MOOCs as an Agent of E-Learning during COVID-19 Pandemic Period in India: Exploring Challenges and Suggestions

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Abstract: **India, similar to the remainder of the world, is continually engaging a Virus called COVID 19, which is presently looking like Pandemics. This has detrimentally affected the economy in non-industrial nations like India. However, it has had the best effect on education, the key or base to India's development. Thus, students can't present physically in the class. Education can never be halted; the assessment of more specialists is to instruct through technology in this field. Hence, the part of e-learning as a medium through technology is extremely viable, which can show an enormous number of students in a single spot by through on the online. MOOC is especially useful programming as a way to deal with e-learning. This study exertion to present all accessible MOOCs in India will clarify the difficulties of why a developing country like India needs MOOCs and give a couple of focuses to the suitable achievement of MOOCs as an e-learning approach.**

Keywords: **E-learning, MOOC, SWAYAM, NPTEL, Web resources.**

I. INTRODUCTION

"Education is a vital component for the advancement of any country. There are various difficulties in giving prominent education in India which is the biggest wellspring of quality education" [3]. But now everybody is being denied of education as COVID-19 is taking the state of a pandemic in India. We need to defeat this hindrance. A wide range of opportunities in the form of e-learning have opened the door to affordable constructive education. It can characterize as a process where internet technologies are utilized to give educational curriculum outside of a conventional theatrical classroom to upgrade information and execution. In most cases, this alludes to a course, program, or degree offered totally on online, where one can interact with one's teacher, professor, or other students. E-learning has transformed education. It offers the chance to learn whenever and anyplace. It is a method for social affair assets and giving correspondence. E-learning is a mode for one to plan, and improve learning materials using the online technologies. Massive Open Online Course (MOOC) is software for giving online learning materials to an enormous number of individuals. These are continuous online courses with association and unlimited accessibility. It is a field of learning where students are given online information just as answers to different textual questions. technology, students can concentrate together at home as indicated by their own pace.

Because of this pandemic, no educational institution is working as a traditional mode and therefore India is falling behind regarding education. So, the best way to do that is to learn online at home. The role of e-learning for this situation is certain, in spite of the fact that as we probably are aware, MOOCs is a mechanism of distance education. As we probably are aware India is a non-industrial nation, because of less financial help India has a few issues to execute this technological support. This study offers strong help for the way that e-learning through MOOC has become affective equipment's for the Indian education system and investigated a few difficulties looking for execute this support.

II. Status of India during COVID-19

'Due to the corona virus pandemic, state governments across India closed schools and colleges, which are affecting almost all students. The closure of schools and colleges affects assessment methods, including structure and learning. The closure of schools not only affects students, teachers and families, but also economic and social consequences. In response to COVID-19, schools focus on variety of social and economic issues, including student debt, digital education, the food crisis, as well as childcare, healthcare, housing and more' [1]. In rural areas, lack of technology and reliable internet access hampered the continuous learning of students and disadvantaged families.

III. E-learning

E-learning defined as, according to Fry (2000), **"delivery of training and education via networked interactivity and a range of others knowledge collection and distribution technologies"** [2]. In other words, an education scheme based on formal education, but the use of the internet based on classroom or outdoor teaching known as teaching through the internet and electronic devices makes it a key component of e-learning, may be distributed to a large number of recipients at the same or different time. In the word of Cross et al. (2004), E-learning is a method of connecting to the internet and learning through a network. These networks can integrate internet technology as well as satellites to acquire and share knowledge and information.

E-learning usually offers courses, programs and degrees completely online, where one can communicate with his teacher, professors and students. At any time through this the teachers present their speeches live or share previously recorded video to help to gain knowledge. Teacher is in constant contact with his students and regularly gave assignments and test after the coursework.

IV. Importance of E-learning on pandemic period

E-learning is a very helpful medium for those who are self-disciplines and self-reliant. It also helps to save money for functioning the educational process. But this e-learning is especially important in developing countries like India at the time of the ongoing crisis because no one can go out for the institution. To continue the education process, we should acquire education by staying at home and e-learning is effective equipments for this. Teacher and student both can continue the learning process through internet technology and electrical help. Since students can learn at their own pace, they participate in assignments and tests with their own interest. If we look at the economic cost of education, it can be seen that e-learning reduces this cost a lot. Moreover, through this process, knowledge resources around the world can be widely known, which enriches both teachers and students.

V. MOOCs as E-learning software

MOOC stands for Massive Open Online Course. It plays a special role in all three aspects (Formal, Informal & Non-formal) of the Indian education system. The term MOOC was originated by Devid Cormier and began in 2008, which means removing the limitations of formal classrooms through '3A', whose keywords are 'anyone, anywhere and anytime'. If we break down each letter of the word MOOC, it stands out is as follows,

'M' stands for **'Massive':** It means large enrolment numbers, because of there is no limitations to intake the participants and large number of people can access this course.

