



The Pandemic Covid-19 and its Impact on Education

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Abstract:

The World Health Organization declared COVID-19 a Pandemic and this deadly virus disrupted our public life across the whole world. In the middle of March 2021, the second wave started and on April 09 the highest numbers of cases have been identified in India. During this time several countries globally enforced the temporary closure or lockdown of all non-essential shops and services besides supermarket and pharmacies. In most of the countries the workers with a high risk of infection are asked to work from home as most of the places were under lockdown.

The COVID-19 has resulted in school/college shut all across the globe and as schools/colleges are closed children are out of the classroom. To keep the children learning many countries has implemented remote education programme and many are exploring alternative ways to provide continues education using technologies such as Internet, T.V and Radio. The Ministry of Human Resource Development (HRD) on March 21,2020, shared various free Digital e-Learning platforms for students to capitalize on to continue their learning during this COVID-19 based school/college closures.

Education sector is fighting to survive the crises due to pandemic. This paper highlights few positive and negative impact of COVID-19 on Education and give some fruitful suggestions for educational activities during the pandemic situation.

Keywords: COVID-19, Education, Remote Education, Digital e-Learning Platform.

1. Introduction

Corona Virus (CoV) are a family of viruses which causes illness which may range from common cold to more severe diseases such as Severe Acute Respiratory Syndrome (SARS CoV)



Fig -1 Corona Virus (taken from net)

Many cases tend to be in cluster which arrive in waves and develop into large out breaks all over the world. The first outbreak occurred in Wuhan, China. In China, Wuhan, many cases of pneumonia were reported in the month of late December in the year 2019.[1] A few later this mysterious pneumonia was named “Novel Corona Virus” (nCoV). [2-4] Temporarily its name was given Severe Acute Respiratory Syndrome Corona Virus 2 and the disease has been named as Corona Virus Disease 2019 (COVID-19), where “CO” stands for Corona, “VI” stands for Virus and “D” stands for Disease.

A Novel Corona Virus (nCoV) is a new strain that has not been previously identified in humans. Corona Virus is said to be Zoonotic, which means they are easily transmitted between animals and humans.

This virus is transmitted through the direct contact with the respiratory droplets of an infected person which is generated through coughing or sneezing and also touching surfaces contaminated with the virus.

The COVID-19 virus may survive on a surface for several hours but a simple disinfectant can kill it.

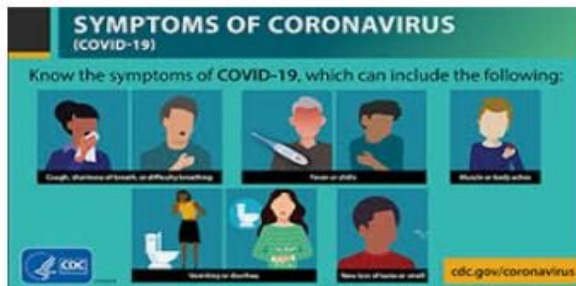


Fig -2 Symptoms of Corona Virus (taken from net)

Some common signs of infection include respiratory symptoms, fever, cough, and shortness of breath and breathing difficulties. In more severe cases, infection can cause pneumonia, severe acute respiratory syndrome, kidney failure and even death.



Fig -3 Tips to prevent Corona Virus transmission (taken from net)

To prevent the infection to spread we should regularly wash our hands, cover our mouth and nose while coughing and sneezing. We should avoid close contact with anyone showing symptoms of respiratory illness such as coughing and sneezing.

In the beginning COVID-19 was said to be Epidemic, as it started from China and then spread worldwide. The World Health Organization (WHO) in the month of January 30th 2020, [5] declared the news that coronavirus disease has taken the shape of a Pandemic and it is also considered as public health emergency on international concern. This deadly virus has disrupted public life across the whole world.

During the 1st wave, the central government imposed a national lockdown on March 25th 2020. The result revealed a well-controlled infection rate and the Indian policy was appreciated internationally. Still the peak of the 1st wave was in September 2020. Again, in the middle of march 2021, the 2nd wave has started and on April 9th 2021 the highest number of cases have been identified in India.[6] The major affected states in India were –

Maharashtra, Kerala, Karnataka, Andhra Pradesh, Tamil Nadu, Delhi, Uttar Pradesh, West Bengal, Jharkhand and Bihar etc.

