
MOOC: Current Trends and Future Prospects

Dr. Ridip Dev Choudhury

Institute of Distance and Open Learning

Gauhati University

Dr. Khurshid Alam Borbora

Institute of Distance and Open Learning

Gauhati University

ABSTRACT

With the rapid advancement of Internet Technologies, the education system has been dramatically changed. The traditional face-to-face classroom teaching methodology is added with different types of ICT based teaching aids. The teaching learning methodology is not restricted within the classroom environment now a day. A new concept is becoming popular named MOOC. MOOC stands for Massive Open Online Course. In this paper, our aim is to give a brief idea about MOOC and its current trends and future prospects.

Keywords

MOOC, massive open online course, courseera, edX, SWAYAM

INTRODUCTION

In the new connected society of the 21st century, education is still facing great challenges from new models of education such as MOOCs, considered as a controversial and disruptive technology. [1] The Massive Open Online Course (MOOC) movement is playing a pivotal role in transforming the higher education. Courses designed for large numbers of participants, that can be accessed by anyone anywhere as long as they have an internet connection, are open to everyone without entry qualifications, and offer a full/complete course experience online for free.[2] The duration of a MOOC is determined by the provider. It can be three/four months long or sometimes one/two year's duration. The course registration is opened for the learners for a specific time. After a learner enrolls himself/herself in a course, he can view the syllabus and the course structure. Usually, the course content is divided into some modules. In each week, a lesson/module is published for the learner. The learner can access the learning resources and can interact with the instructor or other participants through different tools (discussed in the next section). After the completion of each lesson/module, the learner is assessed by providing some questions and the score earned by the learner is displayed as progress record. At the end of the course, to get a course completion certificate; the learner has to score a minimum percentage of marks. Otherwise, certificates are not provided to the learners. Though most of the MOOCs are provided free of cost, some provider offers it with a nominal registration fees. In some MOOC, verified certificates are issued by verifying the participant online through web cam. The MOOC provider gives a link in the certificate through which the authenticity can be verified. The main challenging task of providing a MOOC certificate is to detect the cheating in the examination process. Currently, it has been performed by conducting examination online in a particular venue with the supervision of examiners. In India, NPTEL is applying this process. For automatic cheating detection, some kind of research work is very much essential.

PEDADOGY OF MOOC:

There are some technical and production standards in the design and development of a MOOC and currently most of the institutions/universities/organisations follow these common standards.

- (i) e-Tutorial: It can contain video and audio content with various presentation styles, from talking heads to lecturing instructors. Subtitles (primarily English, but other languages can be introduced) are very useful in this case. The running time for the lecture audio/videos should be usually 5 - 10 minutes duration each. In case of technical courses use of animations, simulations, video demonstrations, virtual lab are some useful options for better understanding of the content.
- (ii) e-Content: It contains text, e-books, pdf, ppt files, illustrations, document and interactive simulations whenever required.
- (iii) Web Resources: It contains related web links, research papers and journals, articles, case studies etc.
- (iv) Self-Assessment: There should be some form of self-assessment in each lesson/topic of the course. The self-assessment can be in the form of multiple choice objective questions, fill-in-the-blank, true false, matching questions, short answer questions and long answer questions. Since student participation is very essential in a MOOC, this should be compulsory component in the design of a MOOC.
- (v) Assessment through Assignments: Assignments are primarily evaluated through the use of: (a) auto-graded multiple choice questions or auto - graded programming assignments, (b) peer review assessment where students themselves evaluate and grade assignments based on a defined rubric set.
- (vi) Discussion Forums: Forums are where students post questions and other students replies, and are the main method of student interaction between course takers and instructors. Forums usually consist of general discussion, subject-specific discussion, course feedback, and technical feedback threads etc.
- (vii) Readings: Most MOOCs do not require students to buy books, and most readings are available online or provided by course instructors; however, Coursera makes money through an affiliate program with Amazon.com (Rivard, 2013).
- (viii) Live video sessions: In addition to the weekly lectures, there are live video sessions with the course instructor.
- (ix) Activities: A range of instructional activities are offered, with the aim of allowing students to further test their understanding of the course concepts.
- (x) Additional video resources: These were scripted videos to help comprehension of scenes.
- (xi) Social media: Students are encouraged to continue their discussions on dedicated pages on other social media platforms, such as Facebook and Google+. [3]

POPULAR MOOC PLATFORMS:

A large numbers of MOOC platforms are available where a learner can join a MOOC and earn a certificate free of cost or with minimal course contributions. These platforms have collaboration with world's topmost universities/institutions. Followings are some of the popular MOOC platforms:

Table 1. List of MOOC Platforms

Platform	Number of Courses	Web Link
Coursera	2915	https://www.coursera.org/
edX	1834	https://www.edx.org/
FutureLearn	677	https://www.futurelearn.com/
Canvas Network	483	https://www.canvas.net/
NPTEL	213	nptel.ac.in/
Udacity	200	https://www.udacity.com/
Iversity	110	https://iversity.org/

Open Education by Blackboard	104	https://openeducation.blackboard.com/
openSAP	100	https://open.sap.com/
Kadenze	91	https://www.kadenze.com/
NovoEd	83	https://novoed.com/
Stanford OpenEdx	73	http://online.stanford.edu/categories/stanford-openedx
EduOpen	67	http://en.eduopen.org/
Gacco	64	https://www.open2study.com/
OpenLearning	42	https://www.openlearning.com/
Edraak	36	https://www.edraak.org/en/
openHPI	36	https://open.hpi.de/
Janux	28	https://janux.ou.edu/
Polimi OPEN KNOWLEDGE	27	https://www.pok.polimi.it/
EdCast	24	https://www.edcast.com/
World Science U	23	http://www.worldscienceu.com/
MongoDB University	17	https://university.mongodb.com/
MRUniversity	16	https://www.mruniversity.com/
MOOC-ED	12	https://place.fi.ncsu.edu/
Udemy	5	https://www.udemy.com/
OpenClassrooms	5	https://openclassrooms.com/
First Business MOOC	4	http://firstbusinessmooc.org/
Datacamp	2	https://www.datacamp.com/

From the above table, it is seen that Courseera and edX are the two topmost platforms offering MOOCs. In the previous section, we discussed some of the technical and production standards which should be implemented in a MOOC. We have studied the different courses offered by Courseera and edX platform and found that most of the MOOC standards are following and implemented by them. Let us briefly discuss the world's most popular MOOC platform.

