

Covid-19 pandemic: impact and opportunities for education in India

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Abstract

The sudden breakout of COVID-19 has created a major crisis in almost every sector like Travel and Tourism, Entertainment, Sports, Corporates, Financials, Manufacturing, Education, and Service sectors. We cannot identify any sector which remained unaffected by the crisis. The magnitude of the impact may vary from sector to sector. The same happened to the Indian education system. It has faced a worldwide lockdown estimating to impact almost 320 million learners across the country. India has a robust education structure, with a huge chain of more than 1.4 million schools, 799 Universities, 39071 Colleges, and 11923 Stand Alone Institutions as per data available on the sixth report of 'All India Survey on Higher Education on the web portal, are all affected by the pandemic situation. Our Indian education system was badly impacted due to pandemics, mostly based on traditional or classroom teaching. Though most of the school and colleges, for the benefit of students, had opted for online teaching, yet some of the low income private and government teaching institutes and students from a remote location could not opt to online teaching due to the unavailability of the internet, Laptop, Desktop or Smartphones persistent with a survey by EY-Parthenon.

Keywords

Education, E-Learning, Impact, COVID-19, Students, School, College, Universities

Imprint

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1 Introduction

The '2019 novel coronavirus strain of coronavirus family was first detected in Wuhan, a province of China, in December 2019. Now it has spread to almost 200 countries and territories across the globe. When the number of cases and deaths of people affected by coronavirus was increasing, breaking the chain of the virus, it was advised by WHO to follow social distancing [1]. So the Central Government, along with the state government, have taken some serious steps to negate the spread of the deadly disease and called for "Janta Curfew" and subsequently declared a complete lockdown of 21 days. There was no other way other than lockdown of the entire system, excepting a few, which were essential for survival for any emergency, especially during this pandemic. Also, before the announcement of complete lockdown, somewhere in the middle of March 2020, it was declared by State Government that all educational institutes would remain closed for a certain period [2]. After that, the temporary closure was extended for some more time. Finally, the nationwide lockdown was declared by the Government of India on the 24th of March, as India was on the list of counties affected with COVID-19.

Due to the sudden lockdown education system was badly hampered, especially for classroom teaching. As at the beginning of lockdown, there was no planning for online classes. All schools, colleges, universities were shut down immediately [3]. Those that were appearing for their board exams suffered a great deal as the examinations were postponed. Initially, many schools, colleges canceled their regular exam, the entrance test, and other activities. There was no clue how to overcome the current crisis. Many students who applied for internships were also canceled the job offer letters were put on hold. At the initial stage of lockdown, international flights were banned from entering the other country. Thereby, a huge number of students who had scheduled seminars, workshops, or planning to visit foreign universities for taking or giving lectures were subjected to the uncertain situation, followed by the cancellation of domestic flights. Finally, the trains were also closed. Students who were away from their home for higher studies got stuck at the very place, and the other activities were put on hold. At the initial stage, everyone was confused; neither the institutes nor the students could decide how to over-

come the crisis. But as the saying goes that in every crisis, there is an opportunity. Latter, everybody started welcoming the idea of online education. Institutes started adopting new technology, strengthening their infrastructure. We can say technology and the internet have given teachers, and students hope that education can be continued online. Teachers were conducting online classes using various online platforms like Google meet, Skype for business, Zoom, and many other apps. For school-going children, with the help of social networking apps, groups were formed and their guardians to remain updated about the activities going on in the class [4.] But these practices could be followed by those institutes and students who have internet access and necessary equipment. In India, only 23.8% of the household had internet access. In the rural household, which is 66% of the population, only 14.9% had access, and only 42% had access. Males are the primary user in the urban household. Only 12.5% of students have access to smartphones persistent (National Sample Survey) of Study Hall Educational Foundations. Adding to it, most of the teachers are not equipped with online teaching. In a developing country like India, even highly advanced institutions are not well-versed with digital facilities. It will take time to change from the traditional process of teaching to online teaching [5].

