Accessibility of MOOC in Indian Higher Education: A Review Report

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Abstract

The swift replacement of traditional education by virtual ones should be viewed as a "reroute" for educational reform's usual slow pace. Virtual learning is preferable because it allows pupils to "achieve greater heights without being constrained by a number of predefined circumstances". As MOOCs shift from an experimental technology to a more traditional learning resource, course designers and MOOC operators alike are spending more time thinking about how to make them accessible. Colleges and universities make their programmes accessible to people with disabilities.When we talk about lifelong learning, emphasis should be on bringing college campuses at the doorsteps of the learners. In today's digitally revolutionary world, one of the goals is to employ technological equipment to remove many of the barriers to education, such as economics, access, and cost. This is where the value of MOOCs for education in a developing country like India comes into play. The characteristics of MOOCs are discussed in this paper, as well as their importance to Indian higher education.

Keywords: MOOC, accessibility, disability, technological equipments, virtual learning

Introduction

A course is a place in which a teacher teaches a group of pupils to learn about a certain subject. In areas such as classrooms or laboratories, a conventional course takes place in each period and employs educational resources. A course is not always part of the formal curriculum for a degree or certificate. Personal interest and progress can be considered in the perspective of lifelong learning. An online course provides teachers and students with interaction and communication through the Internet, as well as access to information and learning activities. In other words, online courses are a kind of distant training that is mediated through IT.

An MOOC is 'an online course with no prerequisite for formal entrance, no restriction for participation and is free.' Oxford dictionary describes MOOC as "a study course made accessible to a very large number of individuals free of charge over the internet." In light of the current state of higher education, classroom borders are expanding. With the advent of online education, the limitations of merely learning classroom material and enrolling in a single course have become obsolete. With the support of Open Educational Resources and MOOCs, a student registered in his or her home state university can also participate in an online course offered by a world-class university for a variety of reasons or focused on a particular skill set of interest. However, as a result of this, the classroom size has exploded, posing a variety of issues for the instructors to manage.

Status of MOOCs in India

In order to make education accessible to all in India, non-discriminatory and inclusive pedagogy must be used to ensure that everyone benefits equally from world-class education. It's vital to remember that the Indian government has been promoting an internationalized education system through SWAYAM since 2016. "Till 2018, more than 39 lakhs learners have been enrolled in more than 1,600 MOOCs courses that have been delivered through SWAYAM," according to a report presented in the LokSabha by Minister of State (HRD), Dr Satya Pal Singh. The courses have been completed by 60,000 people. The „Credit Framework for online learning courses through SWAYAM Regulation 2016' announcement released by UGC/AICTE allows for credit transfer of up to 20%. The MHRD is working to link the SWAYAM portal's courses to higher education curriculum.

The SWAYAM initiative, on the other hand, was started with the purpose of providing nationwide access to high-quality learning resources. It is an integrated platform and gateway for online courses that uses information and communication technology (ICT) and covers High School through higher education disciplines and skill sector courses to ensure that every student benefits from ICT-based learning. "By making high quality education available to anybody with internet connection, edX intends to democratize education, impact lives worldwide, and reimaging campus education," according to an edX spokeswoman. Given the pace of change in technology, learning, and quality assurance processes, MOOCs will expand and extend access, particularly for „global learners", who want to take advantage of global learning possibilities without having to leave their home country.

Indian students are the second-largest group of students enrolled in Coursera's MOOCs, after students from the United States (about 10 percent). A spatial analysis of these users' IP addresses reveals that the vast majority of them live in India's urban areas, with 61 percent of users living in one of the country's five largest cities and another 16 percent in the next five largest cities. Mumbai and Bangalore, that each account for 18 percent of Coursera students in Indiahas the biggest proportions of users (Christensen and Brandon, 2014). There is no denying the significance of MOOCs. India has also built a number of citizen-oriented platforms, such as SWAYAM and NPTEL.

