Education During Covid19 And Beyond : Transition from Face-to-Face Blended Learning

Abhijit Bora*

Abstract

The COVID19 scenario has brought in an unprecedented situation. It has caused a major disruption in all walks of life for humankind across the world. Education, the basic precondition for a person's overall development is also a prime sufferer in the development. So, institutions all over the globe had to jump into the online or electronic knowledge delivery system in place of the Face-to-Face (F2F) one with no feasible alternative in sight. The term 'Blended Learning' has acquired a new meaning and lease of life with the sudden change in the situation. On one hand there are the traditional Open and Distance Learning (ODL) institutions, dual mode ones with ODL as one of the components. They seem to be at an advantage over other modes for their natural edge in delivering learning materials in the electronic mode. But the other modes with no such exposure are facing the heat more than anyone else. This sudden need for adopting a new knowledge delivery system has to be coordinated and fabricated in a proper way. And thereby rough edges smoothened up before it can be experimented for large-scale delivery. This paper examines various advantages and disadvantages related to this new development and looks for a feasible solution in the process. It discusses how modern technology can be blended with ODL and the Face to Face (F2F) systems for deriving the optimum benefit out of it. While there have been some amount of works going on in this direction, yet the thrust has become serious only now. It can only be hoped that it shall sustain till achieving a satisfactory result in future.

Keywords: *Blended Learning, Face-to-Face Learning, GER, Online, Pandemic, Young Country*

*   Professor, Mass Communication & Journalism Dept., Tezpur University, (Assam).
     E-mail: abhijitbora71@rediffmail.com

Introduction

Open and Distance Learning (ODL) for long was considered at best as an 'alternative mode of learning' by many quarters including academicians, scholars and policy planners. The emphasis was heightened in the 2000s when the need for increasing the Gross Enrolment Ratio (GER) in higher education was to have been boosted to a higher level. This despite the fact that ODL has been serving humankind across the world to the optimum capacity in fulfilling the much-talked about gap in attaining education (secondary to higher levels). Also, thereby opening up of huge potential for people to acquire education at their convenience rather going through the formal system of education. The latter many a times has not been able to keep pace with the ever-increasing demand. Right from the Open University in Great Britain to the Indira Gandhi National Open University (IGNOU) and other open and dual-mode universities in the country things have advanced to a big extent.

In the meantime, according to official sources the 12th Five-Year Plan target of achieving 30 % GER by 2020-21 has already been fulfilled. UGC Chairman Prof. DP Singh was quoted by Indiatoday.in (PTI, 2019) to report this development. It rose from 25.8 % in 2017-18 from 24.5 % in 2015-16, according to a statement from the Press Information Bureau of India (PIB, Delhi, January, 2020). The report also duly acknowledged the contribution from the other modes of teaching-learning like ODL, higher usage of ICT, SWAYYAM, NPTEL platform among others.

The conditions were going in favour of ODL mode all over the world. Then the COVID19 situation has occurred and all aspects of life has been thrown out of normalcy all of a sudden. And things do not seem to improve in the near future. While these are extremely trying times for the humankind in general it has also brought in potential avenues of development and growth in several walks of life. It is imminent that the masses of the world shall have to learn to live with this phenomenon for the foreseeable future. Thus, it would be a good idea to turn disadvantages into advantage by taking things into the stride and look for prosperity amidst adversity.

Methodology

The current research paper is primarily an empirically-oriented paper that draws facts and figures from various secondary sources. Here, the author has made an effort to compile all the information with personal experience in formal teaching-learning in higher education level. The author also attempts to collate his several years of experience as a field worker prior to joining academics full-time. Besides, the exposure to ODL mode of

learning as well as close monitoring of the transition from Face to Face to blended learning are facilitating in arriving at recommendations and conclusion.

Objectives

• Examine the facilities and situation supposedly conducive for adopting the blended learning system.

• Examine the disadvantages, if any on the road to achieving the goal of going full steam ahead with the new system in place.

• Make an effort to arrive at a few feasible recommendations for improving the situation in future.

Open and Distance Learning (ODL)

Taking a serious note of the scenario, the United Nations Educational, Scientific and Cultural Organization (UNESCO) has launched the Global Education Coalition for facilitating inclusive learning opportunities for children and youth during these stressful times of 'sudden and unprecedented educational disruption.' The agency reiterates its commitment towards fighting the adverse situation by extending necessary support to countries in this regard. Specially so for more vulnerable and disadvantaged communities and carry-on continuation of education for all through 'remote learning' (UNESCO website). The disastrous nature of the situation can only be imagined from the fact that almost 70 % of the world population of students are adversely impacted by it. This translates to around 1.2 billion students and youths across the globe.

