

A PARADIGM SHIFT IN TEACHING AND LEARNING: AN OVERVIEW OF THE PRE COVID AND POST COVID SCENARIO IN THE HIGHER EDUCATION SECTOR OF INDIA

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Abstract

The current pandemic scenario has suddenly changed the definitions, models and structures of all fields of life, the education sector being no exception. All the stakeholders of this sector- the governments, administrations/managements of the institutions, the teachers and lastly and most importantly the students, who are at the receiving end, have found themselves grappling with the situation, trying to find the best solutions to continue the teaching learning process in the best way possible. Countries all over the globe are dealing with the existing situation in different ways. While in some countries online/digital education was already an established norm, in some others- specially the developing countries, the concept is relatively new and shall take some time to integrate into the conventional modes of disseminating education. The current paper, however, attempts to present an overview of the higher education sector in India-- the pre-COVID and post-COVID scenario as far as the digital initiatives taken by the Ministry of Human Resource Development, Government of India are concerned. The MHRD and the government of India had already started taking steps towards digitalization of education in the higher education sector and those initiatives have only got a stimulus in the current lockdown situation due to the pandemic. The University Grants Commission- which is a statutory body under MHRD, charged with coordination, determination and maintenance of standards of higher education- has been issuing fresh guidelines and directives to the universities of the country for incorporating various programs to encourage online teaching and learning. Training of teachers in various ICT enabled Learning Management Systems under various schemes, making students aware of various digital platforms of learning, directing state governments and institutions regarding making use of the various applications for learning etc. are, to name a few, the steps taken by the government of India in the current situation. All these programs and initiatives shall certainly have a bearing on the future course of education in the country as well, because by the time the pandemic situation is over- the digital/online education shall have become a 'new normal' across the country.

Keywords: COVID19, Higher Education, India, Digital/Online teaching, MHRD

INTRODUCTION

According to the UNESCO report- Covid19 Educational Disruption and Response, dated March 23, 2020 COVID has affected approximately 68 percent of the world's student population on account of the lockdowns and subsequent shutting down of the schools and colleges across the globe. Talking specifically about the higher education sector, the International Association of Universities (IAU), 'the global voice of higher education' - an independent international NGO founded in 1950 under the auspices of UNESCO has released the final report of its first global survey on the impact of COVID19 on higher education. According to this report, as on 1 April 2020, schools and higher education institutions (HEIs) were closed in 185 countries, affecting 1,542,412,000 learners, which constitute 89.4% of total enrolled learners. At the beginning of May, some countries, experiencing decreasing numbers of cases and deaths, started lifting confinement measures. However, on 7 May (the time of writing the report), schools and higher education institutions (HEIs) were still closed in 177 countries, affecting 1,268,164,088 learners, which constitute 72.4% of total enrolled learners. The figure reveals the enormous impact of the disease on the Higher Education sector globally. In India also, we had a series of lockdowns and subsequent extended closures of educational institutions owing to the flaring situation of COVID19. All the higher educational institutions, universities and colleges have been shut in India since March 24, 2020 when the first phase of the nation-wide lockdown was announced for 21 days by the Prime Minister of India after a 14-hour voluntary public curfew on 22 March. we have had four more extended lockdown periods after that and although now it has been lifted with conditions and several other sectors are open and functional currently, educational institutions are still closed in India and no final dates have been announced yet for the re-opening. Looking at the still rapidly rising numbers of COVID positive cases, it seems unlikely for the educational institutions to open sometime soon. Education process continues through various online mediums, partially or wholly as the education sector grapples to cope with the unprecedented situation it suddenly found itself plunged into. Final exams of all the semesters have been canceled in many of the universities and the students are proposed to be promoted to the next semester based on their internal assessments and scores of the previous years' exams. formulae are being put in place for the same as the situation refuses to recede and the stakeholders find themselves on tenterhooks. The current paper, however, aims to present an overview of the higher Education sector of India in the pre and potential post COVID scenario giving an insight into a) how were we placed before the pandemic struck as far as the various govt. initiatives regarding digital/online education is concerned and our preparedness for them, b) what is the current situation concerning the dissemination of education via digital/online mediums during the lockdown period and c) what is the way ahead for us, in the post-pandemic scenario.