2 Objectives

1. To raise some negative impact of COVID-19 in the education sector.
2. To highlight the online teaching resources developed by the Indian government during a pandemic.
3. To spotlight some opportunities that COVID-19 has shown on the education system of India.

3 Materials and methods

To achieve the study's objective, data and information are collected from various sources like the internet, previous research papers, magazines, journals, and reports prepared by various national and international agencies on the COVID-19 pandemic.

4 Negative impacts of covid-19 on Indian education system

The traditional Indian education system hitherto had been heavily dependent on offline mode or classroom teaching. Considering the socio-economic status of the majority of Indian citizens, the online education system or e-learning mode is tough to implement at the

grass-root level. The COVID-19 pandemic, which had posed not only a potential health threat but also shattered the conventional teaching method as social distancing emerged as an effective measurement against the disease. The followings are some negative impacts of COVID-19 on the Indian education system [6].

4.1 The barrier between privileged and under privileged students

Many institutions have shifted to the online teaching method due to inevitable circumstances. However, students in rural areas or remote areas are yet to get such facilities. In a nutshell, the online teaching method has mostly been endemic to urban areas. Therefore, many students are left out of the e-learning facility. Many cannot afford online classes for various logistics and economic reasons. Hence, it creates a barrier between students – privileged students who can afford online classes and underprivileged, who cannot afford it. Even the students who depended on school for the mid-day meal and sanitary napkin, lockdown is hitting them harder because it adds an extra burden to the family of underprivileged students.

4.2 The huge and irreparable loss to the final year students

As mentioned, the conventional Indian education system is primarily based on offline classroom teaching. Since social distancing has come out to be a probable measurement against COVID-19, the gathering has been prohibited at all levels. This prohibition implies the field of education as well. No school, college, university, or academic institution is open to avoid gathering, which caused a huge and irreparable loss to the final year students. Nationwide examinations like JEE or IIT, which defines students' career path, have also suffered from it. Even though online examination method is present, students living in remote areas with the acute problem to commute (due to COVID-19 regulations) will suffer badly [7].

4.3 Imperfect evaluation process

Evaluation based on merit is an integral part of the education system. Due to COVID-19, many examinations (board final, annual exam, etc.) were primarily postponed and then eventually dismissed. Although academic institutions are advised to make an average overall evaluation of the students, in the long run, it would hamper the career of the students. Without

proper evaluation, students would also be unable to find out their areas of opportunity and work on those to become improved individuals

4.4 Delay in start of academic year

Final year students of college / vocational institutes, who were supposed to start their career this year, suffered a huge loss owing to COVID-19. They could not avail the proper evaluation and needful certificates to commence their professional career. Adding more to it, the economic slowdown is hampering the job market, which will directly affect these students in future

4.5 Opportunity loss for competitive exam aspirants

Competitive exam aspirants who look up to examinations like IAS, IFS, Banking exams, etc., may lose a year from their stipulated timeframe as applicants. Even if the government plans to implement changes in the age bar owing to this loss, its implementation process will be herculean. Therefore, these aspirants will suffer from lesser opportunities arising out of COVID-19 restrictions [8].

4.6 The impact on students who planned to pursue higher education from foreign universities

It is not only the Indian education system that has harmed it, but overseas countries face the same issues. Many aspirants who worked hard for years to get a scholarship and join a foreign education institution for higher studies also faced the adverse effects of COVID-19 on the Indian and Overseas education system. Students who were about to start their career in the year 2020-21 with reputed foreign universities, even after receiving the confirmation letter from their dream universities, now there is a dilemma in students' minds whether they should pursue their careers with those universities or not. There is no certainty for the courses to start; even students want to defer their admission to next year. Moreover, the students are not willing to travel overseas. Even if the classes are to be conducted online, they don't want to pay such huge amounts for online tuition.

4.7 Unavailability of resources for physically disabled students

If somebody is impacted, most of the COVID-19 is physically disabled students because the resources

they require for their education are available only at schools.

