Abstract

A massive open online course (MOOC) is a free Web-based separation learning program that is intended for the interest of vast quantities of geologically scattered students. A MOOC might be designed on a school or college course or might be less organized. In spite of the fact that MOOCs don't generally offer pedagogic credits, they give instruction that may empower declaration, work or further examinations. The word MOOC was authored in 2008 by Dave Cormier, from the University of Prince Edward Island for a course offered by the University of Manitoba, "Connectivism and connective information." Massive Open Online Courses, MOOCs, Transform Higher Education and Science. Science, building and innovation courses have been in the front line of the huge open online course development. These classes additionally are giving feed to logical research on learning.

Introduction

The term MOOC stands for massive open online course. It was coined to refer to a course developed by Stephen Downes and George Siemens entitled Connectivism and Connectivity Knowledge in 2008. Their intention was to exploit the possibility for interactions between wide varieties of participants made possible by online tools so as to provide a richer learning environment than traditional tools would allow. Building off a for-credit course at the University of Manitoba, Canada, this was the first class designed behind the acronym of ‘MOOC’ and used many different platforms to engage students with the topic, including Facebook groups, Wiki pages, blogs, forums and other resources. Some of the examples of MOOC platform are xMOOCs (future learn platform) and cMOOCs (Digital storytelling).

What is a MOOC?

Massive: It means everyone who wants to join can join, no limits on enrolment numbers.
Open: Open means all the information is open to all on the web.
Online: It means all the content and discussions happen online.
Course: A stand-alone or part of training/curriculum.

Definition

“A massive open online course (MOOC) is a model for conveying learning content online to any individual who needs to take a course, with no restriction on participation”.

“A massive open online course (MOOC) is a free Web-based separation learning program that is intended for the participation of huge quantities of geographically scattered students”.

“Massive Open Online Courses (MOOCs) are another type of online class that permit anybody, anywhere, to participate by means of video lectures, computer evaluated tests, and dialog gatherings.”

In simple words we can say that massive open online learning is that type of online learning that provide users to open access via the web. In addition to traditional course materials such as filmed lectures, readings, and problem sets, many MOOCs provide interactive user forums to support community interactions among students, professors, and teaching assistants (TAs).

Types of MOOCs

MOOCs are divided in two types, these are as follows:-
1. xMOOCs (Content-based MOOCs) - Rely on traditional video presentation and testing and automated feedback through objective, online assessment that is multiple choice quizzes, programming assignments or peer review exercises. The following are the main features of xMOOCs:-
   • Follow a more behaviourist approach arguably dominated by the “drill and grill” instructional methods.
   • Use video presentations, short quizzes and testing.
   • A theory of learning based upon the idea that all behaviours are acquired through conditioning.
   • They focus on concise, targeted video content with short videos rather than full-length lectures to wade through and use automated testing to check students’ understanding as they work through the content.
   • Students intake some information. Then hopefully engage in doing something while getting a little bit of help from peer learners.

2. cMOOCs (Connectivist MOOCs) - online course based on the philosophy of connectivism and networking in more MOOCs courses are typically and lead by academics through open source web platform. The following are the main features of cMOOCs:-
   • Based on a connectivism theory of learning with networks developed informally.
   • Connectivism is the thesis that knowledge is distributed across network of connections, and therefore that learning consists of the ability to construct and traverse those networks.
   • They include discussions forum, allow people to bounce ideas around and discuss learning together and one on one interaction and easy back and forth questioning.
   • It emphasise connected, collaborative learning and the courses are built around a group of likeminded individuals who are relatively free from institutional constraints.

MOOC Providers around the World
   • edX: Created in 2012 by The Massachusetts Institute of Technology and Harvard University it is a massive MOOC provider and different from other providers as it is a non-profit organization and runs on the Open edX open-source software. It has over 7 million students taking over 700 different online courses.
   • Coursera: A for profit educational technology company that provide MOOCs. They work with universities and organisations to provide courses in physics, engineering, humanities, medicine, digital marketing, data science, mathematics, business, social-sciences, among others.
   • Udacity: founded by Sebastian Thrun, David Stavens, and Mike Sokolsky and is a for profit organization offering MOOCs. Originally focused on offering university style courses but now focuses on vocational courses for professionals.
   • FutureLearn: launched and wholly owned by The Open University in Milton Keynes, England was founded in December 2012. As on January 2017 it has 109 UK and international partners and also includes non-university partners such as the British Museum, European Space Agency, the British Council, UCAS, UNESCO, Cancer Research UK, the National Film and Television School.
   • NovoEd: founded by Stanford University professor Amin Saberi and PhD student Farnaz Ronaghi, it partners with universities, foundations, and corporations to offer massive open online courses (MOOCs) as well as small private online courses (SPOCS). It is a, for profit educational technology company and was originally known as Venture Lab. It rebranded itself to its present name in 2013.
   • Iversity: A European online education platform that provides free courses for anyone to enrol and participate. It has ties with individual professors as well as many European universities and
conducts many of their courses in English, German and many other languages. It has its branch offices in Bernau bei Berlin, Germany and Berlin.

