Future Challenges for Emerging Educational Environment due to Covid 19 Lockdown

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Abstract

The Covid-19 or Coronavirus pandemic has changed millions of lives globally. It has impacted educational environment unprecedentedly. The education is integral component to the personal and societal growth. Closures of educational institutions have several implications as the schools are not only places of learning but ensure nutrition, safety and hope for the future. India's diverse and layered society has always required a strong public education system for universalization of education without any discrimination. Most of the institutions switched to the online mode of learning according to their resources and saved millions of learning days. However, faced with new realities it could be said that online educations has serious limitations as well. The pandemic has revealed the digital divide distinctly. It has also underlined the need of more public investment in education and better preparedness for uncertainties. The paper examines the unfolding educational environments based on the analysis of data retrieved from the global studies with a view to make the most of the situation and set new tone of development for the future.

Introduction

The impact of Covid-19 is unprecedented and global, unlike the earlier crises which disrupted education in individual countries or regions. According to the United Nations Educational, Scientific and Cultural Organization (UNESCO), more than 90 per cent of the world's students or 1.57 billion learners across 190 countries have been affected by the closures from pre-primary to higher education levels.[1,2] As a result, the students are temporarily forced to 'schooling from home' or got disconnected totally.

Closures of schools have serious impacts on the society as it is associated with deprivation of opportunities for growth and development and also results in poor nutrition, exploitations and drop outs of the students. The losses are even bitter for under-privileged learners. Although it is too early to judge, however, significant long term modifications in the teaching-learning process are expected ranging from the large scale digitization, innovation, and reprioritisation of subjects taught to the way the academic institutions function. A clear

understanding of the emerging trends would not only help in adapting faster, but also in smooth recovery and minimising the educational loss. The objectives of the study are:

a)   To analyse the capacity of Indian education system to utilise its potential in a self-reliant manner to overcome the situation.
b)   To assess the possibilities for minimizing the negative impacts and restrictions caused by the lockdown.

Methodology
Examination of data and information generated from different studies in India and abroad related to impact of COVID-19 to understand the changing educational environment and to discuss possible way out.

Research and Discussion
Due to Covid-19, about 1.57 billion learners at different levels across the globe have been affected by the closures of educational institutions (Fig.1). It has different implications ranging from inequality of access to quality education due to digital divide, stress, nutrition, security to socialisation of students. At the same time, it has created opportunity through technology based education and better potential utilisation of educational institutions and self-reliance
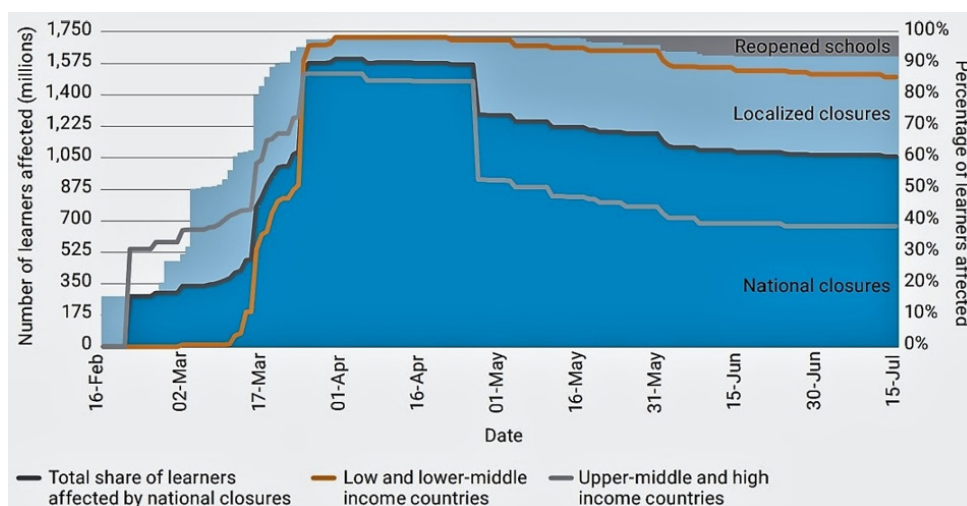
Fig. 1: Number of students affected by closure of schools
Source: https://en.unesco.org/covid19/educationresponse and authors' calculations