In this regard, the Commonwealth Educational Media Centre for Asia (CEMCA) based in Delhi has already come up with precise guidelines for supporting and further boosting the existing facilities. These are expected to take forward the continuation of educational practices in a smooth and flawless manner.

This is because the hopes and aspirations of the world population now are pinned on the ODL mode of learning delivery in most of the fields. With majority of the educational institutions at all levels closed for the COVID19 situation, ODL as a whole has to accept the challenges of fulfilling the aspirations of the people with a huge opportunity thrown in to be capitalized.

Over the years, this mode has transformed itself effectively into a kind of blended

learning. That is being done by combining several tools of learning delivery to the learners. That includes – running texts as basic self–learning material (SLM), audio-visual lectures, physical meeting whenever necessary and possible etc. This can also be termed as learning by a meaningful 'convergence of media' that is benefiting the learners on one side and the knowledge creators or compilers on the other side.

At a time even during the normal circumstances, the formal set up of higher education in the country could accommodate only about 30 % of the eligible students. So the other 70 % had no option than to either forgo their educational aspirations or opt for ODL mode that a small percentage used to do.

ODL in India

In this system, the students are free to learn from anywhere at their own pace and convenience even stationed at far off places from its institution. In our country, Dr BR Ambedkar Open University (BRAOU), Hyderabad, was set up in 1982 followed by IGNOU three years later. Today, there are fourteen state open universities (SOUs) serving the people across the country. This is addition to the dual mode universities offering both full-time and ODL programmes simultaneously for decades now.

In this regard, it is important to mention that the University of Delhi first established its School of Correspondence Courses way back in 1962. This was a decision with a rare foresight and far-reaching potential positive impact for the society. Punjabi University, Patiala, followed suit in 1968. However, it was the opening of the full-fledged Open University in United Kingdom that led to the government's interest in seriously thinking on these lines. This resulted in setting up of an 'empowered committee' for the purpose proposing such a university here in 1974 (Gaba, Li, 2015).

Being a pioneer university in ODL, IGNOU has been instrumental in adopting various timely initiatives for making the teaching-learning process 'student friendly' to the maximum possible extent. Thus, it has taken up the services of Edusat in 2004 for wireless delivery of SLMs and personal contact programmes – PCPs (Gaba, Li, 2015).

Gaba (2013) quotes from Carter (2009) saying that changes in distance education was not driven only by technologies, but also by winds of political and economic changes, which determine the maintenance of technology usage. Further that, rather than making changes just for the sake of mere changes, it must be contemplated in the light of the potential impact on individuals and communities in practice.

COVID19 – An Extraordinary situation

Today, there is a stark change of situation because of the 'pandemic' condition. Even those privileged portion of our learners or students all at primary, secondary and higher levels of education have to be confined to their homes. They have no other option but to rely on the electronic knowledge delivery system. Thus, the demand has increased manifold in a matter of a few months today. At least for the foreseeable future with hardly any solution in sight.

Thus, the onus is on the ODL mode for delivering the goods to the learners. For that matter, in addition to the fully-dedicated ODL institutions, dual mode universities, even the normal institutions including schools shall have to gear up their system for this new development. It will be needed both for continuing their service to the society and also for keeping up the confidence of the people on their ability to deliver in the future. In other words, all these three kinds of institutions will have to re-orient their working style and strategy to suit this newly-emerging situation and future developments.

A highly-significant point needs to be raised here. That is, under present circumstances, all institutions, including even the normal mode ones must face this challenge of providing knowledge delivery in a system that would have a judicious mixture of Face-to-Face (F2F), ODL, online etc. This has become the 'new ground reality' of these days. Any institution with a true dedication for benefit of the future citizens of the country has to dwell on this with much higher priority than ever before.

This new phenomenon has been facilitated by several other related developments. There are proper and adequate advances in several areas of technology. These have to be roped in for going ahead with the overall long term objectives to be achieved.