4.8 Higher dropout rates

Apart from all these aspects, another negative impact of COVID-19 on the Indian education system will be the aftereffects of discontinuity. For instance, a trainee of the vocational course who joined an institution to enhance his/ her skill set and increase job opportunity will either discontinue or need to start afresh post COVID-19 days. Moreover, the parents with lower income may not be able to send their children to school post-Covid 19 [9].

4.9 Impact on health

Due to overuse of technical gadgets and prolonged sitting at one place for a long time may impact students' health. They may suffer from some effects like pain in the wrist, elbow, neck, hand, and fingers. There are even certain courses that cannot be taught online and needs offline facilities. For example, no student can build a physics or chemistry lab in the house and carry out practical experiments. To attain practical classes and to do laboratory work, students need to wait till the education institutes reopen.

5 Results and discussion

The Online Teaching Resources Developed by the Indian Government

Though the pandemic locked the globe, our Indian government has taken immediate action so that the learning is not put on hold. On the 23rd of March, to break the chain of COVID-19, the nationwide lockdown was declared. Since then, MHRD (Ministry of Human Resource Development) and the other institutions that are its associates were promoting digital education through TV and Radio. Ministry has developed some quality online resource materials for the students over the last few years, which can be accessed through Laptops, Desktops, and smartphones. The students who do not have internet access with them were made available through TV and Radio. The following are some online drives initiated by MHRD so that every student can pursue their education.

5.1 Diksha

Is an online learning platform for students from class 1-12 in multiple languages? It has been designed as per the school curriculum (CBSE) so that the Teach-

ers, Parents, and students can access it for further references. The app has been designed with assignments, videos, revised lessons, and other activities to make it student-friendly and explore the classroom experience. During the lockdown, the content has been accessible around 215 million times.

5.2 E-Pathshala

It is the joint initiative of MHRD and NCERT. Designed for grades 1-12 in multiple languages (English, Hindi, and Urdu). The platforms provide e-learning content for students, teachers, and parents. This app contains 504 flipbooks in different languages and 1886 audios, 2000 videos, 696 e-books (e-Pubs). This app allows the user to download the materials even offline and without imposing any limits to download (Wikipedia).

5.3 National repository of open educational resources (nroer)

Provides digital blended learning resources for students and teachers mapped with the school curriculum. The web portal is deployed with rich and informational content on various topics for classes 1-12 in multiple languages. It has 14527 files, including 401 collections, 2779 documents, 1345 interactive, 1664 audios, 2586 images, and 6153 videos [10].

5.4 Swayam

This learning platform is designed by the Indian government to achieve three cardinal education principles, i.e., access, equity, and quality. It is designed for school-going children from class 9-12 and UG and PG students. All the classroom courses are integrated into this platform. Moreover, it is easily accessible by anybody from anywhere free of cost. The best 1000 teachers from India have been chosen to design this module. The courses are taught in four ways a) Video Lectures. ii) Online self-assessment. iii) The open discussion forum where students across India can discuss their doubts with each other. iv) Reading materials, this can be downloaded for future references. During the lockdown, the access has increased three times.

5.5 Swayam prabha

This is a learning tool kit of 32 DTH TV channels broadcasting high-quality educational content 24 x 7 using the GSAT 15 satellites. Every day for four (4) hours, new content is delivered, repeated five times

a day. So that students can choose time as per their convenience. The channels covered school education from (class IX-XII) and higher education course content for Post-graduate and under-graduate levels in diverse disciplines Arts, Commerce, Science, Engineering, etc.

5.6 National digital library

Provides a huge volume of education material in different formats such as books, audio, video lectures, lecture presentation, question bank with the solutions available in a single window. Study material is available from primary to post-graduation level in multiple Indian languages in all disciplines. NMEICT has sponsored the National Digital Library project with funding from MHRD [11].