Online Education – Learning Anywhere, Anytime
Covid-19 pandemic could become a catalyst to adopt online education worldwide to overcome physical limitations as well as lecture-based and slow-paced approaches. The online learning or e-learning is education that takes place over the Internet. With 5G technology becoming more prevalent, the learners and solution providers would quickly embrace the new reality of 'learning anywhere, anytime'.[3] A growing population prefers online education due to its flexibility, convenience and their responsibilities outside the class. The online learning is also bringing about the acceptable pedagogical shift as the teachers' role is changing from the 'sage on the stage' to 'the guide on the side'. It is cited

that the online environment is more personalised, interactive and satisfactory to the students; even shy students tend to thrive in the anonymity of the online environment. In addition, it can accommodate more students without putting pressure on the limited campus infrastructure. This crisis has triggered and hastened the digital transformation which is likely to stay, at least as complementary.

Requirement of Technical Infrastructures
The success of online learning depends mainly on the level and quality of digital access. While virtual classes on personal tablets may be normal in some developed countries, but many students in developing countries still depend on the assignments

sent through email, whatsapp or other apps. The switchover requires technical infrastructure - access to high speed broadband and devices like laptop and android phones. Even today, only around 60% of the global population is online.[4] Adopting online education without adequate preparation might put the students from the poor socio-economic background at loss as the cost of digital devices and data plans would be prohibitive.[5] The digital divide is forcing them to the periphery and could further aggravate the educational access gap in society. For better results, the teachers and the learners are required to be technically sound.

Conventional vs Online Education

Despite popularity and all the merits of online education, if the education means something more than the imparting of information, the classroom education will always be relevant. The cognitive and psychomotor developments in the students can easily be achieved through traditional classes. Besides, development of leadership, interpersonal and life skills, improving collaborative learning, critical thinking, building organisational skills and team spirit and overall socialization of the students could be better achieved in classroom education. The younger students always need personal mentoring and closer influences of different personalities. A study on students of European countries has shown that there are divide in the availability of emotional supports to the students according to the socio-economic status of their parents. The students with more educated parents were likely to have better emotional support6. This disparity in emotional support may widen due to Covid 19 effects.[7] The application and demonstration of knowledge especially in the science subjects also demands regular classes as simulators does not fulfil the quest and satisfy the students. The online education is still more about stopgap arrangement and gaining degrees and less about holistic development of students. It lacks assurance of generation of highly skilled human resources and their employability. In all fairness, online education should be seen as complementary to the classroom education and not otherwise.

Indian Scenario

Almost within a week of the lockdown, the institutions started to connect to the students to provide study materials and interactive guidance using different modes. Even students were counselled on mental health to alleviate stress and anxiety. This stopgap arrangement of online education could become an integral part of the education system, making it the next jump in the revolutionary distance education. Seizing the opportunity, the Ministry of Human Resource Development (MHRD) in India launched 'Bharat Padhe Online' campaign on 10th April 2020 for crowd sourcing of ideas for improving online education and promoting the digital education platforms in India. India needs a digital platform of its own, equipped with all the key functionalities to meet its customised requirements of the virtual classroom. Development of overall digital infrastructure and making them accessible to the masses as well as preparing the teachers and students for the change would improve the delivery of education. The online education has sailed smoothly till now on the wave of Digital India Campaign, launched by the Government of India in 2015. However, it calls for better infrastructure, investment and inclusivity.