OBJECTIVES

- To present an overview of the digital/ICT initiatives by the Ministry of Human Resource Development, in the Higher Education sector in India.
- To bring under focus the impact of contagion COVID-19 on the HE sector of India.

- To highlight the new emerging trends/new guidelines/policies of the MHRD/UGC Higher Education Department during the lockdown period because of the spread of the pandemic.
- To problematize the current debate over the adoption of digital modes of education keeping in mind the digital divide in India/presenting the challenges in the path of digitalization of education in India.
- To highlight the paradigm shift in teaching learning/post-COVID trends in the Higher Education sector of India.

METHODOLOGY

Analysis and discussion of the problems and perspectives through literature sources/ collection of data from already published texts available in the public domain e.g. books, e-books, reports, of government/private, national/international companies/agencies, newspapers, magazines, online published papers and articles.

A BRIEF OVERVIEW OF THE HIGHER EDUCATION SECTOR OF INDIA

- India's higher education sector is one of the largest in the world.
- According to AISHE (All India Survey on Higher Education) final report 2018-19 :
 - There are 993 universities, 39931 colleges, 37.4m students, and 1,416,000 teachers in the higher education sector.
 - The GER (Gross Enrollment Rate) in the Higher Education is 26.3 percent which is calculated for 18-23 years of age group. This is not a very promising figure and as per the AISHE report, the target was to increase the GER to 30 percent by the year 2020 but we have fallen short of the target.
 - It's ironical- on one hand, we have the largest 'young' population in the world (with more than 62 percent of the population in the working age group i.e.15-59 years and more than 54 percent of the total population below the age of 25), but on the other hand- if we don't provide all this young population with higher education and employment skills, the same youth, which can prove to be an asset for us, shall turn into our biggest liability.

DIGITAL INITIATIVES BY THE GOVERNMENT OF INDIA IN THE HIGHER EDUCATION SECTOR: THE PRE-COVID SCENARIO

In 2009, the government of India launched National Mission on Education Through ICT(NMEICT) to provide quality educational content to the learners and initiated various programs under this scheme. However, the 'digitalization' in the real sense of the word has been evading us in almost all the sectors owing to the slow growth of technology, a large population residing in rural areas resulting in lack of awareness and the general apathy and lack of will on part of the people to adopt technology. In 2015, after the demonetization announced by the PM of India, 'digital' became a popular term and a lot of digital initiatives were taken to promote and accelerate digitalization in all fields.

However, the ground realities at education sector majorly remained untouched by it, although MHRD GOI had taken massive steps in 2016 to promote digitalization of higher education.

on 9 July 2017, SWAYAM, India's indigenous digital platform for MOOCs, an initiative of MHRD was launched by the president of India, "to give a coordinated stage and free entry to web courses, covering all advanced education and skill sector courses."

SWAYAM: INDIA'S OWN DIGITAL PLATFORM FOR MOOCs

SWAYAM is an acronym for Study Webs of Active Learning for Young Aspiring Minds. All MOOCs of various disciplines and subjects developed under the aegis of MHRD are hosted here, by the country's own MOOCs platform. (www.swayam.gov.in)

