

Impact on Education system and its Digital Transformation during Pandemic crisis

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ABSTRACT:

In today's generation where everyone is using the internet, children are surrounded by digital technology by birth. In today's increasingly digital world, 3.6 billion people still have no access to the Internet. The COVID-19 crisis has shown us how the digital environment is effective to perform everyday activities such as work, learning, and staying in touch with family and friends. The Covid-19 pandemic has forced restructuring in several sectors to ensure the delivery of services is accomplished to the greatest possible extent. COVID-19 pandemic has suddenly and abruptly forced schools and education indeed to engage in such a transformation. In this study, we examine the digital transformation initiated by the COVID-19 pandemic in the basic education of the young generation, the variety of digital platforms emerging and reinforced, and the possible barriers reported along the way. We argue that information management research should better acknowledge children, digitalized everyday life, and their basic education as significant areas of concern. The present study is an attempt to assess and understand the impact of Covid-19 on the teaching and learning process in developing countries. The study reveals that students from school to university level are significantly affected by the novel digital teaching and learning modes resorted during this pandemic crisis.

Keywords: Digital Transformation, COVID-19, Pandemic crisis

Introduction:

Today, the world is suffering from an infectious disease in the form of a draconian pandemic. The Covid-19 outbreak has generated anxieties in many sectors, thereby shrinking the global economy. Many countries opted for nationwide lockdown and the closing of borders. More than 2.6 billion people around the world are under lockdown measures. The Indian Government has imposed rigorous lockdown regulations, which have had an impact on all aspects of the country's economy. According to International Monetary Fund (IMF) projections, the cumulative losses for 2020 and 2021 from the pandemic would be around \$9 trillion, resulting in a very steep slowdown.

Effect of pandemic

Many things were affected due to the pandemic, one among those was education. Due to the Covid-19 pandemic, the teaching-learning process has been disrupted and has witnessed a procedural transformation. This has meant the closure of schools, colleges, and universities in all the states, this leads to the digital transformation for the continuation of education.

"DIGITAL TRANSFORMATION"- Digital transformation is the integration of digital technology into all areas of a business, fundamentally changing how you operate and deliver value to customers. It's

also a cultural change that requires organizations to continually challenge the status quo, experiment, and get comfortable with failure.

There are a total of 1.3 billion populations in India, 15 lakhs schools, 900 + universities, 330 million students; in that many people are below the poverty line not having laptop and internet connection.

As from the survey we can see there were very fewer people who had internet and pc available so when the pandemic hit and the decision of continuing education through digital modes like google meet, zoom, etc. was taken many people faced issues.

The challenges faced by the students during the pandemic situation were enormous both for the students and teachers from pre-primary to Post graduate students. Due to pandemic, children are forced to use the mobile phones and laptops for a long time and which is to be avoided before the pandemic. No proper internet facilities in all the locations like rural, urban and metropolitan cities. People are forced to opt for internet facilities to make sure that up to certain extent the loss of losing studies can be managed. By this up to certain extent the government came across with so many initiatives so that the student should not lose hope in education.

The Initiatives taken by the government to overcome the Educational issues:

DIKSHA (Digital Infrastructure for Knowledge Sharing): DIKSHA is the national platform for school education available for all states and the central government for grades 1 to 12. It can be accessed through a web-portal and mobile application. It provides access to a large number of curriculums linked to e-content through several use cases and solutions such as QR-coded Energized Textbooks (ETBs), courses for teachers, quizzes, and others. It is the '**one nation; one digital platform**' for school education.

In April 2020, **VidyaDaan** was launched as a national content contribution program that leverages the DIKSHA platform and tools to seek and allow contribution/donation of e-learning resources for school education by educational bodies, private bodies, and individual experts. SwayamPrabha DTH channels are meant to support and reach those who do not have access to the internet. Totally 32 channels are used to telecast high-quality educational programs.

Swayam MOOCs for open schools and pre-service education: Online MOOC courses relating to NIOS (grades 9 to 12 of open schooling) are uploaded on the SWAYAM portal; around 92 courses have started and 1.5 crore students are enrolled. Students and teachers can access all the course modules – text, videos, and assessment questions, etc. through SWAYAM.

Extensive use of Radio, Community Radio, and Podcasts: Radio broadcasting is being used for children in remote areas who are not online. A Podcast called **ShikshaVani** is being effectively used by learners of grades 9 to 12. It contains over 430 pieces of audio content for all subjects of grades 1 to 12. One DTH channel is being operated specifically for hearing impaired students in sign language. For visually and hearing impaired students, study material has been developed in Digitally Accessible Information System (DAISY) and sign language; both are available on the NIOS website/ YouTube.

E-textbooks: The e-textbooks can be accessed using the **e-Pathshala** web portal and mobile app (Android, IOS, Windows). More than 600 digital books including 377 e-textbooks (grades 1 to 12) and

3,500 pieces of audio and video content of NCERT are available in the public domain in various languages (Hindi, English, Sanskrit, and Urdu).