Significance of MOOCs in Higher Education

Massive Open Online Courses have been intended to increase access to education for everyone. The Open Access Drive aims to promote free and fair access to basic, superior, formal and informal education. "MOOC"'s primary objective is to de-institutionalize education and to move it from the institutionalized to the open platform where entrance criteria are not present. Second objective of the MOOC is to offer individuals who wish to study for the sake of knowing and developing their skills access to lifelong learning. Anyone with computer access and a stable Internet connection is given MOOCs. According to the United Nations Convention on the Rights of Individuals with Disabilities "technological designs shall take into account accessibility and usefulness of the rights of disabled persons." The same group also requested that those who signed the UNCRPD Treaty "ensure that disabled people have access not just to general education but also to tertiary and vocational education, adult education and lifelong learning on an equal footing with others".

Compared to other online learning options, MOOCs provide fewer barriers to participation. They are open within a structured learning framework, have minimal financing burden compared to formal learning opportunities, have the opportunity for individual planning for the time and place of the learner, have social learning opportunities and can acquire new knowledge and skills. Making

MOOCs accessible will extend the advantages of learning to learners through MOOCs, regardless of their impairments. The value of access to digital materials is well recognized for e-learning purposes. ICT offers chances for persons with disabilities and persons of every age, including personsover 55 years of age, throughsocialization, lifelong learning and retraining and employability to enhance their welfare. Research on the accessibility of MOOC is nonetheless sparse, and the approach to online learning resources including MOOCs does not appear to have been examined consistently. At the same time, increased access for individuals who declare impairments is stressed. The Porto Declaration on European MOOCs emphasizes that "chances for all" can only be accomplished if MOOCs are available to all.

The University Grants Commission's (UGC) move to allow students to earn up to 40% of their required credits per semester from programs offered on SWAYAM, a government-sponsored MOOCs platform, has the potential to transform higher education in India. Though India has a huge number of colleges and universities, there is a broad range of quality and access to resources, such as quality teachers, due to geography and funding factors. The integration of MOOCs into the mainstream will enable pupils to study from some of the best professors in a subject.

The growth of MOOC access to a wider number of Indian students will not address the country's underlying educational deficiencies. Moreover, as recent history has revealed, new technologies have the ability to quickly spread across India, causing significant change. MOOCs have the potential to give high-quality course content to a large number of students at a low cost to the students. Whereas if technological, academic, and cultural barriers to these courses can be overcome, tens of tens of Thousands of people in India will have improved access to high-quality higher education, which will have a significant impact on higher education in India and around the world.

Issues of accessibility of Higher Education in India

According to the 2018-19 All-India Survey on Higher Education (AISHE) report, India's Gross Enrolment Ratio in higher education is 26.3 percent, which is very low in comparison to advanced and developing nations. With rising school enrollments, the number of higher education institutions available is insufficient to meet the country's growing need. A latest review on the efficacy and accessibility of e-learning by AzimPremji University has revealed the numerous obstacles that online education in the country faces. Students' inability to access online lessons is that Smartphones aren't available or there aren't enough of them for dedicated use or sharing. Apps for online learning are difficult to use. Participating in online sessions was more difficult for children with impairments.

The huge digital divide among States, cities and villages, and income levels is shown in a latest report on the current National Statistical Organisation (NSO)survey(2020). Only one out of every ten Indian households have a computer, whether it's a desktop, laptop, or tablet.Almost a quarter of all houses have Internet connection, which may be accessed using any device, including smartphones, over a fixed or mobile network.

Literature Review

In MOOCs, little study has been done on accessibility, particularly user-based scientific investigations (Iniesto et al., 2016). Al-Mouh et al. (2014) investigated ten Coursera courses in a range of aspects, including technology, design, arts, and physics, to see if they were accessible to blind and partially sighted students.The evaluations included two participants who had difficulty with various critical tasks such as browsing the contents, obtaining video lectures, and taking exams.

With just one blind participant, Bohnsack and Puh (2014) investigated the accessibility of five MOOC platforms for blind and visually impaired people: Udacity, Coursera, and edX in the U. S., along with OpenCourseWorld and Iversity in Germany. All of the other systems, excluding edX, had huge technological flaws, such as a lack of adequate language signifiers for screen readers. While these studies indicate that MOOC platforms are inaccessible, the study was delimited in that it primarily focuses on visually impaired students and only one or two participants perform the evaluations.