Swayam comes from Sanskrit root 'swa' meaning 'self' promoting 'self-learning'. The platform offers over 2500 courses, with over 1.2 crore learners connected via this platform at present. Learners from around 114 countries have enrolled for various courses at SWAYAM. The courses offered are free of cost with nominal fee for certificate procurement. As per Gazette notification of Indian Govt and UGC Credit Framework for Online Learning Courses Through SWAYAM Regulation 2016, any student can enroll in up to 20% of courses per semester through MOOCs on SWAYAM to earn credits. It also offers faculty development and student mentoring programs for teachers and interface with SWAYAM as a local chapter for administrators. In short, it is a one stop platform for the stakeholders where India's best teachers and subject experts prepare the content and courses for millions of students. There is a shloka (verse) in Sanskrit language - आमोदार्थी यथा ब्रडगः पुष्पात् पुष्पांतरम ब्रजेत । विज्ञानार्थी तथो शिष्यो गुरोर्गुर्वन्तरम ब्रजेत II which means that the way the honey bee goes from one flower to pick up and collect nectar, in the similar way, the student who is in search of knowledge needs to go from one guru (teacher) to another guru for learning and gathering knowledge. SWAYAM is that platform which can be a manifestation of the meaning of the shloka, because that's where country's best teachers are available to satiate learners' thirst of knowledge.

SWAYAM Prabha is a group of 32 DTH channels devoted to telecasting of high-quality educational programs on 24*7 basis using the GSAT 15 satellite. Everyday there is new content for 4 hours which would be repeated five times in the day, allowing the students to choose a convenient time.

National Digital Library, initiated under NMEICT scheme by MHRD, is a virtual repository of learning resources with a single window search facility. It contains digital versions of textbooks, articles, videos, audio books, lectures, simulations, fiction other related media. There are more than 7.2 million books available and a large number of students have registered themselves here.

NAD National Academic Depository is another initiative of MHRD, govt. of India, to facilitate digital storage, access and verification of Academic Awards issued by institutions.

E- Shodh Sindhu is a repository of thousands of international journals and e books available to all higher educational institutions, allows access to be the best education resources in the world using digital mode.

Virtual Labs- There is a pertinent question that comes to our mind when we think of digitalization of education. What about labs and practical experiments? Virtual Labs project is an initiative of Ministry of Human Resource Development (MHRD), Government of India under the aegis of National Mission on Education through Information and Communication

Technology (NMEICT). This project is a consortium activity of twelve participating institutes and IIT Delhi is coordinating institute. It is a paradigm shift in ICT-based education. For the first time, such an initiative has been taken-up in remote-experimentation. Over 205 virtual labs in 9 engineering and science disciplines, comprising about 1515 experiments are operational for remote operation and viewing and are accessed by more than 600,000 students. www.vlab.co.in

E-Yantra is implemented to incorporate robotics into engineering educations with the objective of engaging students through exciting hands-on application of mathematics, computer science and engineering principals. It's implemented in 100 colleges presently. www.eyantra.org

E-Kalpa 'creates a digital learning environment for design' with e-learning programs on Design.

Free and Open Source Software for Education (FOSSEE) this project sanctioned to IIT Bombay is to promote the use of open source software in educational institutions. www.fossee.in

Shodh Ganga <https://shodhganga.inflibnet.ac.in> is a large pool of PhD theses uploaded Research scholars and they are all available as open access source for others to refer to.

E-Vidwan is a premier database with profiles of major scientists/researchers and faculty working at the country's premier academic institutions. <https://vidwan.inflibnet.ac.in>

Gyandhara <https://ignouonline.ac.in> is an online audio counseling service offered by IGNOU (Indira Gandhi National Open University). It is a web radio channel where students can listen to the live discussion by the teachers and experts on the topic of the day and can also connect via mail gyandhara@ignou.ac.in

Gyandarshan www.ignouonline.ac.in/gyandarshan is a web based Tv channel devoted to educational needs of distance learners.

E Acahrya- an integrated e content portal for all e content projects, developed/funded under the National Mission of Education through ICT <https://eacharya.inflibnet.ac.in>

Talk to a Teacher Program- <https://aview.in> is a part of this program coordinated by IIT under NMEICT. Another part of this is **Spoken Tutorial** which is a multi- award-winning educational content portal to promote IT literacy through open source software. Contents shared here are CC by SA license.