During this time several countries globally enforce the temporary closure or lockdown of all non-essential shops and services besides supermarkets and pharmacies. In most of the countries the workers with a high risk of infection were asked to work from home as most of the places were under

lockdown. Many were facing various challenges regarding health and safety, supply chain, labour force, cash flow, consumer demands, marketing etc. Though the lockdown norms are relaxed in most places social life is still far from normal. This Pandemic has shown crisis by poverty, hunger, weak health system, lack of clean water, sanitation, education and global co-operation. [7-8]

Due to COVID -19 our children are at risk of falling behind due to school/college closures. In India, most of the school and college examination and higher competitive examination are conducted in the month of March-June but due to COVID-19 pandemic related academic loss and delay or postponement of the examination the future of our students are in danger and has brought significant disruptions to education.

2. COVID-19 Pandemic and Education

The COVID-19 has resulted in school shut all across the globe and as schools/colleges are closed children are out of the classroom. The COVID-19 pandemic is a huge challenge to education system. The teachers and administrations were unprepared for this transition and they were forced to build emergency remote learning system immediately. The sudden shift away from the classroom in many parts of the globe make us think that whether the adoption of on-line learning will continue to persist post-pandemic.

To keep the children learning many countries has implemented remote education programme and many are exploring alternative ways to provide continues education using technologies such as Internet, T.V and Remote.

Education has changed dramatically with the distinctive rise of e-learning, whereby teaching is undertaken remotely and on digital platform.

Many institutions/schools/colleges use methods to improve remote education experiences including social media, e-mail, telephone etc.

Despite best efforts to set up a supportive remote learning experience, evidence shows that school/college closure have resulted in actual learning losses. These losses are found to be much high among students whose parents have less education but the children from socioeconomically advance families have received more parental support in their studies during the school closure period. Many children come from poor household and do not have internet facilities, personal computers, T.V or even radio at home, it amplifies the effects of existing learning inequalities and the students who lack access to the technologies need home based learning which have limited means to continue their education and as a result they face the risk of never returning to school/college and unable to progress in education.

The teacher's created a traditional educational environment using digital technology. To get students attention, teachers started frameworks, creating modules and explanations on whiteboards and use different teaching aids, to create a setup as a classroom.

Many schools/colleges/institutions have asked their teachers to make use of online learning methods and tools through Teachmint, Google Videos, Zoom, Facebook live, YouTube etc. to deliver lectures and complete the course contents.

Teaching through online mode has become an accepted reality in this COVID-19 and the necessary groundwork which supports online teaching has not been made available in proper terms and thus the current batch might suffer due to the difficulties in adjusting to the new situation of online learning.

Many institutions schools have shifted the base to virtual platforms to conduct classes online. The needs of all stages of education from pre-primary to university level, online education has emerged as an alternative to ordinary face to face classes. Efforts are being made by both government and non-government organization and edtech companies to support the school system to make a smooth transition to the virtual world.

Making a continuous effort to provide customised teaching- learning material suitable for online classes is another way of facilitating the schooling of children. The Central government has recently launched the PM e-VIDYA platform, with 12 new DTH channels.

3. PM e-VIDYA- One Nation One Digital Platform

The Finance Minister Mr. Nirmala Sitharaman announced the PM e-VIDYA program for students. This program is announced for the top 100 universities of the country and for school also. Under this program online education courses will be allowed to start from May 30, 2020. It is also announced that Swayam Prabha DTH channel to support the student who does not have access to the internet. A program for multi-mode access to digital/online education will also be launched under the PM e-VIDYA program. It consists of 6 components - 4 with school education and 2 with higher education. The government is set to launch 12 more channels. The government has also decided to provide special e-content for visually and hearing-impaired students.



Fig-4 PM E-VIDYA (taken from net)

For visually and hearing –impaired students, PM e-VIDYA has launched a special radio podcast as well as a TV channel to help students who do not have access to the internet so that there is no disruption in their education.

Under the PM e-VIDYA, there are two portals – DIKSHA and NISTHA. The PM e-VIDYA program contains “DIKSHA” involving e-content and QR coded energized book for all the classes and will be called “One Nation One Digital Platform”. NISHTHA aims to improve the learning

outcome at the elementary level through an integrated teacher training initiative. A TV channel called “One Class, One Channel” will also be launched for class 1st – 12th. The government will take all these efforts to ensure the education of students.