According to the study "Accessibility of MOOCs: Considering the Provider Perspective" by Iniesto et al., Massive Open Online Courses have become an acceptable strategy to provide students with learning opportunities at a large and moderate cost. However, they can only offer flexible learning and benefits for everybody, regardless of handicap, if they are made available.Experience in providing readily accessible learning at distant institutions proves that numerous responsibilities can be understood and adjustment possibilities planned.To effectively apply comparable techniques to MOOCs, the varied views and responsibilities of stakeholders and their impact on accessibility must be understood. This comprises educators who design and manage platforms, who provide content, facilitate learning, and technology. Sanderson et al., (2016) argues that MOOC offers exceptional learning possibilities for a wide variety of people. MOOCs, including accessibility, were investigated from several viewpoints. However, slight attention has been paid to investigating the availability of MOOC platforms for instructors who are also writers of MOOCs. A systematic study on the accessibility of MOOCs platforms from the point of view of instructors is meant to ensure universal and fair access to the MOOCs platforms. The MOOCs(Massive Open Online Courses) provides a unique learning opportunity for people with disabilities, for the elderly and for those living in low-level countries.

Chauhan,(2017)observed in *An Overview of MOOC in India* that online learning employs training technologies. Technology education is regarded as the most promising education development. The notion of learning and teaching has undergone a huge transformation with technological globalization. Technological use in education provides a global learning framework, which enables access to the course material anytime, anywhere, connects other students and accesses content without taking geographical limits into consideration. The notion of a massive Open Online course has emerged with substantial advances in the use of technology in online education (MOOC).

Baturay, (2015) stated that Massive Open Online Courses have been one of the most important trends in recent years in higher education. The word MOOC is open access for high volume participants to attend a course or be trained in a worldwide, free, video-based educational content, videos, problem sets and forums through an online platform. With flexibility in time and place, MOOCs unites researchers and 'other students throughout the globe.' Although it has a major role in its execution, research studies and critical publications have failed to examine its present position worldwide. For this purpose, this article explores it from many aspects, starting with the definition and short history of MOOCs: pedagogical and technologic implementations throughout the world, and its concentration on research.

Czerniewicz et al.(2015) reportedMassive Open Online Courses have been demonstrated to be a flexible and open type of self-directed online learning for public participation. There are no fees or entrance requirements, and no official academic credit is provided. Although completion rates are low (around 10%) due to various motivations for participating in a MOOC, there are a significant number of completed participants. MOOC platform providers typically provide certificates of

completion at a fee while access to the course material is free. MOOCs platforms enable cloud-based hosting institutions for the provision of courses, size and functionality while providing the materials and the reputation of the university.

David &Amey(2020) in"*Massive Open Online Courses (MOOCs)*" investigate thatthe phrase Dave Cormier of the University of Prince Edward Island created MOOCs in 2008 for a "connectivism and connective knowledge" course offered by the University of Manitoba.Connectivism and Connective Knowledge is a course designed by Stephen Downes and George Siemens.A massive open-line course ("MOOC") is an online course for interactive and open access over the internet. MOOCs include interactive user forums in addition to conventional courses, such as films, reading and problematic sets, that help establish a society for students, teachers and teaching workers. Recent developments in distant education include MOOCs.

Pathi(2017) "*MOOCs Massive Open Online Courses*" recommended thatthe MHRD must be composed of 'MOOCs National Committees (MNCs)' consisting of technical experts, academics, administrators etc. and noted. NMEICT, Mission Director, shall preside over the MNC. The MNC will be an Arch Committee to monitor and implement the MHRD's SWAYAM &MOOCs activities. It will be the Monitoring and Implementation Committee, to recommend the funding requirement for NCs, to approve projects submitted by the Coordinators of MOOCs and other PIs, to set up and monitor Examination Centers, to recommend the weighing of conventional MOOCs courses.

Pouezevara& Horn(2016) established the relatively invention of massive open online courses to give access to relevant education and workforce training on a large scale. In the context of the US market, RTI International has already researched MOOCs and concluded that further studies are needed to assess the potential application of MOOCs in developing economies. This study describes and contrasts MOOCs with types of online learning and open educational materials previously developed. We conclude that while MOOCs have the potential to provide access to vital educational content and resources, they benefit wealthy and educated people. Further development of the infrastructure, platforms and pedagogical models of information and communication technology is needed before mainstream MOOCs models fulfil the demands of most learners in development countries.