GIAN (Global Initiatives of Academic Networks) aims at tapping the international talent pool of scientists and entrepreneurs to encourage their engagement with the institutes of Higher Education in India.

IMPACT OF COVID-19 ON HIGHER EDUCATION SECTOR AND SUSEQUENT SHIFT TO DIGITAL/ONLINE TEACHING-LEARNING PLATFORMS

According to an article titled "Impact of COVID-19 on Higher Education" written by Dr DNS Kumar, "the student density of India as the total enrollments in higher education every year are nearly 37.4 million, reflecting the expanding horizons of the education industry. The sector was catching pace by the passing day until Coronavirus impacted the country intensely" The universities and

colleges of the country “initiated a revolution” rediscovering and recalibrating themselves, rising to the occasion. Necessity is the mother of Invention, they say, and it has proved to be correct in the current pandemic scenario. As institutions adopted online learning and incorporated the digital modes of teaching, a new chapter in the history of HE sector has just started to be written. As Dr Kumar further says “it is probably a first time for India to experiment with the education system and make a paradigm shift to the virtual world, blending classrooms with online learning” Instead of “giving in to the circumstances”, the Higher Education sector took the its stride and did it best to keep the education process flowing as continuity in the academic pursuits is essential. We needed to switch to online from the offline modes of teaching learning to ensure uninterrupted and sustained learning and minimizing the impact of COVID on education. Two popular Sanskrit phrases क्षणातरुर्ध्वमअतार्किकः पक्षातरुर्ध्वम अव्यकरणाः “**kshanat oordhawam atarkikah**”, **pakshaat oordhawam avyaakranah**” mean that if you distance yourself from academics for so much as a moment, you’ll become illogical and if it prolongs up to a fortnight you’ll lose the sense of accuracy in terms of grammar and correct usage of language. Learners needed to be kept abreast of academics and the colleges and universities made a swift shift to the digital platforms, buying LMSs institutional accounts/holding trainings etc. for teachers for a smooth transition.

In his address to lakhs of teachers of higher education sector, HRD minister of India Mr. Ramesh Kumar Pokhriyal ‘Nishank’ also urged the stakeholders to “turn the challenge into an opportunity” and re-equip themselves to fit into the mould of this ‘new normal’ constantly updating and learning about online ways of dissemination of education. The minister emphasized that this is the time of a big transformation which opens immense opportunities for all of us in the area of learning and creating new curriculums and pedagogy best suited to the current needs. Learning Management Systems and terms like “blended learning” “collaborative learning” and “student autonomy” are the ‘new normal’ and have gained immense popularity in the new scheme of things. In some cases, it was no less than a wonder how quickly we switched to online from offline modes of communication/teaching learning process.

University Grants Commission has released new and fresh guidelines to the institutions with an emphasis on spending this time more fruitfully and productively. A host of online webinars, training programs, capacity building programs and workshops are being organized by various universities and institutions to constructively engage the faculty members and students. The Teaching Learning Centers of various universities under PMMMNMTT Scheme have been conducting various FDPs/Training Workshops to train teachers/faculty members in online teaching management/creation and development of e content/open educational resources/various LMSs/ Digital Platforms of teaching/ Use of ICT and Multimedia in teaching etc. which shall enable teachers to cope with the current situation effectively. The digital initiatives that have been discussed earlier have certainly got a boost as more and more stakeholders in the field of higher education have started acquainting themselves with them. The situation has enhanced chances for these digital practices by Govt of India to be actually put to use as it is now-in the current

pandemic situation that we have started knowing and learning about them. Technology enabled learning is going to stay and technology has the capacity to revolutionize the higher education sector in future. The traditional roles of teachers and students are being redefined and the online teaching is going to make it more 'learner centric'. In the traditional set ups, the teachers mostly end up delivering a lecture and the use of technology/multimedia resources is limited or negligent. In blended learning which is the future of HE in India, the recourse to ICT and multimedia resources leaves lot of scope for innovation, excitement and creativity in teaching learning process.

