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Advancement of Open Learning through MOOCs in Academic Libraries: Impact and Challenges

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ABSTRACT

Massive Open Online Courses or MOOCs have been accepted as an authentic source of learning, which have drastically changed the higher education system such as distance learning, online learning, e-learning, open learning methods etc. By adopting new tools and services to serve the learners, MOOCs are successfully reaching out to them. This form of open education provided through the online platform with the option of free and open enrollment have gained vast popularity among all kinds of learners. The purpose of this paper is to explore the concept, MOOCs available in India, challenges and impacts of MOOCs on academic libraries, and role of libraries and librarians.

Keywords: MOOCs, OpenCourseware (OCW), e-Learning, Academic libraries, Librarians, MOOCs platform in India

INTRODUCTION

With the rapid metamorphosis in the pedagogy, Massive Open Online Courses (MOOCs) have played an important role towards open educational opportunities for the global recipients in the academic world. Though it is really difficult to find out the exactness of the conception and emergence of MOOC, its advantages over the traditional way of learning cannot be denied. Its major goal is to encourage anywhere, anytime learning; to develop new approaches to world-class higher study; and eventually empower learners. The open education or open learning plays a crucial role in instructional strategies for the success of online environment which precipitately improve in the production of perfect practices and rules for the entire parts of the instructional procedure, including the preparation and administration of online direction, web-based showing systems, and online study, appraisal and assessment strategies. In the context of virtual learning or online learning or distance learning MOOCs are in high demand for creation of a collaborative environment among the students and researchers in different fields for sweeping higher education.

Through the Internet, MOOCs covering thousands of learners are presently a vital topic in technology-enhanced learning (TEL). Herewith new way, it is achievable that interested learners from all over the world can partake in the instruction of proven experts. MOOCs are dependent on the delivery of high-quality learning information, even more than

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in common eLearning, because of the diversity of learners.

MOOCs: THE CONCEPT

Massive Open Online Courses (MOOCs) are online courses accessible for anyone who wishes to acquire at no or low cost with no limit on attendance. MOOCs decorate a cost-effective and easy process to get the new technique, forward your career and bring quality educational training at the scope. With a wide approach to access educational resources, and also currently open online courses, there is developing strength among Higher Education institutions to participate in this "open" evolution. MOOCs boost the students to achieve exam class either through the receiving of online networking or in developing face-to-face gatherings around geological areas, and current MOOC initiatives have coordinate to suggestion courses at actual higher education institutions where learners have face-to-face access to teachers and students.

"A MOOC is an online course with the option of free and open registration, a publicly shared curriculum, and open-ended outcomes. MOOCs integrate social networking, accessible online resources, and are facilitated by leading practitioners in the field of study." (McAuley, Stewart, Siemens & Cormier 2010).

Educause (2014) states that, "a massive open online course (MOOC) is a model for delivering learning content online to any person who wants to take a course, with no limit on Attendance".

"A massive open online course (MOOC) is an (Figure 1) online course aimed at unlimited participation and open access via the web." (Kaplan & Haenlein, 2016).

In all fairness, MOOCs can be said as: (Bhatia and Trivedi, 2015)

M - Massive focused on scalability, focused on Community and Connections

O - Open registration, Content, No charges, Affordable

O - Online Cohort, real time interaction

C - Self–paced, start/end date, college credits, badges, learning community, striped

HISTORY

Massive Open Online Courses (MOOCs) was first brought in 2008 by David Cormier (University of Prince Edward Island) and Bryan Alexander (National Institute for Technology in Liberal Education). He gets this concept through analyzing