Pandit(2016) MOOCs have the potential to play a significant role in India, where most people living in remote areas lack adequate access to skill upgrading and quality learning. MOOCs can be especially beneficial for those who are constrained by fiscal, physical, or travel concerns.Without a doubt, Indian students are becoming more interested in MOOCs as a means of obtaining standardized education. It evolved in the launch of the SWAYAM MOOC platform, which is the most recent of all. Emphasizing the importance of business, education, and training, MOOCs were included in the Union Budget FY17 for 2,200 institutions, 500 government industrial training institutes, 300 school systems, and 50 vocational training centres. This demonstrates the government's desire to improve virtual education in India.

Fischer(2017)said, "whether or not a particular learning environment (e.g. a specific MOOC course or MOOC platform) succeeds depends greatly on whether students can learn what they want and when they want it, freed from the restrictions of curriculum consisting of desirable and undesirable content that has been segmented into majors and degree programs."

SantuBiswas(2020)suggested MOOCs can give Indian students the competitive edge they need to compete in the global market. It could be viewed as a contribution to the democratic transition of higher education, not just locally or regionally, but also globally. MOOCs can help to democratize

material and make knowledge more accessible to all. Students can now enroll in full courses offered by colleges worldwide, which were previously unavailable. MOOCs increase access to an unprecedented number of courses offered by global universities and teachers, thanks to the availability of accessible technologies. MOOCs may be introduced as an alternate venue to fight the issues of lowering dropout in higher education in India. As a result, all stakeholders in higher education must be very adaptable and cooperative in order to make MOOCs accessible to everybody.

Discussion

The idea that Indians are the second most frequent consumers of MOOCs demonstrates the country's enormous unmet need for high-quality higher education. However, several things must happen for MOOCs to provide a realistic and equitable way to tackling some of India's higher education difficulties. To provide access to online education to a larger percentage of the Indian people, the technological infrastructure, comprising computers, mobile devices, and high-speed Internet, must be further developed. Only the affluent few will have access to these educational opportunities as long as technology restrictions remain in place, aggravating India's educational disparity. MOOCs aimed towards these groups may be able to relieve some of the pressure on the institutions that presently provide these certifications, as well as contribute to the development of a more diversified and competitive technical certification sector. The educational expectations in India are extremely diverse, and MOOC providers should consider how to address these demands imaginatively. MOOC providers can aid by changing their approach in order to fulfill India's diverse educational needs. Massive Open Online Courses (MOOCs) could be one possible answer, not to solve all of India's higher education problems, but to help ease some of the country's access and quality concerns. This alternative fills the faculty shortfall and gap that is putting students at a disadvantage for college administrators, particularly in small areas. Colleges will be able to supplement their academic offerings by including the MOOC option, which allows students to obtain credits. It can help institutions minimize money by allowing them to devote resources to other academic pursuits. This strategy will enable newer institutions with less resource and provide a diverse range of options for their students. Faculty will be able to make better use of their time by allocating more time to small group study or tutorials, or focusing on research-oriented teaching process. The UGC may look at allowing Indian students to take MOOC courses for credit at top-tier colleges abroad, and vice versa. Using the digital alternative to improve higher education and increase the quality of human capital is crucial.

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Conclusion

In the seven decades since independence, higher education in India has risen at a phenomenal rate, but accessibility and quality remains concerns. If India wants to just see economic growth and development at the grassroots level, it must priorities education. We have suggested a

characterization and basic standards for online accessibility for each category. These conditions should be met by MOOCs. Otherwise, MOOCs might discriminate against and discourage potential participants. Both platforms and content of MOOCs must fulfill the criteria for online accessibility. The MOOCs is not accessible if the content is accessible, but not the platform or vice versa. Multiple impairments might be combined, multiplying problems as there are competing disability criteria. Despite numerous interesting advancements and applications, free online courses still have a number of drawbacks, which means MOOCs are still a long way from replacing regular university degrees. This is largely owing to the difficulties in providing MOOC students with help and assessment. A single academic may be able to create and teach a MOOC, but he or she will be unable to interface with and assess the thousands of students who will be taking the course from all over the world. To increase MOOCs accessibility, including accessibility testing and validation, continuous research is needed.