For credible online education, it requires improved mode of interactive interference and transparent assessment system. The newly established National Testing Agency (NTA) in India could develop a uniform assessment system and other protocols. Setting quality assurance mechanism for online courses and the certification/ accreditation of the courses would be essential for establishing their merits and employability before the learners and the employers.

Bouncing Back from the Crisis

The pandemic has the potential to set students back by months and disrupt the academic calendar. Education in emergencies refers to ensuring safe, relevant, and quality education to the people affected by emergencies and crises.[6] The educational activities during the crisis help disseminate the crucial safety knowledge to the students and their families. Going by South Africa's experience of fighting Ebola, it is desirable to prepare for longer interruption and to move forward to build back better in post-crisis recovery.[7] If engaged properly, the academic institutions which are home to millions of fertile minds networked digitally could come out with valuable solutions. The crowdsourcing of ideas promises effective governance and wonderful

solutions. With a similar intention, MHRD has launched a portal named YUKTI (Young India Combating Covid-19 with Knowledge, Technology and Innovation) for crowdsourcing ideas to boost e- learning process in India.

Self-reliance for Emergency

With past experience, many universities in the USA had emergency-response centres as a preparation for the unexpected which came to their rescue during this pandemic. The four-step emergency management process comprises: getting organized, identifying hazards and risk assessment, developing the emergency management plan, and implementing the emergency management plan.[6] Such emergency centres may be replicated in the Indian universities as a simple, flexible, multidisciplinary strategic decision-making system. The system could act as a nerve centre during the crisis; otherwise, engage itself as a valuable skill provider on crisis management in the disciplines of Environmental Sciences and/or Disaster cum Emergency Management. Different Indian universities face different local challenges. There could be long closures due to extreme weather conditions, pollution levels, political rallies and student's agitations. With such arrangements in place, institutions can handle emergencies more independently and continue with the educational responsibilities with minimum disruption.

Public-Private Partnerships

The operational thrust of government and private sectors are little different but complementary. While the former assures of stability, firmness and responsibility, the latter means speed, flexibility and profit-based sustainability. A symbiotic relation would be inevitable for credible and effective handling of Covid-19 like situation and the academic institutions could be the best incubators for the fusion of the two. Within weeks of the pandemic, different stakeholders including governments, education professionals, publishers as well as technology and network providers have joined hands to utilize digital platforms to continue with the education during the crisis. In China, the Ministry of Education in collaboration with the Ministry of Industry and Information Technology constituted a group having varied expertise to develop a new cloud-based, online learning and broadcasting platform and to upgrade educational infrastructures.[3] Similarly, in

Hong Kong, a large forum comprising educational organizations, publishers, media, and entertainment industry created huge educational resources containing videos, books, assessment tools, and counselling services for free use.

The pandemic has witnessed that the marginalised students are most affected by the pandemic. Lack of educational opportunities changes their lives for ever. Illiteracy results in unemployment, poor health which restricts their access to life saving information, decision making abilities and full participation in the society. This calls for more public investment in the education.

The private sectors had started showing greater interest in educational solutions and innovation in the past decade. The leading examples are Microsoft and Google in the USA, Samsung in Korea, Tencent and Alibaba in China.[3] However, the pandemic could prepare the ground for large-scale, cross-industry coalitions for common educational goals. With increased public-private partnership there would be hope that the emerging digital divide could be addressed properly.

Re-Inculcating Values

The difficult time has highlighted the best and the worst of value system of the society at play. There are shining examples of community participation and working beyond the personal gains which raises hope of peaceful coexistence in the society. Education is the bedrock of just society. The philosophy of life and the values are important because they have a profound impact on society and its ability to respond to unforeseen. The values also help us grow and create the future we want to experience as they determine our decisions and the results. Despite a huge population, diversity and limited resources, the way India manages the crisis underlines the inherent strength that comes from its cultural and value system. The value system advocating peaceful coexistence, environmental care etc. would emerge as useful to the world as it did in the case of yoga.