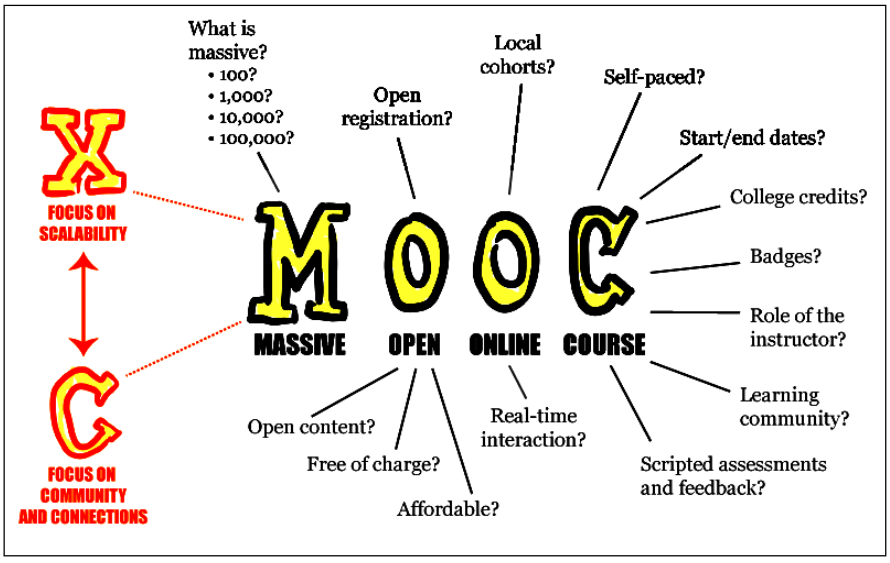

Figure 1: Massive Open Online Course (MOOCs)
Source: http://en.wikipedia.org/wiki/Massive_open_online_course#m

the Siemens and Downes' "Connectivism and Connective Knowledge" (CCK08) course (Liyanagunawardena, 2015). This would change starting in August of 2011 and culminate in March of 2012. Used a wide range of stages to draw in understudies with the subject, including Facebook gatherings, Wiki pages, web journals, discussions and different assets and that was the top of the line planned behind the acronym of 'MOOC'. They are called 'massive' because they are accessible to the masses. Endless participation and open access via the web was the main aim of this program so it can be fully taken online. The top five MOOC providers today in the world are Coursera, edX, XuetangX, FutureLearn, and Udacity. Udacity started to create and offer MOOCs for free by Thrun Companyin February 2012. Andrew Ng and Daphne Koller, two other Stanford CS professors, began an organization called Coursera which joined with universities in preparing and offering MOOCs in April 2012. MIT also offering MOOCs by developing MITx, after it was renamed as edX which creates and offers MOOCs. The expansion of innovation encourages us to include the developing expense of customary advanced education and additionally simple access to it.

There are two major categories of MOOCs are cMOOCs and xMOOCs. cMOOCsmainly focus on the community (academics, individuals, non-profits) and connection (dialogue, collaborative approach, peer2peer interaction, network building, and peer assessment). It is a kind of informal learning which is based on constructivist and connectivist approach. Examples of cMOOCs are connectivist, networked Siemens, etc. xMOOCs is content-based which provides a behaviourist and cognitivist approach to the learners in different ways. The xMOOCs platform is fixed and defined as formal learning (coordinated assessments and quizzes). Example of xMOOCs is Courseera, edX, broadcast etc.

AIM OF MOOCs

MOOCs have appeared or all the more so picked up notoriety as they are creative in their courses, draw in a bigger group of onlookers, don't take after physical training condition, the entire world is a research facility to them, likewise grant testaments against the exceptionally supposed charge, and give access to instruction at no cost. To develop a practical open learning system for these kinds of MOOCs which is available to the entire world.

GLOBAL SCENARIO OF MOOCs

The statistics furnished by Class Central, the students registered globally for MOOCs was over

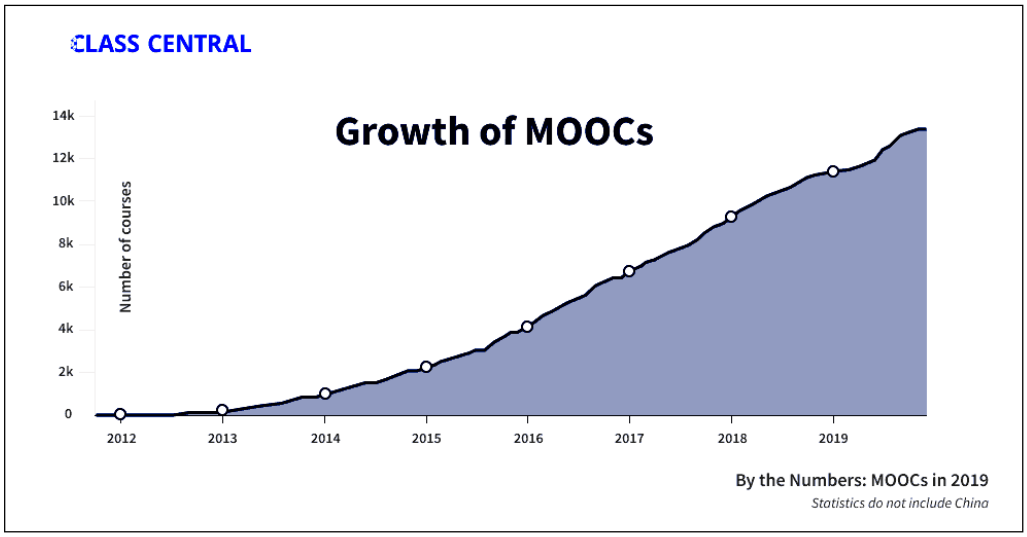

Figure 2: Growth of MOOCs
Source: https://www.classcentral.com/report/mooc-stats-2019/