'O' stands for **'Open':** Where it is open to all. The course has no mandatory qualifications. As participant's interests, they can access it anywhere and anytime. This course is available for all without fees or for very little cost.

'O' stands for **'Online':** Where it is an online course. Participants join this course through internet technology and knowledge is imparted to the participants sometimes live streaming. Resource persons present their speeches through recorded videos or live videos, live chatting etc.

'C' stands for **'Course':** Where MOOC offers structured course content. Here the teachers usually impart knowledge of a prescribed course as well as take ancillary examinations and give certificates according to the features of a course· [3]

By Educause (2014), a massive open online course (MOOC) is a model for providing online learning materials to anyone who wants to take the course without any limitations of attendance.

As to Cambridge dictionary, "MOOC is a course of study that is made available over the internet and that can be followed by large number of people. It promises to change the face of higher education". [4]

Here we can say, MOOC is an online itinerary intended to limitless input and open entrance via web.

VI. Need of MOOCs on pandemic period

In recent initiative of government of India is called '**Digital India'**, which is the key for entering into the advance technological world. But in ongoing global crisis around the world bounds to grew in all aspect of life through the proper use of technology like ICT. During the lockdown period, technology plays an important role in home study and work from home. Some private institutions and Indian government may adopt education methods but low-income private and public schools may be able to adopt online teaching methods. Lack of access to e-learning solutions results in economic and social stress. We know very well India is a developing country; education is the base for development. So, in India education is very essential aspect of our life, but present crisis took us on a miserable world where no one can study with his teacher or peers. So that we have to be choose an alternative process for educate and developed India. Here MOOC takes form of a reformer of our country. It offers unlimited space for take part on the course. It removed all the obstacles for acquire knowledge. It provides a unique feature that helps the movement to learn the need for living longer and for those who work full-time or have taken leave from formal education (Yousef, 2015).

UGC has launched MOOC programme for higher secondary, bachelor and post graduate degrees in India with the Ministry of HRD for securing quality education for all. Providing quality education though a specific institution is a very difficult task in a large occupied and inexpensively weak nation similar to India. Here, MOOC gives us a great opportunity for acquire knowledge globally. These are the points we will see if we look at the need for MOOC as a virtual learning process via web in India.

Firstly, MOOC is a course where one can participate free of cost or sometimes there can be little charge. In India economy is an obstacle to reach the development, but MOOC solved this problem by online learning process and reduced the cost of education.

We know India is huge populated country; therefore, it is hard to give education all the people individually on educational institution. But through this course on MOOC platform one can individually learn according to his own interest and pace.

All participants do not need any prior qualifications to join the online course, so that all can freely access this platform without any hindrance.

Through the MOOC platform, students are able to acquire global knowledge, which opens up a global market for education in front of students. So that they can be associated with the different jobs in the world.

A global pandemic has linked education to technology, students can only learn through technology. In this ongoing global crisis, transforming the field of education into technology-based education is a duty of the government. So that we can compete with global opportunities. Pandit (2016) mentioned that "in a country like India, where most people residing in remote areas do not have adequate access to skill enhancement and quality learning, MOOC can play a pivotal role. It can be beneficial for those who are bound by financial instability, physical limitations or commuting issues" [5]. A variety of courses are offered under the MOOC. The most popular MOOCs providers are edX, cousera, Udacity, etc. After students in the United States, the second largest group of Indian students is accepting the MOOC provided by the cousera. "Geospatial analysis based on their user's IP address shows that the majority of these users are concentrated in urban India, with 61% of users located in the 5 largest cities with an additional 16% of users. Mumbai and Bangalore have the highest concentrations of users, with 18% of cousera students in each of India" [6]. However, only a handful of universities and institutes in India now have the facility to start or support such initiatives. So, we are very well aware of the importance of MOOC through e-learning in India.