It is important to introduce inbuilt resilience in the education system. Therefore, students need life-supporting skills like informed decision making, creative problem solving, and adaptability. These are not less important than livelihood skills. It is high time

the essence of time-tested values, philosophies, and cultures, as well as the life-supporting skills, could be introduced in the education system for enriching humanity.

Expanding the Horizon

The nations are struggling for developing vaccines, testing facilities, ventilators and other medical and surveillance equipment. There are needs for meaningful data analysis and mathematical modelling of pandemic dynamics. Many universities in the world have engaged their research teams to support healthcare systems and law and order agencies.

Although providing education is the core responsibility of any academic institution, however, such emergencies demand the institutions to stretch themselves beyond the core responsibilities to utilise their resources and expertise in finding solutions. For example, the development and use of a simple and economical handheld testing device, connected to a smartphone would have been decisive for effective containment of the pandemic. In Taiwan[8] and Kenya[9], similar devices were used for detecting the dengue virus and the parasite respectively. Interestingly, the result of the test can be geo-tagged on a cloud server for real-time surveillance. Likewise, the drones could be put to use in activities like temperature monitoring of the crowd and disinfection of difficult areas. By 15th April 2020, the Indian Institute of Technology (IITs) were working on 200 different projects related to Covid-19[10]. Indian Institute of Information Technology Design and Management (IIITDM), Kancheepuram was supporting the district police in conducting drone based surveillance and engaged in developing ventilator splitters. Other academic institutions are upgrading their biological labs for testing facilities. Thus, the academic institutions could take this opportunity to emerge as an innovation centre.

According to the changing scenario, the subjects and syllabuses, as well as the thrust of the academic research could be aligned with the emerging realities. The New Education Policy (NEP), 2020 has a dedicated agency for coordination of research in India for making them focussed and more productive. Previous decades have witnessed the growth of computer science and management as subjects of choice. Maybe the next decades would be fascinated with subjects like Life Sciences and Environmental Sciences. The studies on the interests of farmers and labourers and the revival of economy and exports could be new engagements. The crisis has also underlined the essentiality of working in collaborative and an inter-disciplinary manner.

Reopening of Institutions

Closures of schools or colleges are reflected in loss of learning and development opportunities. The losses are disproportionate for under-privileged learners who have little educational opportunities beyond school. It is also related with poor nutrition, various exploitations and risk of permanent drop outs of the students. A significant numbers of students have been completely left out of the online education. As the closure prolongs many difficulties are surfacing. While teachers face difficulties in connecting with students, the parents with limited education and resources or those who are working have to struggle in helping the children learn at home. The distance even raises concerns about fairness when it comes to examinations. About 19.29 % of the Indian population is in the age group of 6-14 and entitled to education under the Right to Education (RTE) Act, 2009 which is also somehow being compromised by the closures. Reopening of schools is essential but a complex decision to make. There are schools with poor access to water and hygiene. Reopening should be measured, decentralised and disciplined and without burdening the students for completion of syllabus.

Conclusion

The impact of Covid-19 crisis has been devastating. While online education could be an essential stopgap arrangements, the early reopening of the schools are necessary to minimise the educational as well as other losses. It provides opportunities to rebuild our education system for better. The global educational hubs have been disrupted and they might take years in regaining the global interest. The top ranking Indian institutions have got the opportunity to retain the outgoing students and also to attract the students from abroad. They can expand, establish and reinforce their performance and brand values through providing leadership solutions and transforming the education system.

Recommendations

Based on the experiences of the pandemic, education ecosystem should be revamped innovatively to function at new level in a self-reliant and socially relevant manner. The online education is empowering for those who are ready for it. Therefore, the issues like digital divide, meal beyond schools and inclusive learning opportunities should be addressed effectively. Since the online platform has become the place of children's learning and playing and has exposed them to risky online behaviour, there should be proper cyber and legal safety measures. Finally, new pedagogies may be used for managing and preparing such crises that challenges humanity.

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