2 million in 2012 and now it has reached 110 million. As of the latest statistics report by 2019 the class central, the MOOCs aggregators provide13500 courses Figure 2 offered by more than 900 universities all over the world.

SUBJECT COURSES

As shown in Figure 3 likewise with a year ago, courses in Business and Technology frame a major lump of the courses that have been announced so far. Together they make up 40 percent of every single new course included for this present year. This fixation should not shock anyone, given that the paid declarations offered by many MOOC providers focus on business and innovation fields.

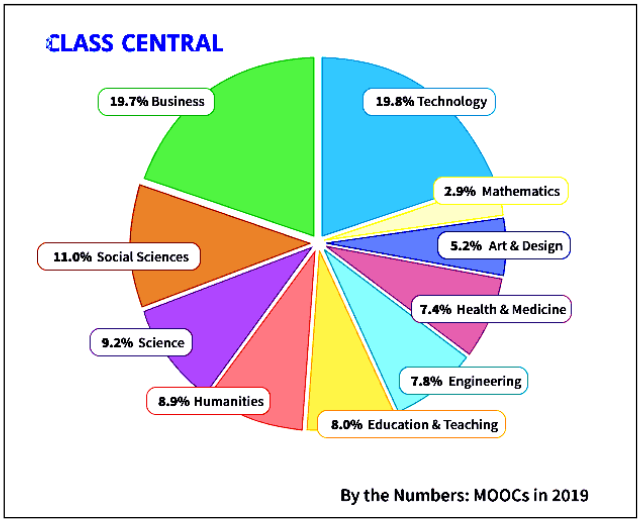

Figure 3: Courses Distribution by Subject
Source: https://www.classcentral.com/report/mooc-stats-2019/

CREDENTIAL

The aim of this credential is to measure the level of competence for high demand skill. In 2013 the edX was the first provider to issue a single course certificate. Then in 2014, the certificate programme was launched by Udacity and Coursera which is known as specializations and nano degrees respectively, the FutureLearn also provides the MOOC- based micro-credential.

PROVIDERS

This Table 1 shows that Coursera, edX, Udacity, FutureLearn and Swayam are now in top five MOOCs providers. The coursera is still now in lead position in providing MOOCs to more than 45 million learners in the world (2019 report, Class Central).

INDIAN INITIATIVES TOWARDS MOOCs

MOOCs have brought a tremendous change in education mode and increasing curiosity among the learners for their advancement of their knowledge. With this changing environment, the popularity of distance courses made possible among the higher educators through an open courseware system. With the help of advancement of ICT, the Govt. of India has taken several initiatives by developing different types of projects to create a knowledgeable society.

Some of the major significant undertaking towards open courseware consortium in India includes:

Table 1: Top Five MOOCs Provider Globally

MOOCs Platform/ Providers	Country	No. of Students (million)	No. of Courses	Credentials	Funded in	Types
Coursera	USA	45	3800	Yes	2012	Commercial
edX	USA	24	2640	Yes	2012	Non-Profit
Udacity	USA	11.5	200	Yes	2012	Commercial
FutureLearn	UK	10	880	Yes	2012	Commercial
SWAYAM	India	10	1000	-	2017	Non-Profit

Source: https://www.classcentral.com/report/moocs-stats-and-trends-2019/

NPTEL

NPTEL stands for National Programme on Technology Enhanced Learning. It is a project funded through the MHRD, initiated in 2003. It is a joint initiative of seven Indian Institute of Technology (IITs) and Indian Institute of Science (IISC) for offering courses related to engineering and science at first, currently it is providing courses on Humanity, computer science, information technology, management studies, music, art, culture and so on. It has two major enrolments per educational semester: Summer and winter. NPTEL doesn't charge fees for enrolments, except if anyone wants a certificate then he/she would pay the nominal fees.