Blended Learning (BL) : The New Ground Reality

The term 'blended learning' has suddenly assumed far greater significance because of the drastic change in the prevailing circumstances all over the world. It is that kind of learning in which students learn via electronic and online media as well as traditional F2F components. However, depending upon various situations the different components will have to be adjusted accordingly. This includes types of programme or courses to be offered, technical infrastructure etc. It will be suitable in the best interests of all concerned – primarily the students' community.

Under these circumstances, a novel 'blended learning' is the key to the problem. This system also embraces several modes of knowledge delivery, reception, skill inculcation and enhancement for those needing further skills, feedback assessment etc. All these aspects are blended in a convenient process which is necessary so that the learners are able to acquire the required skills and knowledge without much technical difficulty. It shall include specific pre-determined portions of all these aspects. Such as – recorded lecture delivery, group task activity, internship, examination through online mode which may be in an 'open book' method also, evaluation of skills and knowledge achieved, scope for improvement among others.

Of course, this is easier said than done.

One major issue here is the preparation of such a huge number of SLMs in the electronic mode. In other words – creation of a sufficient repository of such knowledge items for all programmes on offer. And also the ones by converging two or more of them as the need may arise at any point of time. There has been at least some progress made in this direction by various institutions including ODL and general ones though a lot is yet to be achieved. This is more because the need has caught our attention acutely only recently. Specially following the COVID19 phenomenon rather than anything else.

But there is this positive and advantageous point. It is that our academia and those connected with it do possess more than adequate resources and intellectual capacity to carry out this specific task for the benefit of the society in future and it shall deliver on a timely basis.

So because all stakeholders concerned should realize by now that this is the new reality we shall be facing in the future. It is obvious that the F2F knowledge delivery mode is supposed to be more effective always than ODL mode. But, because of the special circumstances humankind would require to learn to live with it. Thus, why not prepare on a scientific way to achieve whatever has been mandated by the society. It is needless to reiterate here that the entire society is looking towards the academia today. That is for effecting a convenient and meaningful mode of delivery of knowledge and skills for its citizens - young and senior alike.

Advantages of Blended Learning

Compared to the situation of the last one-and-a-half decade, today the field is favourable for emphasizing more upon this mode of education. This is because of the

factors discussed here.

First of all, it is an accepted phenomenon that the students or learners of these days are far more media and technology-savvy than the earlier generations. It is becoming more and more pronounced with every successive generation. Hence, a judicious mixture of both technology and traditional or conventional lecture delivery system needs to be incorporated for a better reception by the learners.

Secondly, development of Information and Communication Technology (ICT) with its latest generation versions are also helping the purpose to a big extent. Today, in our country there are about 1151.45 million mobile phone users (Statista, 2019). A majority of this population are expected to be using the internet through their phones. So, delivery of learning materials has been very helpful because of these developments. Of these, number of mobile phone internet users are estimated at 448.2 million for 2020 and is projected to rise to 500.9 million in 2023.

In addition to this number, there are also 504 million active internet service users in the country (Mishra, Chanchani, 2020). The report informs that by November, 2019, rural India (227 million) had 10 % more active internet users than urban India (205 million). The finding comes from a report of the internet & Mobile Association of India (IAMAI) and AC Nielsen.

So, the issue of delivering SLMs and other teaching-learning materials to the desired person is further facilitated by this development. And the good thing is that this is supposed to be growing every passing year to the benefit of the society in the final analysis. .

Thirdly, it needs to be mentioned here about the 'e- governance' services launched all over the country in each of the districts and sub divisions. They are there for delivering services to the people at their doorsteps. This fine network of service delivery can be utilized for supplying SLMs to learners.

Fourthly, like the way IGNOU had demonstrated earlier, the huge countrywide network of the All India Radio (AIR) can be utilized for keeping contact with the learners as and when required. It may be mentioned here that this network (AIR) with its 'three tiered' service delivery system covers almost 99.18 % of the population as well as 91.85 % of the area of the country (AIR Website). So, why not this potential be utilized for a better cause. It has also utilized the Doordarshan airtime to its advantage for delivery of SLMs in various modes.

Similarly, the country today can boast of more than 200 Community Radio stations across the states. The distribution of these stations is not uniform at all over the states. Yet, as a carrier of ODL messages they do have a great potential. In this regard, the Institute of Distance and Open Learning (IDOL) of Gauhati University and the Krishna Kanta Handiqui State Open University (KKHSOU), both at Guwahati have their own CR stations. They are providing adequate quality support to the core services of these institutions. This can be a good 'case study' of how the CR stations can be of maximum support for achieving the objectives of the ODL and BL modes of learning under the new circumstances.