PM e-VIDYA has also launched a psychosocial support channel, Manodarpan for students and teachers, where they can receive mental counselling and guidance. PM e-VIDYA programme has joined hands with private DTH operators like TATA SKY and AIRTEL to provide education videos. Besides these about 200 new textbooks will be added to e-Pathsala, a portal/app to provide multiple resources to teachers, parents educators and students.

4. Benefits of the PM e-VIDYA Program

The benefits of the PM e-VIDYA Program as launched by the Government of India are as follows:

- Students will get education sitting at home.
- It will be a one-stop solution for all learning needs of students.
- Special radio podcast are arrange for visually and hearing impaired students.
- Students can study through e-content.
- A dedicated channel for education on TV will help students who do not have access to the Internet.

The Ministry of Human Resource Development (HRD) on March 21, 2020, the Union HRD Minister shared various free digital e-Learning platforms by the Ministry of HRD that students Concentrate on their learning during COVID-19 based school closures.

5. DIKSHA- Digital Infrastructure for School Education

Diksha is an initiative of the National Council of Educational Research and Training (Ministry of Education, Govt. of India). It was launched by the Hon'ble Vice President of India M. Venkaiah Naidu on 5th September 2017 and it has been adopted by 35 states/ UTs across CBSE (Central Board of Secondary Education) and NCERT (National Council of Educational Research and Training). It was developed on the core principles highlighted in the strategy and Approach paper for the National Teacher Platform released by the then Minister for Human Resources Development Prakash Javdekar in May 2017.

Diksha (Digital Infrastructure for Knowledge Sharing) serves as National Digital Infrastructure for teachers and with this all teacher across the nation will be well equipped with advanced digital technologies. Teachers should have easy access to teaching and learning resources and opportunities to develop professionally, if they have to fulfil their central role in the education of our children.



Fig- 5 DIKSHA (taken from net)

- In –class resources
- Teacher training content
- Assessment aids
- Teacher profile
- News and announcement
- Teacher community

National Teacher Platform (NTP) branded “DIKSHA” as an initiative of the Ministry of Human Resource Development, Government of India. It is a state-of-art platform built to host Open Educational Resources (OER) and tools for Teachers in Schools, Teacher Educators in Teacher Education Institutes (TEIs) and Students Teachers in TEIs. It is built considering the whole teacher’s life cycle- from the time student teachers enrol in TEIs to after they retire as teachers.

Teachers can use Diksha features to create:

The Diksha portal contains e-Learning content for students, teachers and parents aligned to the curriculum, including video lessons, worksheets, text, books and assessments. Under the guidance of its National Board of Education (CBSE) and National Council of Educational Research and Training (NCERT). This app is also available to use offline.

6. Benefits of DIKSHA

- Teachers can access relevant personalised professional development training anytime and anywhere.
- Teachers in school can use the curriculum –linked resource to prepare for class or use them to teach in class.
- Student Teachers in Teacher Education Institution (TEIs) and contractual teachers can take courses on the portal for preparing for Teachers Eligibility Test (TET).
- Cluster and Block Resource Personnel can use the standardised observation tools on the portal to arrange need-based coaching support for teachers and conduct a continuous training needs analysis.

- Teachers can have access to a personalized workspace to track and plan their progress including performance in tests, courses completed etc.

7. NISHTHA – National Initiative for School Heads’ Teachers’ Holistic Advancement

NISHTHA, the National Initiative for School Heads and Teachers Holistic Advancement, was launched by Union HRD Minister Ramesh Pokhriyal to improve learning outcomes at the elementary level in schools. The programme was launched at Dr. Ambedkar International Centre in New Delhi on August 21, 2019.



Fig-6 NISHTHA (taken from net)

The Department of School Education and Literacy has launched a National Mission to improve learning outcome at the elementary level through an Integrated Teacher Training Programme called NISHTHA under the Centrally Sponsored Scheme of Samagra Shiksha in 2019-2020.

NISHTHA is a capacity building programme for “Improving Quality of School Education through Integrated Teacher Training”. It aims to build competencies among all the teacher and school principals at the elementary stage. NISHTHA is the world’s largest teachers’ training programme of its kind. The basic objective of this massive training programme is to motivate and equip teachers to encourage and foster critical thinking in students. The initiative is first of its kind wherein standardized training modules are developed at national level for all States and UTs.