(a) Courseera

Courseera was founded in 2012 by two Stanford Computer Science professors who wanted to share their knowledge and skills with the world. Professors Daphne Koller and Andrew Ng put their courses online for anyone to take – and taught more learners in a few months than they could have in an entire lifetime in the classroom.

Since then, courseera built a platform where anyone, anywhere can learn and earn credentials from the world's top universities and education providers.

The courseera has 149 university partners with 2000+ courses with 180+ specializations. Now they have 25 Million learners across the world.

Through a user friendly mobile app, courseera is providing MOOC and thus popularizing mobile learning. The app currently has 5 million users worldwide indicates its popularity.

(b) edX

Founded by Harvard University and MIT in 2012, edX is an online learning destination and MOOC provider, offering high-quality courses from the world’s best universities and institutions to learners everywhere.

“Circuits and Electronics” (6.002x), which began in March 2012, was the first MOOC developed by edX, the consortium led by MIT and Harvard. Over 155,000 students initially registered for 6.002x, which was composed of video lectures, interactive problems, online laboratories, and a discussion forum. [4]

Currently (as on November, 2017), 52 numbers of World class Universities and Institutions are offering courses through edX. These are Edx’s charter members. The list includes Massachusetts Institute of Technology (MIT), Harvard University, Barkely University of California, Boston University etc.

There are 59 members (Leading global schools, non profits, corporations and international organizations) of edX which includes IEEE, W3C, Redhat, Microsoft etc.

Three types of Programs are offered by the edX Platform:

- (i) MicroMasters Certificate: These are credit-eligible, provide in-demand knowledge and may be applied to accelerate a Master’s Degree. Currently 39 no. of courses are offered in this mode.
- (ii) Professional Certificate: Designed by industry leaders and top universities to enhance professional skills, Professional Certificates develop the proficiency and expertise that employers are looking for with specialized training and professional education. Currently 32 no. of courses are offered in this mode.
- (iii) XSeries Certificate: Created by world-renowned experts and top universities, XSeries are designed to provide a deep understanding of key subjects through a series of courses. Currently 33 no. of courses are offered in this mode.

edX also provides MOOC through a mobile app. It can be downloaded from google play store. Currently the app has 1 million users.

MOOC revolution in India:

The government of India has started a project named SWAYAM (Study Webs of Active Learning for Young Aspiring Minds) (URL: <https://swayam.gov.in>) to provide quality online learning resources across the country. SWAYAM is an integrated platform whose aim is to provide online resources starting from the high school to all higher education and skill oriented subjects. Currently, SWAYAM is involved in the design and development of MOOCs. The following structure is framed for MOOC development.

Table 2: MOOC Providers in India

National MOOC Co-ordinator	Sectors
University Grants Commission (UGC)	Non Technology Post-Graduation Degree Programme
NPTEL	Technical/Engineering UG and PG Degree Programme
Consortium for Educational Communication	Non Technology Under-Graduation Degree Programme
IGNOU	Diploma and Certificates
NCERT	NCERT (Classes 9 th to 12 th)
NIOS	Open Education (Classes 9 th to 12 th)
IIMB	Management Studies

MOOC and Future Research Trends:

Since in a particular course of MOOC, there is no limit of student enrollment; definitely to store and process the student learning activities, bigdata is an alternative solution. Also to analyze the huge amount of data produced during a MOOC, the application of data mining techniques will be a good research work. Currently,

MOOC is in an experimental state storing the data in RDBMS and processing with traditional programming languages. The current system still unable to teach a student according to his/her capacities or depending upon his learning activities. If we can analyze the behavior of the learning activities of individual students while participating in a MOOC and accordingly provide the learning resources and put questions for assessing his/her knowledge, then possibly MOOC will be considered as a best way of teaching/learning methodologies. Here is this case, application of machine learning techniques is a good research work.

CONCLUSION

MOOCs are one of the most prominent trends in higher education in recent years. The main aim and objectives of MOOCs are to deliver free and open access instructional course content primarily in the form of video-based content where the participation of the learners are not bounded. A large numbers platforms are offering MOOCs around the world. Using these platforms, now a days, the learners from diverse areas can access the same course content and exchange their knowledge through discussion forums and other tools. Thus a collaborative learning environment is created among the learners. The MOOCs is the latest trend in the field of distance education which seems to go on for some time which indicate a significant need of research studies on it.

REFERENCES

- [1] Armstrong, L. "Coursera and MITx: Sustaining or disruptive." *Changing Higher Education* 6 (2012).
- [2] OpenupEd (2015). Definition Massive Open Online Courses. Heerlen: EADTU.
- [3] Grainger, Barney. "Massive open online course (MOOC) report 2013." *University of London* (2013).
- [4] Breslow, Lori, et al. "Studying learning in the worldwide classroom: Research into edX's first MOOC." *Research & Practice in Assessment* 8 (2013).