

Recommendations:-

Faculty development Programmes [7]

Increase Interactivities by Video Interaction.

Incorporate CBL:- “Case based learning is the closest thing to the practical life.

Revision classes:- “here should be a revision session and practical work.”

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Integrate proper Assessment:- "Assessment should be live videos and live recordings."

Develop SOP's:- "The student should log in through proper ID and only they can listen the lecture and see video". [8]

Quality enhancement

Proctoring:- "There should be plagiarism software to check assignment."

Buy Premium Applications

Conclusion

The unprecedented global crisis of COVID-19 has made the education sector face many challenges. These challenges have made the world think of possible solutions to overcome the obstacles due to the crisis. India's education sector has been impacted tremendously when so many children had to sit at home. Technological innovations in the sector have made it possible to navigate through such difficult times. These initiatives made sure to provide the platforms to have access to various educational resources and guiding tools to be able to continue their learning virtually. [9] The importance of e-learning has been realized and it has been acknowledged by the various stakeholders in the education community. The availability of various digital platforms and e-resources has helped the country to follow a proactive approach to find solutions during the pandemic. The scenario also highlighted the gaps in the availability of these resources to reach every student. This calls for the policymakers to establish possible bridges to overcome these gaps. There is a dire need to provide strong internet connectivity and digital equipment to every corner of the country to be able to get benefit from these resources. In the post-COVID world, a blended mode of learning will help to systematically fill these gaps and make students and teachers more comfortable with the digital shift. The pandemic has helped in realizing the potential of blended learning to be able to reach the remotest part as well. It has also helped teachers and students in exploring various options available for their learning. This Paper help all in understanding the effectiveness of digital learning and also about solution offered by our government. [10]

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