NPTEL's entire portal uses the open-source technology powered by Google's platform Course Builder that runs on App Engine and Compute Engine for providing courses. It offers course content primarily in video lectures ready during a standard classroom environment. The principal target of this scheme is to upgrade the standard of engineering and science education within the nation by making academic programs primarily based on video and web courses.

MOOKIT

'mooKIT' is a MOOC management system and platform designed entirely using open-source technologies and operated by Indian Institute of Kanpur (IITK), since 2014. It's a platform that can be used to offer online courses at any scale, from small to huge. It's designed to provide cMOOC (connectivist MOOC). It has been utilized in sixty plus courses with regarding 2,00,000 plus registered learners. It is designed to resolve issues associated with soft-computing at the start, currently it provides a range of courses like, Engineering, History, Humanity, and Agriculture.

mooKIT is a platform that instructors, learners and system administrators associate with simple work. It has been specially designed for "Internet Novices''. It provides associate instruction to learners and therefore the distinctive design is very customizable and value effective. It additionally provides a platform, if anyone would like to offer a course using mooKIT:

Install on own premise: Download an open-source version mooKIT and run on own server

Use a hosted version: The server management and maintenance will be done by mooKIT team. All they have to do is prepare and upload the content.

IITBOMBAYX

'IITBombayX' is a non-profit MOOC platform developed by IIT Bombay (Mumbai)by using the open-source platform Open edX, in 2014. IITBX platform is an integration of Drupal 8 with Open edX. It was created with funding from National Mission on Education through Information and Communication Technology (NME-ICT), Ministry of HRD, Government of India. It is offering 63 plus courses on different subjects from multiple disciplines. The basic aim of IITBX is to become a leading resource for learners through focused goals and principles, thus imparting quality education at scale.

IIMBx

IIMB started offering Massive Open Online Courses (MOOCs) programme in 2014, an exciting addition to pedagogy that serves multiple purposes of providing wider access to quality, management education through its digital learning initiative in partnership with edX, SWAYAM and its own platform and creating blended learning opportunities that can enrich and empower educators. It offers online courses and programmes covering core and advanced business and management subjects. The IIMBx online programme uses digital learning tools to enable anytime, anywhere learning in a global classroom. It offers management education using technology to learners through a well-balanced mix of

multimedia courseware designed to bring to life the IIM Bangalore classroom experience in a virtual form.

AgMOOCs

AgMOOCs stands for "Agriculture Massive Open Online Courses". It is a consortium operated by IIT-Kanpur and other members includes, the Commonwealth of Learning (COL), Indian Institute of Management-Calcutta (IIMC) and University of Agricultural Sciences, Raichur (UASR). It is an on-line platform designed to help students, professionals, and organizations to acquire and enhance knowledge and skills in the agriculture sector.

SWAYAM

SWAYAM (Study Webs of Active Learning for Young Aspiring Minds) is a MOOC platform initiative that has been taken by Govt. India in 2014, towards open courseware. It is the joint effort of Ministry of Human Resource Development (MHRD) and All India Council for Technical Education (AICTE) with the help of Microsoft to offer all the courses from school level (Class-IX) to post graduation level and is capable of hosting about 2000 courses. The central focus of this portal is to assist easy access, equity and best quality content to all categories of learners free of cost. The coordinators are NPTEL, UGC, CEC, NCERT, NIOS, IGNOU and IIMB to provide lifelong learning by covering all the disciplines like school, undergraduate, postgraduate, engineering, law and other professional courses. Currently, SWAYAM offers the courses through different modules starting from school to post- graduate level in Table 2.

CHALLENGES IN EVALUATING MOOCs

The idea of MOOCs generates calculating their feature and effectiveness challenges. MOOCs are useful as they give an available method to individuals to increase new learning and skills. MOOCs might be a genuine test to who do nothing and much more dreadful in the event that they choose to embrace MOOCs into their educational modules and let them over-through existing face-to-face online courses. MOOCs have now become so widespread that many institutions are even giving credits to their applicants who have successively completed their MOOCs;

- Accreditation and Certification
- MOOCs Made Mobile Friendly
- Learner Motivation, Learner Satisfaction
- Sustainability and Reputation
- Pedagogy and Privacy
- Quality and Completion Rates
- Assessment and Credit
- Principles for Open Learning
- Copyright and Licensing
- Delivering Remote Services
- Influencing Faculties