6 Opportunities evolved in education sector due to covid-19

Though the sudden outbreak of COVID-19 has disrupted the education system, it has also given some opportunities that will help in the transformation of the conventional teaching system worldwide. Suppose we see a complete revolution in the education system. In that case, a country like India is planning to bring it for a long time. Some of the opportunities are listed below:

6.1 Access to experts

The traditional method of learning requires a physical presence of both the student and faculties which leads to geographical limitations, and given the situation in India, most of the prominent faculties are found in developed parts of the country, which makes it difficult for a student's residing in remote parts to get access to such prominent faculties. An online mode of education will surely act as a game-changer for such students. It will remove the bottlenecks that were creating a barrier to them in accessing the expertise of the renowned faculties.

6.2 Reduced cost

The traditional method of education requires a physical meeting between students and teachers, which comes up with huge costs like paying for rent of the building, electricity cost, maintenance costs, furniture cost, etc., for which the institutes have no other options left but to charge high amount of fees towards student and ultimately resulting in depriving

quality education to students who are not so financially sound. An online mode of education will surely not require the infrastructure cost which is associated with the traditional method of education, resulting in reduced fees, thus attracting a large number of students, including those who were deprived earlier due to the higher cost of education, increasing the literacy rate in the country, providing a boost to the various government policies towards the education system [12].

6.3 Growth aspects of online education

Due to COVID-19, the usage of the Internet and awareness about e-learning among people has increased rapidly. In 2018 the online education sector in India was valued at INR 39 billion, which is expected to reach INR 360 billion by 2024 (Business wire). The ease of learning with quality study material and interactive video sessions has influenced the overall growth of the education industry.

At present, in India, we have 4000 EdTech startups, and the industry is expected to raise \$ 2 billion in 2021. Supported by the central and state governments, the online educational system is also expected to grow at 8x a year (Inc 42). There is a great opportunity for industries to develop the learning management system for colleges and universities, as there is a huge requirement for LMS by the big institution to streamline the process and save the data securely.

Source: UNESCO Institute for Statistical Data.