National Repository of Open Educational Resources (NROER):NROER is an open storehouse of e-content. Nearly 17,500 pieces of e-content are available for all grades for various school subjects.

Rationalization of Syllabus for Summative Examinations:CBSE has reduced the syllabi only for examinations to the extent of thirty percent. This has been done given change in the mode of conduct of classroom transaction which is new both for parents and teachers.

To mitigate the effect of covid-19, the Department of School Education and Literacy has allocated Rs. 818.17 crore to promote online learning through digital initiatives, Rs. 267.86 crore for online teacher training to ensure continuous professional development of teachers.

Internet access under the BHARAT NET scheme has been made available to Government institutions and to improve internet connectivity in rural areas. The CSC e-Governance Services India Ltd (CSC-SPV) of the Ministry of Electronics and Information Technology (MEITY) has been assigned the task of providing Fibre to the Home (FTTH) connectivity to the Government Institutions, including schools. This project is for providing Internet connection to Government schools in respective Gram Panchayats. The state-wise status of digital access in schools is at Annexure.

Deepening digital divides among children and families:In the City of Oulu, Finland, according to the educational administration, some students, who have difficulties concentrating in a normal classroom, for instance, because of noise, benefitted from the distance teaching. These pupils succeed better when they were able to study in their own quiet space without distractions. According to the fifth-grade teacher, many pupils liked independent studying that distant schooling provided. These pupils were able to schedule their school day and follow their own pace. It was also possible for a pupil to concentrate more on personally interesting topics and get more challenging tasks if own performance was higher than average. These pupils succeeded well and enjoyed personalized learning opportunities.

The teacher claims that technology was not a problem or a barrier for any of the pupils. The school borrowed equipment, for example, laptops, for those who did not have them at home. However, skills might have been a bit of a barrier for some in the beginning. It took some time at first to start to use the online platforms, but those challenges were overcome and the teacher said that "I don't know that anybody would have had a problem due to equipment or technology that they wouldn't have been able to participate because of that."

The biggest challenges were with those pupils who needed enhanced support from a teacher, mainly for activity control, and did not have adults at home help. These pupils had difficulties for example in waking up and some had too many stimuli at home, making concentrating to live lessons difficult. The special needs teacher helped these children by waking them up by phone calls and guided them to live video sessions and sometimes helped in tasks using video connections. There were also some problematic attitudes among pupils. The digital assignments compared to physical and tangible ones appeared to be less important (and real) for some students. Some pupils appeared to think that "it is not that serious if I don't return that assignment" and the attitude seemed to be like "who cares".

In India in the context of special education, both educators mentioned that some students, who were able to get into a new home-schooling routine, were doing well. Of course, getting into a routine required the efforts of many different stakeholders. The parents had to ensure that the child wakes up on time, freshens-up, and has breakfast before the scheduled online session. They had to ensure that all the materials are available and set up in front of the student. Further, they had to motivate their child to sit at a table and look at the educators on the laptop screen and follow the educator's instructions. For the students, there can be many distractions in the home environment they have to ignore. However, many students were delighted to interact with their teachers after several weeks of no contact. Online schooling did not start right away after the lockdown but several weeks later because initially the lockdown was put in place for only 2 weeks and was expected to be lifted. Only after it was extended did most schools come up with an online schooling plan. Parents and students, who were able to follow routines, did well even in the lockdown.

As expected, not all children could attend online sessions due to a multitude of reasons. Children in public schools usually belong to low socio-economic backgrounds, where they may not have access to a laptop or computer at home. Many parents or older siblings might have personal smartphones, which then they have to lend to younger children for them to attend online classes. Thus, there is a dependency on someone else in the family to connect, and for the phone to be available. Children might not be tech-savvy or tech-inclined for online classes. There is also a lot of dependency on parents or other older family members – to set up and connect, to provide devices, time, and attention, and to schedule and arrange the session with the educators. Not all parents are alike in their motivation, inclination, competence, and efforts towards their child's schooling. Even before the pandemic, during regular schooling, some parents were more proactive than others towards their child's learning and development. There can be many reasons for these attitudes, including own competence, technical abilities, access to resources, level of education, other children or older family members who also require attention/time/effort, socio-cultural norms and traditions (e.g., concerning traditional gender roles), and more. The educators empathized with the situations that could be affecting many of the parents – including loss of employment or business, working remotely from home all the time, and fear or depression due to the pandemic.

Among teachers:

In Finland, according to the representative of educational administration, the teachers have been flourishing during the pandemic. Assignments for the pupils have been versatile and digital solutions have been used in numerous ways. Digital technology has been utilized in different subjects including arts, crafts, and physical exercise. The teacher also reports on positive experiences. The pandemic has given valuable experiences for the teacher which she will or would like to apply in normal classroom teaching in the future. One of them is using online platforms for having exams. Different online platforms offer also useful places for studying and preparing for exams. Also, for motivated pupils, the internet offers unlimited resources for different subjects. The teacher thinks she will utilize these resources in future teaching, too. As online teaching was a success for many of the pupils, the teacher would like to see a possibility to allow distant teaching days or periods for the students who benefit from and enjoy them in the future.