8. The main expected outcomes from NISHTHA are

- Improvement in learning outcome of the students.
- Creation of an enabled and enriching inclusive classroom environment.
- Teachers are trained as first level counsellors to be alert and responsive to the social, emotional and psychological needs of students.
- Teachers are trained to use Art as pedagogy leading to increase creativity and innovation among students.
- Teachers are trained to develop and strengthen personal-social qualities of student for their holistic development.
- Creation of healthy and safe school environment.
- Integration of ICT in teaching-learning and assessment.
- Developing stress-free School Based Assessment focused on development of learning competencies.
- Teachers adopt Activity Bases Learning and move away from rote learning to competency based learning.
- Teachers and School Heads become aware of new initiatives in school education.
- Transformation of the heads of school for providing academic and administrative leadership in the school for fostering new initiatives.

Thus NISHTHA programme seeks to train all heads and teachers as first-level counsellors so that they can be alert and responsive to the needs of the students.

9. E-PATHSHALA – Learning on the Go

The Digital India Campaign has promoted extensive use of ICTs in the teaching learning process. The e-Pathshala a joint initiative of Ministry of Education, Govt. of India and National Council of Educational Research and Training (NCERT), has been developed for showcasing and disseminating all educational e-resources including textbooks, audio, video, periodicals and a variety of other print and non-print materials for Students, Teachers, Parents, Researchers and Educators.



Fig-7 E-Pathshala (taken from net)

It provides access to digital textbooks for all classes, graded learning materials and enable participation in exhibition, contests, festivals, workshops etc.

10. E-PG Pathshala- A Gateway to all Post Graduate Course

e-PG Pathshala is an initiative of the Ministry of Human Resource Development (MHRD) under its National Mission on Education through ICT (NME-ICT) being executed by the UGC.

The content and its quality being the key components of education system, high quality, curriculum – based, interactive e-content in 70 subjects across all disciplines of Social Sciences, Arts, Fine Arts and Humanities, Natural Mathematical Sciences.

11. Benefits of E-Pathshala

- Access digital textbooks (e-textbooks) for all classes.
- Access teaching instructions and source books.
- Help children achieve expected learning outcomes.
- Access Policy Documents, Reports of Committees, National Curriculum Framework (NCFs), Syllabus and other resources to support children learning.
- Access and contribute to periodicals and journals.
- Access audios, videos, interactive, images, maps, question banks, etc.

12. National Repository of Open Educational Resources (NROER)

NROER is developed by Central Institute OF Educational Technology (CIET), National Council of Educational Research and Training (NCERT). It was launched during the National Conference on ICT (Information and Communication Technology) for School Education. It was launched on 13 August

2013 in New Delhi in collaboration with the Department of School Education and Literacy, Ministry of Human Resource Development, Government of India.



Fig-8 NROER (taken from net)

Metastudio, the platform hosting the repository is an initiative of Knowledge Labs, Homi Bhabha Centre for Science Education, Mumbai. NROER hosts large number of educational resources in many subjects and in different Indian languages for Primary, Secondary and Senior Secondary classes. Resources are available in different formats like- Video, Image, Audio, Document and Interactive.

NROER portal provides a host of resources for students and teachers in multiple languages including books, interactive modules and videos contents which are mapped to the curriculum for classes 1-12 including aligned resources for teachers.

The digital resources are all mapped to subjects, which currently are divided into 5 categories namely, Mathematics, Science, Social Science, Languages and Art Education. Each subject has a list of concepts. This enables access to a library from where teachers can access related to the concept. They can also upload resources which are subject to review by experts. NROER allows teachers to download, share, comment and rate media resources.

13. Objectives of Nroer

- To store, preserve and provide access to a variety of digital resource to students and teachers.
- To enable the participation of the community in the development and sharing of digital resources.
- To enhance the quality of the education system of the country.
- To facilitate teachers to create and share contextual teaching and learning resource.
- To celebrate innovation in resource creation.

Hence, the NROER is a comprehensive digital repository for Open Educational Resources (OER) which in addition to providing opportunities for users to access and create educational resources also allow them to enrol in various online courses and participate in online contents.