Table 2: MOOCs Available in India

S.No.	Name of the MOOCs	Year of Launch	Platform Providing Institution	Website Link
1.	NPTEL	2003	IITs, IISc	https://onlinecourses.nptel.ac.in
2.	mooKIT	2012	IIT Kanpur	https://www.mookit.co
3.	IITBombayX	2014	IIT Bombay	https://iitbombayx.in
4.	IIMBX	2014	IIM Bangalore	https://www.iimbx.edu.in
5.	agMOOCs	2016	IIT Kanpur	https://www.agmoocs.in
6.	SWAYAM	2016	MHRD &Microsoft	https://swayam.gov.in

ROLE OF LIBRARIANS

MOOCs have wonderful features of offering platforms for presentations, tutorials and online classes. However, many students and faculty members are not aware of MOOCs. Therefore, librarians have a greater role here to apprise and train faculty and students how to explore academic resources of MOOCs. Moreover, they need to provide them necessary technical support and assistance as and when needed. In this regard, Gore (2014) opines that the librarians required getting themselves involved in MOOCs in collecting open educational resources, organizing them and providing the links to the targeted audience by enhancing their information literacy skills.

Library professionals can enrich their knowledge and take immense benefits from because of their shared common goals. One important issue is that they should see the legitimate use of MOOCs only for academic purposes not with any business intention though the course modules and packages are freely available. MOOCs can indeed be proved as boons to learners if they can be rightly and properly channelized and well-delivered catering to learners' needs.

IMPACT OF ACADEMIC LIBRARIES

The Indian higher education system has expanded into a dynamic and vibrant mode of teaching and learning with the excellent support from academic libraries as a mentor to academic activities and continuing education. With the emergence of the internet and web 2.0, the MOOCs has become the demanding platform of the day by giving multiple options for the students to learn. The academic libraries can play a vital role in facilitating the MOOCs programs in academic institutions. The library is considered as an information resource sharing centre of an institution, should provide full support to their students enrolled in MOOCs by providing a collaborative environment and dealing with all types of factors like licensing, access facilities, support MOOC faculties, support MOOCs students etc. There are multiple potential roles for libraries in MOOCs including development, support, assembling, teaching and preservation process (Haseena *et al.*, 2020). MOOCs have the ability to produce global learning association through which students and institutions both will be benefited simultaneously (Nisha and Senthil, 2015).

There are multiple potential roles for libraries in the MOOC development, some of which have been explored (Schwartz, 2013):

Clearing Copyrighted Content- Students and faculty members can use it to create their MOOC presentations without putting their institutions into problem as academic use of MOOC course materials does not create a sense of copyright violation. In this regard, librarians provide them essential tips.

Supporting production- Libraries offer essential technological supports and required audio visual equipment to prepare MOOC contents for classroom presentation.

Supporting students- Libraries take a proactive role in supporting students in directing them links to MOOCs courses, online tutorials with adequate library resources to augment patterns of learning.

Preservation-Libraries take the responsibilities to preserve users' generated contents in institutional repositories.

At the purpose once libraries provide "free" and open access to learning assets, MOOCs provide free and open access to a learning moment. It additionally brings problems to the light of the skills, learning, and ability of librarians which will be adjusted for to oblige MOOC generation. Librarians provide help for their associations formally listed understudies in operating up their data and propelled capability, and it's attitudes which will be needed by their MOOC students, as

they endeavour to explore many stages, finding, choosing, and examining knowledge to advise their learning ventures.

There are different reasons behind the choice of selecting MOOCs by the libraries:

- Materials can be used multiple times;
- Educational materials can be shares and discuss with subject experts;
- Less time consuming/ Time Saving;
- Sharing of courses among institutions;
- Low budget;
- Increase the attraction of students towards huge range of top quality education by reputed institutions;
- Flexibility features: One can access and work on it according to his/her time management;
- No need for highest qualification for accessing the MOOC course.

CONCLUSION

The demand for MOOCs is growing rapidly day by day all over the world. It has changed the education mode and system through the services of libraries with the support of librarians. Govt. of India plays a significant role in development of many MOOCs platforms which are very beneficial for the distance learners as well as others. So each and every institution should develop an open courseware consortium for the enhancement of eLearning and reduction of literacy and overcome the different barriers on information access. Libraries contribute significantly in open learning in way of accumulating and providing online course and supplementary materials developed by eminent institutions across the world to the MOOC learners.

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