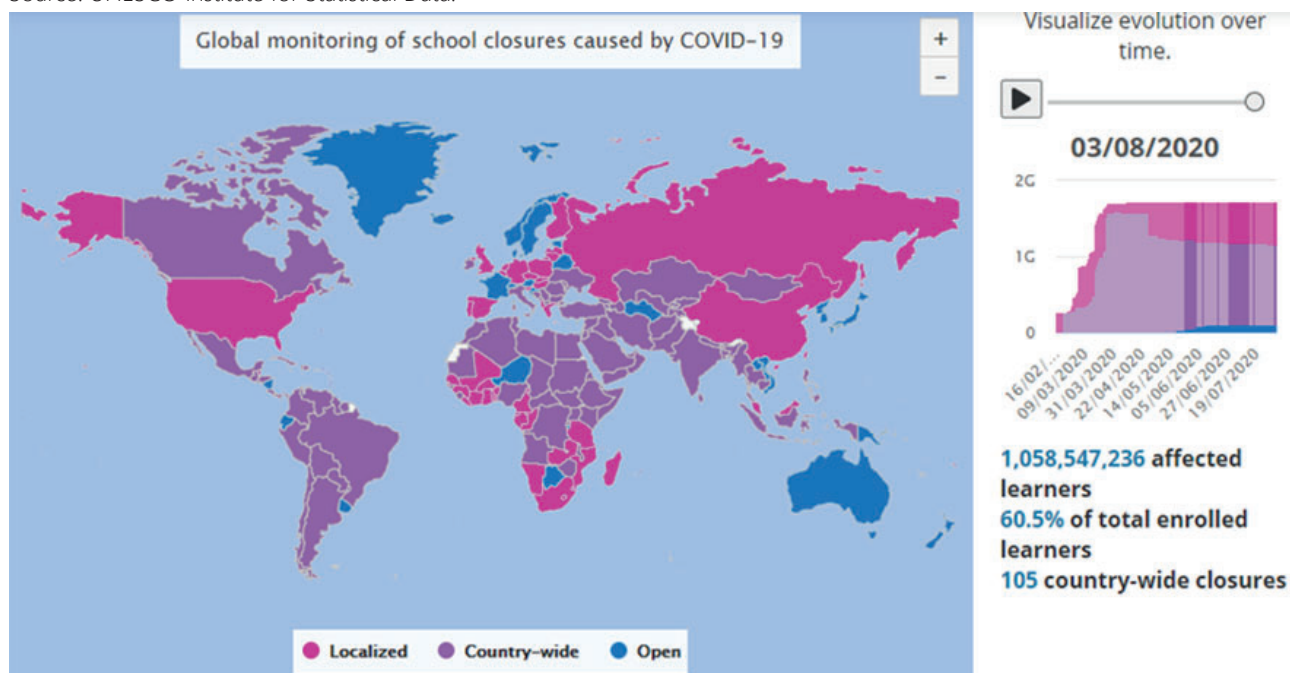


Fig. 1. Reflect the global enrolment figures of learners at pre-primary, primary, lower-secondary, and upper-secondary and tertiary education levels.

6.4 The opportunity rise for girls

The girl Children who couldn't opt for higher education due to safety and security reasons, now e-learning mode of teaching by colleges and universities has given them an opportunity for higher education and pursue their dream career [13]. Figure 1 explained the Reflect the global enrolment figures of learners at pre-primary, primary, lower-secondary, and upper-secondary and tertiary education levels.

Data stating the impact of COVID-19 on the Education Sector

Figure 2 explained the Depicts that from March 23rd - 3rd August 2020, Indian education sector is in country wide closer.

Table 1 Shows Countrywide statistical data of Indian students impacted during COVID-19. The total affected learners are 320,713,810. Out of which females are 159,158,233 and males are 162,555,557.

6.5 Suggestions

Digital India is a dream project of our respected Prime Minister Shree Narendra Modi. But to achieve that, we are lagging far behind. Due to the pandemic, there was a sudden transition in the Indian Education system. The sudden decision was taken for online education. Neither the teachers nor the students were prepared for this change. Only conducting online classes and engaging the students won't help to achieve the objectives. Proper training is required. The curricu-

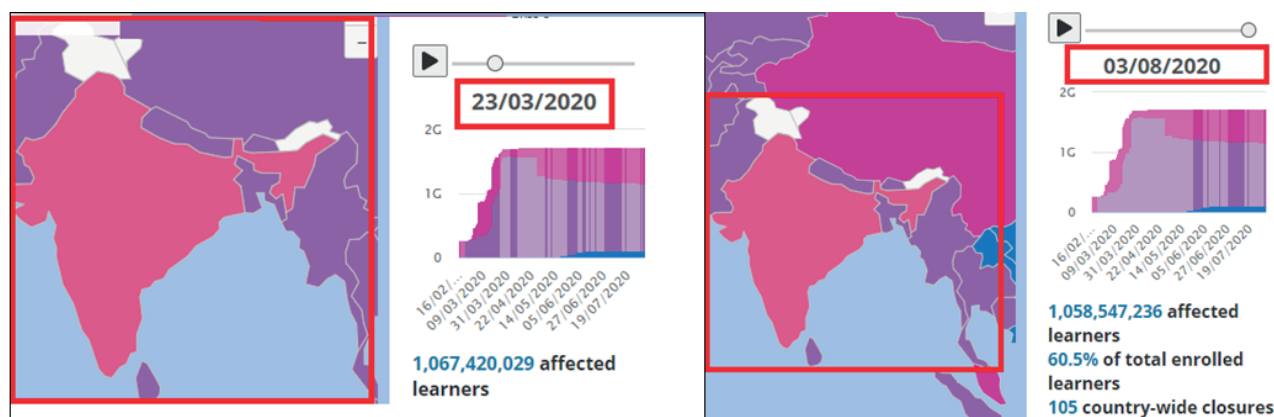


Fig. 2. Depicts that from March 23rd - 3rd August 2020, Indian education sector is in country wide closer

Table 1

Statistical data of learners impacted during COVID-19

School Type	Females	Males	Total
Pre-Primary	45,57,249	54,47,169	100,04,418
Primary	728,77,621	703,49,806	1432,27,427
Secondary	639,83,677	691,60,694	1331,44,371
Tertiary	167,39,686	175,97,908	343,37,594
Status Country -Wide			
Affected learners: 320,713,810			
Total Females: 158,158,233			
Total Males: 162,555,557			

lum needs to be redesign, and COVID-19 has allowed updating the content as per the online teaching model.