References:

1. Baturay, M. H. (2015). An Overview of the World of MOOCs. Procedia - Social and Behavioral Sciences, 174, 427–433. https://doi.org/10.1016/j.sbspro.2015.01.685

2. Chauhan, J. (2017). An Overview of MOOCs in India. International Journal of Computer Trends and Technology, 49(2), 111–120. https://doi.org/10.14445/22312803/ijctt-v49p117

3. David, M. E., &Amey, M. J. (2020). Massive Open Online Courses. The SAGE Encyclopedia of Higher Education. https://doi.org/10.4135/

4. Fisher, D. et al., (2017). Ask Me Anything about MOOCs. AI Magazine, 38(2), 7-12. https://doi.org/10.1609/aimag.v38i2.2729

5. Downes, S. (2008). Places to Go: Connectivism&Connective Knowledge, Innovate: Journal of Online Education Vol.-5 Iss. 1, Article 6. Available at:https://nsuworks.nova.edu/innovate/vol5/iss1/6

6. Iniesto F.,et al., 2016. Accessibility of MOOCs: Understanding the Provider Perspective. Journal of Interactive Media in Education, 2016(1), p.20. DOI: http://doi.org/10.5334/jime.430

7. Kaplan, A. M., &Haenlein, M. (2016). Higher education and the digital revolution: About MOOCs, SPOCs, social media, and the cookie monster. Business Horizons., 59(4), 441–450.

8. Li, Y., et al., (2015). Integrating MOOC and flipped classroom practice in a traditional undergraduate course: Students" experience and perceptions. International Journal of Emerging Technologies in Learning, 10(6), 4–10.

9. Pathi, D,(2017). Guidelines for Development and Implementation of MOOCs. 36. https://www.aicte-india.org/downloads/MHRD MOOCsguidelines updated.pdf

10. Pouezevara, S. R., & Horn, L. J. (2016). MOOCs and Online Education: Exploring the Potential for International Educational Development. RTI Press Occasional Paper, March.

11. Sanderson, N. C., et al., (2016). The accessibility of MOOCsplatforms from instructors" perspective. Lecture Notes in Computer Science (Including Subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), 9739(July), 124–134. https://doi.org/10.1007/978-3-319-40238-3_13

12. Coursera Adds 29 Schools, 90 Courses And 3 New Languages To Its Online Learning Platform, (2013).https://techcrunch.com/2013/02/20/coursera-adds-29-schools-90-courses-and-4-new-languages-to-its-online-learning-platform/,(February,21)

13. Horn, Michael & Clayton Christensen (2013). Beyond the Buzz, Where Are MOOCs Really Going? Wired.

14. RitimoniBordoloi et al.,(2020),Lifelong learning opportunities through MOOCs in India, Emrald Insight

15. Haumin, L. &Madhusudhan, M. (2019).   An Indian Based MOOC: An Overview, Library Philosophy and Practice (e-journal),2382.

16. Technology Enabled Learning, (n.d.), https://www.education.gov.in/en/technology-enabled-learning

17. Staff   Writer   (2021),https://www.topuniversities.com/student-info/distance-learning/moocs-future-higher-education(April 14)

18. Biswas S.&Sarkar M. (2020), MOOC : Challenges & Prospects in Indian Higher Education, Journal of Information and Computational Science ,Volume 10, Issue 2 - 2020 ISSN: 1548-7741

19. Bordoloi R. et al., (2020). Lifelong learning opportunities through MOOCs in India, Asian Association of Open Universities Journal,ISSN: 2414-6994

20. Online   Education   Woes,   https://www.drishtiias.com/daily-updates/daily-news-analysis/online-education-woes,(November,19)

21. Can   MOOCs   Help   Expand   Access   to   Higher   Education   in India?,(2013)https://casi.sas.upenn.edu/iit/christensenalcorn,(December,30)

22. A MOOC boost for higher education,(2021). https://economictimes.indiatimes.com/opinion/et-editorial/a-mooc-boost-for-higher-education/articleshow/84768681.cms, (July 26)

23. https://library.educause.edu/topics/teaching-and-learning/massive-open-online-course-mooc