14. SWAYAM – Study Webs of Active Learning for Young Aspiring Minds

SWAYAM has an educational as well as a technological aspect. It was launched on 9th July 2017 by Hon'able President of India Pranab Mukherjee. It has been developed cooperatively by MHRD (Ministry of Human Resource Development) and AICTE (All India Council for Technical Education) with the help of Microsoft and is equipped for facilitating 2,000 courses. It has been instrumental in bringing an amalgamation of education and technology partners under one umbrella at a pan-India level. It will provide one integrated platform and portal for online courses. It is a big step towards

accumulating knowledge and democratization of education. This covers all higher education subjects and skill sector courses.



Fig-9 SWAYAM (taken from net)

SWAYAM cell deals with development of SWAYAM MOOCs (Massive Open Online Course) platform with the objective of taking best teaching learning resources to all. SWAYAM MOOCs platform is World's Largest Online Free e-Learning platform portal designed to achieve the three cardinal principles of Education Policy viz- Access, Equity and Quality by covering School/ Vocational, Under-Graduate, Postgraduate, Engineering and Other Professional Courses.

SWAYAM hosts 2000 complete courses including teaching videos, weekly assignment, exam and credit transfers aimed both at school (class 9-12) and higher education (undergraduate and postgraduate) levels. Subjects are aligned to the curriculum and include engineering, humanities, social sciences, law and management courses including Robotics.

15. Objectives of SWAYAN

The objective of SWAYAM is to ensure that every student in our country has access to the best quality higher education at the affordable cost.

16. Swayam Prabha

SWAYAM PRABHA is an initiative of the Ministry of Human Resources Development to provide 32 High Quality Education Channels through DTH (Direct to Home) across the length and breadth of the country on 24x7 basis. It has curriculum-based courses content covering diverse disciplines. This is primarily aimed at making quality learning resource accessible to remote areas where internet availability is still a challenge.

The DTH channels are using the GSAT-15 satellite for programme telecasts.

The SWAYAM PRABHA has new content every day for at least 4 hours which would be repeated 5 more times in a day, allowing students to choose the time of their convenience. The channels are uplinked from Bhaskaracharya Institute for Space Application and Geo-Informatics (BISAG), Gandhinagar. The contents provided by National Programme on Technology Enhanced Learning (NPTEL), Indian Institutes of Technology (IITs), University Grants Commission (UGC), Chief Election Commissioner (CEC), Indira Gandhi National Open University (IGNOU), National Council of Educational Research and Training (NCERT) and National Institute of Open Schooling (NIOS). The Information and Library Network (INFLIBNET) centre maintains the web portal.

17. The scope of dth channel

- Higher Education- Curriculum based courses contents at post-graduate and under-graduate levels covering diverse disciplines such as Arts, Science and Commerce. Performing Arts, Social Sciences and Humanities, Engineering Technology, Law, Medicine, Agriculture etc.
- School Education (9-12 levels)- Modules for teacher's training as well as teaching and learning aids for children in India to help them understand the subjects better and also help them in preparing for competitive examination for admission to professional degree programs.

- Curriculum based courses that can meet the needs of lifelong learners of Indian citizens in India and Abroad.
- Assist students of class 11th -12th to prepare for competitive exams.

18. Suggestions for parents navigating the new reality of online education during this pandemic covid-19

Covid-19 has created stressful, unpredictable time for everyone including family, parents and children. Solution for school closure was being devised for remote education range from online classroom tools. Parents are adjusting in this new circumstance, during this time it's also important to help kids stay focused on learning and avoid overuse of games, social media and videos.

19. Tips for family as they adjust to the new reality of learning at home

- Children will achieve their best work in a quiet, comfortable and dedicated space devoted to learning. This will be a different set-up than where they normally play games or watch TV. Always keep in mind that children will be in this space for many hours each day and parents should also watch out for any orthopaedic issues that may arise related to comfort and posture.
- Always consider limiting the child's cell phones and tablets until their schoolwork is done satisfactorily so that it can receive their undivided attention. Apps, games and messaging features are fun but they can also prove distracting.
- In this new learning situation you can help by monitoring your children's level of interest and engagement in adapting to their new schedule and at-home materials. Look at your child's eyes to see if they are following along with the screen. Ask questions at the end of a lesson, while this may require taking an hour off from work or stepping out for an early lunch, its important to confirm that your children are indeed learning.
- Make it sure that your children take plenty of breaks in order to get physical activity and time away from screens. Set alarms similar to those they would encounter at school and encourage them to get up, get some fresh air, go for a walk or bike ride, or have a snacks so that they are not sedentary for the entire day.
- Encourage your children to video chat or text message rather than simply scrolling through social media. You don't want your children to feel socially isolated but at the same time you want to protect them from becoming wholly reliant upon their devices.
- Overuse of screen time can have adverse impacts on young brains, so it's essential in these special circumstances to be extra careful when it comes to the little ones. Parents should encourage print and book reading.
- Good planning can relieve stress for both children and parents. Check in with your kids about their plans and help them develop a written schedule not only for the day but for the week. Help them prioritize and learn to create goals, tasks and deadline, just like adults do when they go to work.
- Even though staying home from school might feel like a holiday, remind your kids that they are not on vacation.
- Plan off-screen activities for the whole family. Between school and work it's rare for parents and children to have this much time together, so turn it into an opportunity for bonding.
- These common sense practices can help you and your family navigate this new terrain and make the most out of at home learning. This is a challenging time for parents, teachers and children alike.