The backbone for virtual learning is the internet and technical equipment. Facts and figure say the majority of the students do not have which. As the Government of India has successfully launched many projects before (e.g.-Swatch Bharat Abhiyaan), it can improvise the policy to provide free internet access and technical gadgets, especially to those in rural areas, so that everyone gets equal education opportunities.

Many educational hubs are conducting online classes and evaluations as per their ease. A standard online platform can be designed for assessment and evaluation purposes and the camera feature to bring uniformity in the process. So that student doesn't adopt any unfair means. Adding to it, across India, there can be only one standardized online evaluation method to maintain equality and competition among the students.

Due to COVID-19 as the blended learning concept has been introduced; it should be continued in the new

norm because it has allowed students and teachers to be tech-savvy and know their hidden potentials [14].

As online teaching is more prevalent today, initiatives to be taken to create virtual classrooms with fun settings so that the students feel more connected with the teachers. Especially for primary learners, it is important because they have just started with their education. With online teaching, they have don't have playgrounds to play with or friends to enjoy their lunch, which is a catalyst for them to go to school. So, to build their interest, it is important to design some innovative online activities every day [15].

As the traditional teaching process, along with the studies, has always engaged students in co-curricular activities because taking care of physical and mental health is equally important [19]. Similarly, the educational institutions conducting online classes for students should encourage the students for some physical activities like exercise, yoga, and meditation. Otherwise, at a very early stage of life, the students may suffer from a disease like strain and cervical spondylosis. Even the institutions can conduct online physical ac-

tivity classes for students, if not daily, maybe thrice a week. Also, as our Indian government has started 32 DTH TV channels, they can include sessions on physical activities with the expert trainers [20].

Instead of extending the academic year, an initiative should be taken by the Indian government to reduce the syllabus so that there is no loss of the year. Also, the students whose internship and job offers are put on hold due to the current crisis, as now the companies are reopening, government and private players can take initiatives to give a career start to the young generation of our country to reduce global unemployment [16].

Families whose income is reduced due to the current crisis might increase students' dropouts, which is where families pay school fees. Government and private players may consider cancellation of fees for some time so that no student is deprived of education [17].

Like other sectors have started their operations with 30% -40% strengths in different batches. Similarly, the Indian government should reopen the schools and colleges with proper precautionary measures and social distancing. Maybe the students can be called to the institutes for two to three days a week and two different shifts. If required, a greater number of teachers can be employed [18].

7 Conclusions

It's not a hidden fact that COVID-19 has immensely impacted the Indian Education Sector. Closure of schools and colleges does not even have a short-term impact in India. However, it can even cause far-reaching economic and societal consequences. Along with many challenges, it has also given some opportunities in the Indian Education Sector, which will help transition the conventional teaching process. The Indian government and its associates are trying many possible ways to make education reach every corner of the world. The underprivileged students should not suffer as everybody has equal rights to education. As of now, there is no clue that how long the COVID-19 pandemic is going to stretch. So on high priority, efforts should be taken to improve the Indian education system with modern equipment and technology. The education policies need to be revised to improve infra, e-learning, and electricity structure. The online practices of teaching are benefiting the students in many ways. A massive open online course (MOOC) is an online course aimed at unlimited participation and open access via the web. India is considered to be the big-

gest market for MOOCs in the world after the USA. So even post-pandemic, blended learning should be continued. Blending conventional teaching with web technologies in a single platform would enhance the education system. Even there will be no geographical limitations for learners.

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