Figure: 1
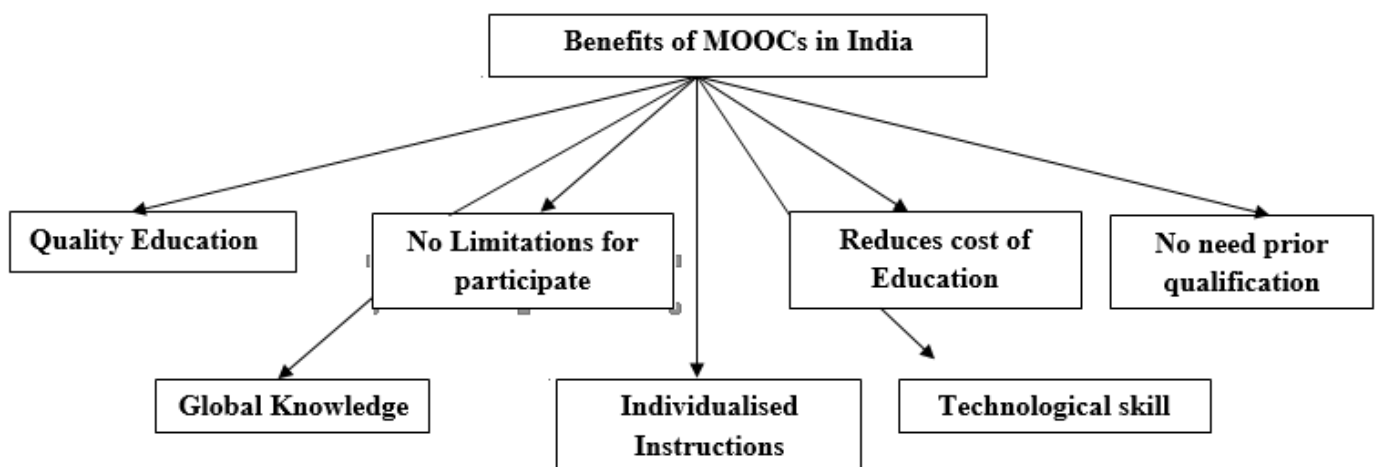
VII.   **Initiatives taken by Indian Government to promote Education system** [7]

Table: 1
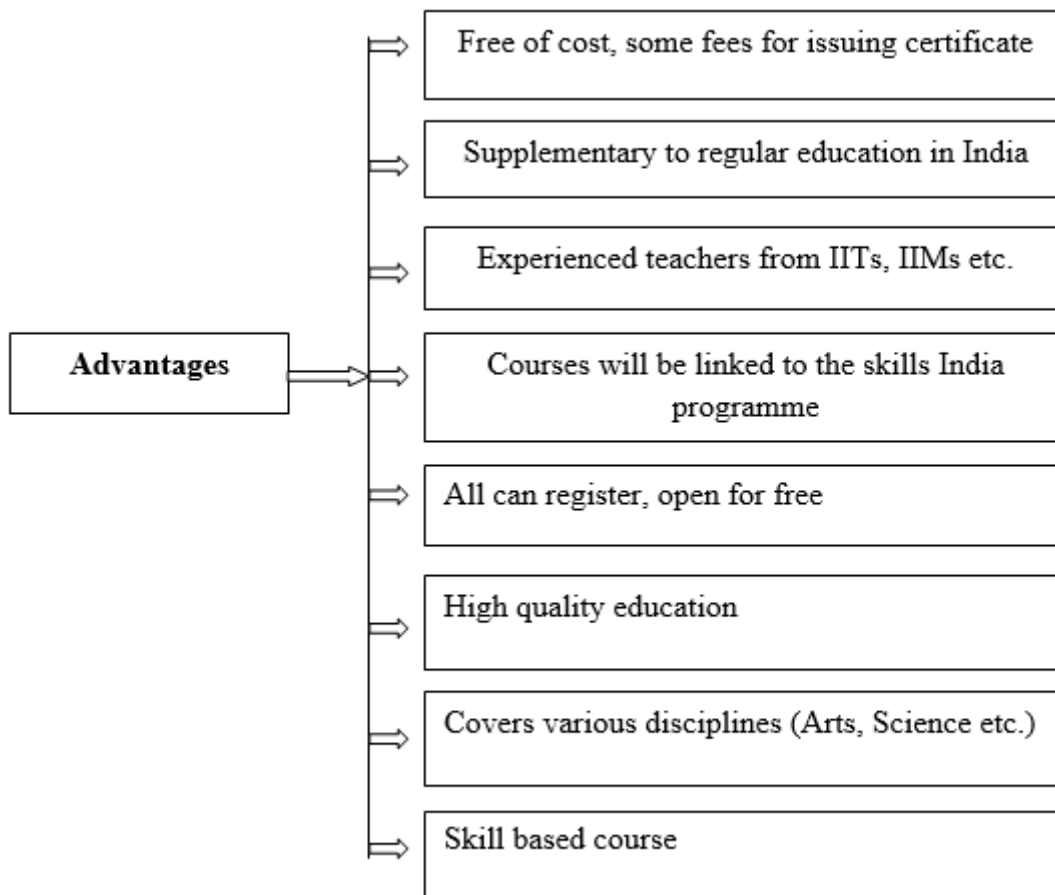
Online Course	Initiatives to Promote Education
SWAYAM	Online course for teachers
MOOCs	For UG/ PG for non-technology Courses
E-pathshala	Containing modules on various topics
Vidwan	This is a database, experts who provide information to peers and related partners
NEAT	PPP model initiated by AICTE to enhance employment skills in collaboration with educational technology companies and the NDL etc.