However, some teachers report that for the teachers, the distance teaching period was very laborious. For instance, planning a single lesson took much more time compared to normal

classroom teaching. Also, differentiation of teaching, how to make personalized assignments to pupils in different levels, was more challenging and time-consuming. During online teaching, it was difficult to write very specific and comprehensive textual instructions in advance for pupils doing the tasks at home by themselves. Compared to face to face teaching, the teacher could not be there for help, and advise when needed, where needed. In distant teaching, the teacher has to be able to foresee what will be the challenges for the pupils and how to overcome them.

In India, for educators both in public and private settings, several of their students were not reachable or available. Many students from the public school had gone back to their villages when the lockdown started as their parents were daily wage labourers who were out of work when the lockdown started, and factories and constructions closed. These students were not contactable by the educator. Several other students, who could be contacted, did not have access to devices or an adult family member to help them with the online schooling. At the private school, there were a handful of students whose parents did not want them to attend the online classes, possibly because they were too busy and had many own issues to address due to the lockdown (employment or businesses being shutdown). Both educators were worried about children whom they could not contact or connect with during the lockdown. They mentioned that some children, without continuous interventions and support from the educators and school, could unlearn many things and that educators will have a tough task, when schools finally do open, to get the children back on track.

Both educators mentioned the challenges in going online within a few days (after it was decided). They had to set up new routines for themselves, negotiate times with students and parents for online sessions, create weekly or biweekly lesson plans for each student, and assess and evaluate daily or weekly. However, after the initial work and getting used to it, the educators became comfortable with this new routine. For one of the educators, they had to learn how to use a computer, how to set up and use Zoom, and how to conduct sessions online, all within a week. The public-school educator was able to continue her work with the smartphone and tablets. One challenge both educators faced was the lack of resources at the students' houses – flashcards, puzzles, building blocks, water-colour paints, all kinds of physical and tangible resources that they use daily at the school. There was also no way to send these items to them or for parents to buy them during the lockdown as most of such stores were closed. Educators were tasked with coming up with creative and innovative solutions. Overall, the educators who work with children with special needs, and teachers overall, are displaying remarkable resilience and perseverance, when it comes to the learning and wellbeing of their students during this pandemic. The biggest burden they felt was yet to come – restarting with the basics with children who were being left behind.

Recommended tasks to be practiced:

Initiatives should be implemented to design effective educational practices which seem desirable for the capacity-building of all the learners. To cope with such crises, academic administrators should rely more on distance learning programs and explore the usage of modern applications. Compared to book-based studies in physical mode, e-books are preferred which also minimizes the weight of school bags on feeble shoulders. It is also important to consider that scaling-up of digitization in pedagogy should not affect the student's learning outcomes. This is the best time for schools, colleges, and universities to prepare a blueprint for upgrading technology usage in the

teaching-learning process. All higher education institutes must collectively help the government to formulate the necessary policy interventions for a short-term and long-term plan to upgrade and update the technology-based learning platform accordingly.

Initiatives should be taken to render human touch in online classes too, which requires intense interaction in the teaching method with enormous engagement in the learning process. In online teaching, teachers are neither service providers nor techno managers trying to complete the official syllabus. Thus, e-learning should imply teaching-learning beyond the academic official syllabus.

Initiatives should be undertaken by the government to increase its spending on primary and higher education for improvement in infrastructure and technology implementation. During the pandemic situation, students may be adjusting to online classes and such classes must be continued with some interventions. The government must develop certain rules and guidelines wherein certain online activity sessions can be made mandatory along with regular lecture sessions during the post-pandemic period.

Initiatives need to be adopted to train teachers and make them well acquainted with the online teaching platforms so that they can inspire the interest of their students for the online class mode as this seems to be the best learning process during this current pandemic period.

Initiatives should be adopted by governing bodies to open study centres to help students who have limited accessibility at home to online learning. It has to be ensured that no student is left out of its ambit. The government should make massive investments to provide internet accessibility to a broader section of students in society to ensure that e-based learning is successful in this critical juncture.

Initiatives should be adopted to ensure the channels for those cable TV operators through which online classes are being broadcasted. Furthermore, teaching hours via television sets need to be extended, but before implementing this measure, the government should ensure that all students have access to a television set for viewing and listening to their classes. Initiatives should also be adopted to avoid the missing of classes, by making the lectures available on YouTube and Facebook.

Initiatives should be adopted for the donation of used television sets and tablets to students whose families are not in a position to purchase these, to access online learning facilities. The government may distribute tablets or laptops at a subsidized price to all the students of government-aided schools and colleges to train them to be more tech-savvy in attending online classes.

Conclusion:

Digital transformation was necessary for education due to Covid that transformation was built soon there are many more initiatives to be taken to improve digital transformation. The initiatives taken by the government helped students to meet their educational requirements.

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