On the other hand, on the part of the knowledge developers – the instructors or teachers, this is going to open up huge potential of opportunities.

First of all, many of the institutions would broadcast or release the study materials in electronic format and into the internet world which is the new concept of the term 'public domain'. This would bring for them a 'global' audience for their products. In that case, good quality SLMs in the electronic mode would attract appreciation from the world community. This will be a huge credit for the creators of those knowledge packages. It would be a big boost in inspiration for that person to further improvise the materials in future.

There is also the unlikely event of some of them not being up to the necessary standard. Then they would be automatically rejected by the learners' community by not subscribing to them. This in itself would be a learning experience for the institution and the knowledge creator.

The moot point is that this kind of a blending of the educational delivery system has been long overdue. Thus, with the advent of COVID19 scenario, it is a now or never situation. Every institution has to respond to the call for changes with the demands of the times. Otherwise, it would be their fate and left behind in the competition for getting more and more achievements. This in terms of more and more students' enrolment, quality teaching materials and methods, reaching out to the people in distress.

Transition from students to learners and vice versa:

The stakeholders concerned in this regard need to look at several other aspects.

First of all, the primary target audience of these teaching-learning systems now would be the normal students and learners in different institutions at all levels. This will be

necessary to minimize the gap of formal 'Face-to-Face' (F2F) teaching mode. This itself would be a huge task to be accomplished.

This is because of the fact that the persons enrolling under ODL are termed as 'learners,' not students in the traditional sense of the term. This shall undergo a change soon as traditional F2F system 'students' would also have to be trained through the process of blended learning only, according to the forecasts.

Skilling and Re-skilling the large work force:

Apart from the above, there would be several more target audiences for the institutions.

Prime among them would be a considerable section of the working force of the country who would be redundant because of closing down of business and industrial concerns. This category of people would need to be re-skilled or re-oriented towards looking for a newer set of skills for acquiring employment in the days to come. This shall be an equally-overwhelming task set for achieving so that the huge workers' force of the country does not necessarily perish in the future. With the formal F2F set up at a major disadvantage because of the current situation ODL in a blended learning mode seems to be the best alternative for this job.

The problem is further enhanced by the fact that the unemployment rate of the country suddenly jumped from 8.4 % (mid-March, 2020) to 23 % by early April (Sharma, 2020). Quoting figures from the Centre for Monitoring Indian Economy, it is informed that it was a hard fact also considering how the subsequent situation would be from May, 2020 onwards. An estimated 27 million youths in the age group of 20-30 years lost jobs just in the month of April, 2020. This period is the prime productive phase of one's lifetime.

In addition to all the trauma and melee because of the COVID19, there have been endless daily rounds of stories of impoverished blue collar workers setting on foot to their home destinations. This along with the category of employees in the white collar segment in the industrial system who have lost their jobs further complicate the problem and raise the bar of the challenges to be faced with.

The issue of providing the required skills and intellectual inputs for making fresh as well as those laid over work force people was already discussed. The situation is far more serious than it appears to be. The exact facts and figures of the ground reality shall

emerge clearly only after the situation has normalized in about six months or one year's time. That is, if at it all it settles down to normalcy, even by half of what it used to be prior to COVID19.

Challenge of addressing the 'youngest country':

All these developments need to be discussed against an important backdrop. That is, the especially significant fact that by 2021, India would have the privilege of possessing the largest youth population of the world by any standard. If such a huge population has to be skilled and trained properly in various available trades that would require investment of considerable sums of money. It will also necessitate putting in intellectual inputs from all relevant stakeholders – academia, industry, government etc. This shall be having an unfathomable and far-reaching impact on the society in the coming days.

The depth of this situation needs to be understood through the findings of a special report termed 'State of the Urban Youth, India 2012 : Employment, Livelihood, Skill' of the IRIS Knowledge Forum in collaboration with UN Habitat (Shivakumar, 2013). The report informs that by 2021 the population of the country in the segment of 15 – 34 would rise to the peak at 464 million to taper down by 2026. This is a major rise from 353 million in 2001 to 430 million in 2011. This translates into 64 % of the country's main work force with a potential to contribute about 2 % to India's GDP. Of course, this is by 2013 standards when the situation was different. The report also mentions that few of the southern and western states of the country would have a better edge in this regard as about 63 % of formally-trained youths would belong to them led by Kerala, Maharashtra, TN etc.