DISADVANTAGES/NEGATIVE OUTCOMES AND CHALLENGES OF DIGITAL/ONLINE LEARNING

In the book *Theory and Practice of Online Learning* (2004) author Terry Anderson points out that there are three types of central arguments regarding online learning. the Utopians (Advocates), the Dystopian (Critics) and the Utilitarian (Skeptics) The advocates hail it as the latest and greatest educational reform. The critics point out the negative consequences. The skeptics generally take a neutral stance. So, we have looked at the positive sides of the adoption of technology enabled learning in the higher education sector of India (from the angle of an advocate), now let's see how a dystopian (critic) would respond to the scenario.

Negative Social Impact Digital education negates Indian social values, India is a country with its culture deeply rooted in being social, we have had joint family system for ages and gurukul tradition where students from all backgrounds would study together irrespective of their socio-cultural and economical backgrounds. The digital teaching learning process hits hard at that ancient social value. Learning is inherently a social experience. The learner loses social contact with teacher and misses out on that "bhaav" (expressions/body language of the teacher) which Bharata Muni talks about in his *Natyashastra*. (an 'ancient Indian treatise on performing arts which has influenced dance, music and literary traditions of India') If the learner doesn't meet face to face with teachers and peers., s/he loses a very important aspect of developing his/her personality- growing in the society, learning being in the midst of various social structures and situations. Ryan Hickey is quoted in the article "Societal Impacts and Effects of Online Education" as saying, "the inability to communicate with teacher on a daily basis takes away the opportunity from the learner to gain help and trust" (from the teacher)

Digital Divide and Inclusive E-Learning The article "How Coronavirus Accentuates Inequality" published in Economic Times on June 11 analyses the increasing graph of inequality among the privileged and non-privileged ones, saying "inequality is a phenomenon that always permeates all levels of society across all walks of life, but its effects are exacerbated in times of crisis just like the one that is currently underway...out of all countries, India remains in a particularly precarious position being one of the most unequal countries in the world." The article focuses on inequality pertaining to many factors but if we talk about education sector alone, the figure is a slap on the face of 'Digital India'. As per the 75th round of National Sample Survey (NSS) from 2017-18, merely 24 percent of Indian households have an internet connection. "There is a stark urban rural divide in this spread. While a little

over 15 percent of rural households have access to internet, the corresponding figure for urban households is 42 percent". The same NSS report shows that only 24 percent Indians own a smartphone and 11 percent households own a computer. These statistics raise serious questions on the vision of MHRD to go digital in the domain of education in view of the fact that there is a major chunk of students hailing from rural areas. The government needs an overhauling of the entire structure and needs to massively invest in prepping up the infrastructure all across the country to ensure digital education reaches every doorstep.

UGC appointed a committee to investigate the issues of examinations and the academic calendar in light of the pandemic. The committee has submitted its report and according to the committee, "some universities lack the technology infrastructure needed for online teaching and online examinations. Indeed, recommending a one-size-fits-all approach and expecting every teacher to teach online is incongruous if we consider issues of equity and inclusion". The report further says, "COVID-19 has created an atmosphere for technology-enabled learning in higher education in India. It is time that policy-makers and educators took advantage of the current situation to reform Indian higher education and create a resilient system that supports equity, excellence and expansion."

Internet Speed: The highest Internet speed in India is 7-8 Mbps whereas some leading countries with good internet speed have more than 25 Mbps e.g. South Korea, Sweden, Hong Kong, Switzerland, Japan, USA etc.