20. Advantages and Disadvantages of online learning

Digital learning has emerged as a necessary resource for students and schools all over the world. Online learning is now applicable not just to learn academics but it also extends to learning extracurricular activities for students as well.

21. Advantages of online learning

- **Efficient-** Online learning offers teachers an efficient way to deliver lessons to students. Online learning has a number of tools such as videos, PDFs, podcasts and teachers can use all these tools as part of their lesson plans. By extending the lesson plan beyond traditional textbooks to include online resources, teachers are able to become more efficient educators.
- **Accessibility of time and place** – Online education allows students to attend classes from any location of their choice. It also allows schools to reach out to a more extensive network of students, instead of being restricted by geographical boundaries. Online lectures can be recorded, archived and shared for future reference. This allows students to access the learning material at a time of their comfort.
- **Affordability** – Online learning reduces financial costs. Online education is far more affordable as compared to physical learning. It eliminates the cost points of student transportation, student meals and most importantly, real estate. All the courses or study material are available online, creating a paperless learning environment which is more affordable.
- **Improve student attendance** – Online classes can be taken from home or location of choice and so there are fewer chances of students missing out on lessons.
- **Suits a variety of learning styles** – Every student has a different learning journey and a different learning style. Some students are visual learners while some students prefer to learn through audio.

22. Disadvantages of Online Learning

- **Inability to focus on screens** – One of the biggest challenges of online learning is the struggle with focusing on the screen for long period of time. With online learning, there is also a greater chance for students to be easily distracted by social media or other sites. It is imperative for the teachers to keep their online classes crisp, engaging and interactive to help students stay focused on the lesson.
- **Technology issues** – While online classes another challenge is internet connectivity. The internet penetration has grown in leaps and bounds over the past few years, in smaller cities and town, a consistent connection with decent speed is a problem. Without a consistent internet connection for students or teachers, there can be a lack of continuity in learning for the child.
- **Sense of isolation** – In an online class there are minimal physical interaction between students and teachers. This often results in a sense of isolation for the students. It is imperative that the school allow for other forms of communication between the students, peers and teachers. This can include online messages, email and video conferencing that will allow for face-to face interaction and reduce the sense of isolation.
- **Teacher training** – Online learning requires teachers to have a basic understanding of using digital forms of learning. Teachers have a very basic understanding of technology. They don't even have the necessary resources and tools to conduct online classes. It is important for schools to invest in training teachers with the latest technology updates so that they can conduct their online classes.
- **Manage screen time** – Many parents are concerned about the health hazards of having their children spend so many hours staring at a screen. This increase in screen time is one of the biggest concern and disadvantage of online learning. Students also develop bad posture and other physical problems due to staying hunched in front of a screen. A good solution to this would be to give the students plenty of breaks from the screen to refresh their mind and their body.

23. Conclusion

The pandemic COVID-19 has a very bad impact on life throughout the whole world. Many countries took measures such as lockdown to provide safety from this Corona Virus. This pandemic has an impact on education sector also. The sector relies on the physical presence of the teacher and the student in the schools/colleges and universities. The lockdown enforced to reduce the menace of the virus and have affected the education sector as students are being taught online by the teacher and both

students and teachers are adjusting themselves to this new paradigm. This online learning is helpful in keeping our community safe. The difficulties which arrive are much more prominent than the positive. There are many issues related to this changing scenario, there may be connectivity of internet and supply of electricity etc. but still there are few opportunities that can be gained from this which can be very beneficial for both teachers and students in the long run.

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