It is a highly-conflicting and contrasting situation. On one hand India possessed the largest youth work force of the world. On the other she is facing a major recession making our available work force almost unproductive.

It also makes an important observation that there were several important problems towards utilizing this huge work force effectively. It is because of "unequal access to opportunities and lack of emphasis on education along with a few others." So, this statement simply summarizes the concern of all the stakeholders – how to further democratize the teaching-learning system by a better and improvised delivery and distribution of educational resources.

How to go about the situation:

The long decades of experience of delivering normal F2F learning experience of institutions would also definitely need to be taken into account while working towards such an arrangement. Further, those from traditional ODL institutions and dual mode ones would also need to be coordinated properly. For this purpose, they would need to be brought into a common empowered platform for drawing up necessary plans on a time-bound basis. It will also need to examine issues like provision of infrastructure especially suited for the purpose and other related logistical and intellectual issues. Preparation of software (SLMs etc.), delivery mechanism, avoidance of duplication etc. aspects must be taken care of effectively to execute a convenient and productive plan in the end.

Meanwhile, the UGC has formally allowed pursuing of two programmes of study from different streams by any willing student. One of this has to be in regular F2F mode while the other will be in the ODL or online mode. It may be noted that this decision has not been taken in a hurry following the COVID19 situation. Yet, it could not have come at a more opportune moment for the aspirants across the country. A committee under the Vice Chairman of the Commission to examine the issue was formed in 2019. It has submitted its report and it seems to be a highly-timely one. This should come as a major relief for anyone who would be interested to pursue a general programme of study along with enhancing one's job-oriented skills at the same time for better employment prospects.

Ground realities on the path:

Having discussed various potential advantages of the ODL and Blended Learning systems in detail, it is imperative to look at the ground realities in that direction.

First of all, the moment online or electronic delivery of syllabus started taking place across the world and specially in our country, some technical glitches came into view. A major one among them is the low 'internet connectivity' in remote areas far away from towns and cities. Even many a times connectivity was also a nonstarter because of technical difficulties. This has forced many of the students to request the respective faculty members and departments for helping them by alternative methods which is also not always feasible.

More importantly, a majority of our institutions, more so the colleges and universities in rural settings may not have been initially designed to face such a situation. Thus, the lacunae or disadvantage has remained till date. Now, suddenly faced with the

adverse situation, things are going haywire.

Further, with the 'fixed broadband' penetration of the country set at just 6.1 % (Techradar, 2020) it is difficult for anyone with a mobile and internet connection to enjoy uninterrupted, smooth speed of the service at any given point of time.

An important question that arises here again is how satisfactory the BL system would prove to be compared to F2F ones. In quite a few institutions, students and even faculty members have had to actively voice their concerns by drawing attention of the authorities towards the 'express need' of F2F knowledge delivery in place of the new proposed one.

At the same time, as there is no clear cut and feasible alternative to the F2F system in sight at present, the show must go on with a flexibility for accommodating necessary concerns. Taking examinations and evaluation are also other concerns here which need to be resolved for a solution acceptable and feasible for all parties directly and indirectly involved with this broad spectrum.

Besides, even in case of BL, it may prove to be highly difficult to arrive at an acceptable proportion of how much of which component like texts, SLMs in electronic mode, F2F contacts, webinars etc. would be a judicious mixture. This needs to be sorted out before going ahead full steam in this direction. Because it is simply not a question of just producing graduates and learners with a certificate. The important point is whether they are acquiring learning in the real sense of the term or not. And thereby being facilitated for maturing into a good human resource useful for the society. Or, in other words, whether value addition in proper sense has been affected in the learners or not.

An in-depth article on the issue by AK Sharma (2020) rightly opines that pedagogy in digital education was an important link between course contents and educationists. Yet, at the same time, democratization of technology was a major issue in these circumstances. This domain comprised internet connectivity, telecom infrastructure, affordability of the online system, availability of laptop / desktop systems, educational software and online assessment tools etc. The scholar also stressed on the fact that technology-based education was more transparent and did not make differences in front versus back benchers or males versus females.