Training of Teachers and Students: The article "Online Higher Education in India During the COVID-19 Pandemic" published on orfonline.org on 26 May 2020, quotes professor Sahana Murthy, Professor of IIT Bombay, explaining the context behind the surge of online education in India as the idea of "Emergency Remote Teaching" "she asserted that there is a difference between 'emergency remote teaching' and 'effective online learning'. For online teaching, along with the requirement of tools such as online platforms, one needs access as well as trained teachers. "She concluded her opening statement by emphasizing on the importance of changing the mindsets of teachers as well as students" so as to deal with their apathy, lack of will to come out of their comfort zones and adapt to the change. Dr Shakila Shamsu (former OSD, New Educational Policy) is also quoted in the same article saying that the use of technology in education should not be an outcome of the pandemic, but an idea that has been continuing and shall continue for several years.

THE WAY AHEAD: A PARADIGM SHIFT IN TEACHING AND LEARNING

The way forward- The future of Indian Higher Education is Digital. We are at crossroads of a major transitional shift in the history of Higher Education. This is just the beginning of a long journey ahead- as "online education is here to stay". We are setting sail for this voyage and the government and govt agencies are all for adapting to the change- this is evident from the various new steps/initiatives/fresh guidelines issued to the higher education institutions during the COVID19 lockdown period. UGC has already announced that once HE institutions are re-opened; teachers will be trained in ICT and ways to conduct online classes. This is a "key takeaway" for us from the COVID

situation. In the article “Blended Learning is the Way Forward After the Pandemic” Sanjay Mishra, an education specialist (e-learning) at the Commonwealth of Learning, Canada says “There is a need for a paradigm shift in our thinking about teaching and learning to create an enabling environment for learning with technology. Teacher capacity is key, but we must also change our mindset about teaching and learning as just a same time, same place activity.” Also, “the issue of lack of bandwidth for online learning has been a matter of debate. We need to think of ways to improve access to the internet by zero rating of data for educational platforms and by providing support to both students and teachers to have access to computers and the internet for teaching and learning.” In the digital space, the Finance Minister of India has asked the top 100 universities of India to provide online classes, including IITs and IIMs which already have a healthy digital presence. Besides these, other Indian institutes too have been called upon to increase their online footprint. The FM also announced that 40 per cent of traditional education at the college level will be provided through digital modes.

CONCLUSION

In a webinar on the topic, “The Explosion of Online Education in India During the COVID-19 Pandemic: What have we learnt?” organised by ORF (Observer Research Foundation) Mumbai Chapter held on 26 May 2020, Dr. Ashwin Fernandes (Regional Director – Middle East, North Africa and South Asia, QS Quacquarelli Symonds and CEO, QS IGAUGE Rating) pointed out that COVID-19 brought a “second wind to higher education in India.” He believed this is because of three main reasons. Firstly, the increased use of technology for various ideas, especially for education, has “instilled confidence for users” Secondly, “India has tried to follow the footsteps of UK, US and UNESCO models of online education and lastly it depends on how both these factors “level the playing field for Indian universities. In conclusion, the panellists agreed that the education sector needs solutions from the access front, pedagogy angle, the teacher-training front and the collaboration angle to effectively tackle the problem of providing education through technology. There is also the need for more tech-savvy educational institutions to “handhold” lesser tech-savvy ones, putting in place a proper plan-of-action for students, teachers and institutions as well as the ensuring teacher-training in the use of technology for education.” The institutions should collaborate to improve the quantity and quality of education provided through technology. The government must provide better internet connections to its citizens, India should try and turn the current challenge into a wonderful opportunity and use this opportunity to write a new chapter in the history of higher education in India. I would like to conclude with the words of Sanjay Mishra, “Blended Learning is definitely the way forward for us.” “COVID has created for us an atmosphere for technology enabled learning in HE in India. It is time that policy makers and educators took advantage of the current situation to reform Indian Higher Education and create a resilient system that supports equity, excellence and expansion.” MHRD is in the process of formulating a National Policy on education. It is therefore timely that we discuss the nature of teaching and learning in the 21st century in India.

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