Also, the apps like YouTube, Skype, Zoom, Microsoft etc. are used for online classes.

VIII.   **SWAYAM hosted by MOOCs**

MHRD, AICTE and Government of India have created an unprecedented IT platform hosted by MOOCs, for higher education, high schools, to offer online course a platform called Study Webs of Active Learning for Young Aspiring Minds (SWAYAM).[8] It is a web and mobile based field where courses are conducted from schools' level to PG level. The government of India started SWAYAM usually for the backward class, but also for students, researchers, and faculty. In present UGC manages various credit programmes through SWAYAM. Currently 754 programs have been created, including 45 programs in schools, 15 certificate programs, 29 diploma programs, 386 UG programs and 279 PG programs are running. [9]

IX. **Advantages of SWAYAM in India under Pandemic period**

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                          ┌──────────────────────────────────────────────┐
                    ⇒     │ Free of cost, some fees for issuing certificate │
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                    ⇒     │ Supplementary to regular education in India    │
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                    ⇒     │ Experienced teachers from IITs, IIMs etc.      │
                          └──────────────────────────────────────────────┘
  ┌─────────────┐         ┌──────────────────────────────────────────────┐
  │ Advantages  │ ⇒  ⇒    │ Courses will be linked to the skills India     │
  └─────────────┘         │ programme                                      │
                          └──────────────────────────────────────────────┘
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                    ⇒     │ All can register, open for free                │
                          └──────────────────────────────────────────────┘
                          ┌──────────────────────────────────────────────┐
                    ⇒     │ High quality education                         │
                          └──────────────────────────────────────────────┘
                          ┌──────────────────────────────────────────────┐
                    ⇒     │ Covers various disciplines (Arts, Science etc.)│
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                    ⇒     │ Skill based course                             │
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X. **NPTEL as a MOOCs platform in India**

The full form of NPTEL is National Programme on Technology Enhanced Learning.[10] It is a joint venture between IITs (Kharagpur, Bombay, Madras, Delhi, and Kanpur) and IIS (Indian Institute of Science), entrusted by MHRD underneath the National mission in education throughout information communication technology, gives e-learning throughout online network and video-based courses in science, engineering and humanities. It aims to improve the superiority of engineering education in the countryside by providing gratis online courseware. More than 800 courses have been completed and made available on the NPTEL website. [11] This is also a special programme of the Government of India which is especially effective during lockdown period.

XI. **Challenges for Implementing E-learning in India during Pandemic**

The problems that are noticeable in implementing e-learning in India in the current scenario are as follows,

- Lack of digital literacy of teacher educators. Teachers face problems because they do not have skills about digital literacy.[12]
- Lack of multidisciplinary approach in higher education. There is lack of inclusion of e-learning in all disciplines in higher education.
- Lack of governmental importance on online certificate course. Unlike institution-based education, the government does not place importance on e-certificate.
- Language problem for accessing the platform. India is a multi-lingual country where communication is usually done through English on e-learning platforms, but not all students in India are proficient in English language, so this is also a special challenge for India.
- Advanced topics are usually added to the curriculum of e-learning platform, which requires skilled and experienced person. There is a dearth of experienced people based on online education in India.
- Lack of economic power improving technical infrastructure in the educational institute.
- Great emphasis on quantitative education instead of quality education.
- Good internet connection is required to take online classes, but we cannot say that internet services are good in all areas of India. This is because in some cases, such services are lacking in remote rural areas. Again, this internet service requires money which is a bit difficult for a developing country like India.
- Students are not attracted to the lesson due to lack of face-to-face interaction between teacher and student, and teachers are not able to improve their teaching due to lack of proper feedback from students.
- This online class was disrupted due to lack of proper electricity service in various parts of India.

India has to face all these challenges in implementing e-learning in the present scenario.

XII. Probable Suggestions for overcome the challenges

To overcome these challenges, we should check following aspects of India,

- Technical infrastructure needs to be developed and we have to overcome the problem of internet connectivity.
- Higher education should have multidisciplinary approaches so that student's knowledge is not limited to its own subject.
- Teachers need to be proficient in using technology to help students.
- Curriculum needs to be ready by reviewing the situation in all areas of India.
- We have to change the narrow concepts of people about online learning.

XIII. Conclusion

In the present era, India is going through a devastating crisis which has paralyzed the society. The corona pandemic has adversely affected the academic initiatives all over the world. In that case, even if institution-based education is not possible, arrangements have to be made to receive education at home. The solution that can be advocated in such a scenario is incorporation of high-end technology in the teaching learning process. The current advance technology-based education system is now in the palm of our hand. As software of e-learning, MOOC has been able to meet the demand for this education in India. Therefore, the access rate of e-learning in India needs to be further increased, for the universalization of online education, the problems that exist in India need to be addressed.

XIV. ACKNOWLEDGMENT

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