Two other scholars in this direction emphasize on the prediction from 'edutech' (educational technology) enthusiasts. That is, the fact that for the last about two decades they have been stressing that technology would become the biggest 'intermediary' of the

teaching-learning process is set to prove itself to the best of its abilities. (Gopinathan, Ramachandran, 2020). They say that about 60 million students all over the world have been limited to their homes because of the situation. Further, the digital platform has brought in a massive wave of efficiency and effectiveness. "Online has become the 'default mode of education' during these trying times….Creating high quality digitized learning content must be contextualized and 'byte-sized' to make learning interesting and engaging," they said. As this is a rare skill set available with only a few, the scholars emphasize that institutions would need to collaborate with such organizations for their digital pivots to be successful. Also, it is a fact that online or digital classroom system shall not become obsolete or abandoned immediately after the COVID19 situation. But the much talked about BL horizon would be the new 'in thing' for the foreseeable future. In this regard, even the European Union has initiated several ambitious plans for furthering the support for faculty members and students alike for helping them through the transition times during the crisis. It has also taken up a review of the Digital Action Plan in mid-2020 for more support to the cause of development of online learning at different levels across Europe.

Recommendations:

Based on the discussion above, the following recommendations may be put forward:

- The academia, learners' community, policy planners, trade and industry etc. all sectors need to be involved in the brain storming for arriving at feasible solutions and thus deliver the goods to the target audience in a flawless manner.

- The efforts for improvising the system must always be carried on relentlessly so that the beneficiaries get a real deal.

- It would be better for all institutions to recognize that this is the new reality for the future and sooner they got into the business of integrating things towards this end is the better.

- The technological aspect must be developed and robust systems put in place for facilitating the software delivery. In other words, a close tandem of hardware and software must be carried out for a better governance of the system.

Conclusion

The above discussion unequivocally points out to the situation that Blended Learning is the key to any educational endeavour both during and post COVID19 scenario all over the world. Thus, it is important that all quarters concerned with this development are connected in a common lop or platform. They should pool in their best of abilities for reaching out to the learners or students in the most effective and beneficial manner. It is not merely a domain of the knowledge creators or teachers. The technological component must also be very judiciously integrated into it. Along with these two issues there is also the aspect of providing infrastructure. On one side, devices and airtime to the students and production facilities to the teachers etc., must be ensured to the optimum possible extent. Only such a scenario shall be able to deliver the desired goods to the targeted audience on a proper timely basis. The picture has become clear that there is no alternative than to whole-heartedly adopt this new development. It will be better if we already changed our mindset and get set to utilize the system to the best advantage of ourselves at least for the immediate future. If the endeavour is undertaken in a serious mode by all quarters concerned, there is no way that the end goals can ever be defeated. Further, the entire process must also be made in a futuristic manner. This shall help us in keeping room for accommodating or absorbing all future shocks which might arise at any point of time in the coming days.

References:

Broadband bill in Indian households to come down - here's why | … Retrieved from https://www.techradar.com/news/broadband-bill-in-indian-households-to…

Gaba, AK. (2013). Distance Education in China and India: Collectivism and …Retrieved from citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.887.301&rep=rep…

Global Education Coalition for COVID-19 Response - UNESCO. Retrieved from https://en.unesco.org/covid19/educationresponse/globalcoalition

Gopinathan, CP, Ramachandran, K. (2020). Higher education post-COVID19.The Hindu. (April 14, 2020).

Goyal S, (2020). FUTURE SHOCK : 25 Education trends post COVID19. Brand Equity. The Economic Times. (May 14, 2020).

Growth and Development of Distance Education in India and … - …Retrieved from https://www.openpraxis.org/index.php/OpenPraxis/article/view/248

Mishra, D, Chanchani, M. (2020).For the first time, India has more rural net users than urban. The Times of India. (May 6, 2020).

Number of mobile phone users worldwide 2015-2020 | Statista. Retrieved from https://www.statista.com/.../forecast-of-mobile-phone-users-worldwide

Public consultation launched on the new Digital Education Action ...Retrieved from https://ec.europa.eu/education/news/public-consultation-new-digital...

Sharma, AK, (2020), COVID-19 : Creating paradigm shift in India's education system. The Economic Times. (April 15, 2020).

Sharma, YS. (2020). 27 million youth in age group of 20-30 years lost jobs in April : CMIE. The Economic Times. (May13, 2020).

Shivakumar, G. (2013). India set to become the youngest country by 2020. The Hindu. (April 13, 2013).