- **Canvas Network**: Instructure Inc. was made keeping in mind the end goal to help the proceeded with improvement of another learning administration framework (LMS) initially named Instructure. Once fused, the authors changed the name of the product to Canvas. Instructure's approach to MOOC has been to facilitate experimentation with pedagogy and new ways to use multimedia environments to change cognition and enhance the learning process. One example is "Gender Through Comic Books," a MOOC taught by Ball State University's Christina Blanch on Canvas Network that used lessons from pop culture to explore evolving social norms and other anthropological ideals.

**MOOC in India**

India introduced ‘SWAYAM’, short for Study Webs of Active-learning for Young Aspiring Minds through the human resource development ministry. It is a web portal where MOOCs will be available on various subjects. MOOC’s in India will reach learners in any corner of the country as long as they have an internet connection. It has access to the top universities educational content that will help learners get quality education free of cost.

Statistics from major MOOC providers says that India has the second largest audience for MOOCS after US. This goes to show there is a huge requirement for quality education and MOOC is the best platform for providing this to a country that has billions in population. There are presently 3 courses that are provided under ‘SWAYAM’, one from UC Berkeley’s Umesh Vazarani’s and two from IIT Bombay. The Indian Institute of Management Bangalore has joined edX and will soon start their online courses.

SWAYAM is not only for enrolled students but for professionals and dropouts as well. With quality content, best online lectures, great discussions, knowledgeable assessment quizzes, SWAYAM will provide great opportunities for Indian students to learn without the fear of failure.

**Aims of MOOCs platforms**

The original aim of MOOCs was to open up education and provide free access to university level education for as many students as possible. In contrast to traditional university online courses, MOOCs have two key features (Wikipedia, 2012):
1. Open access - anyone can participate in an online course for free
2. Scalability - courses are designed to support an indefinite number of participants

**Open Curriculum**: learners mix educational resources, activities, and/or packages for different disciplines to meet their needs. This places learners in charge of their own learning and ensures that they will learn what they need to meet their personal desires and requirements.

**Open Learning**: instructors, experts and/or peers will, through various activities, generate and share new ideas and new understanding during the learning process. This provides learners with opportunities for self-determined, independent and interest-guided learning.
Open Assessment: instead of the “monopoly” on formal evaluation of learning results, previously led by accredited education providers, assessment of what learners have learned is carried out by their instructors, others and peers during the learning process via peer to peer or crowd-sourced assessment with “on-demand accreditation” for learners.

Open Platform: supports a dynamic and interactive open education community by creating and maintaining an engaging, intuitive and stable user interface for educators and learners. Cloud–based provision and the use of open standards make it easier for different platforms and services to exchange information and data. Open education brings new opportunities for innovation in HE that will not only support institutions to implement the fundamental values of university based education but it will also shift the focus from traditional lecturing to more learner centred learning in higher education.

Pedagogical base of MOOCs

Even though recent reports suggest that online learning will hardly ever replace traditional educational settings, MOOCs certainly represent an efficient learning method since their pedagogy is developed in accordance with the needs of modern learners. Furthermore, given the fact they are mostly created by renowned educators, it is unsurprising that their design follows the highest educational standards.
Pedagogical benefits of MOOCs

1. **Efficiency of online learning**- In teaching learning process online learning is very beneficial for all teachers and students. It helps in all round development of both teachers as well as students. Through online learning students can learn anytime and anywhere.

2. **Enhanced learning through this assessment**- MOOC is burning topic in these days. It plays vital role in the academic growth of students. Learning through MOOC is permanently stored in student’s memory. It provides the facility to gain more and more knowledge.

3. **Mastery learning**- Through MOOC students got mastery over the subjects what they studied. Teaching and learning becomes easy and interesting with online mode.

4. **Retrieval learning**- Teaching and learning through MOOC is very important for the retrieval learning of the students as well as teachers and we can say that it can improve the retentive memory of the students. Students can easily retrieve knowledge through the online study material.

5. **Enhanced attention and focus**- MOOC is very useful for making students attentive and focused in the learning. Students become more attentive and due to this their attendance may also increase.

6. **Peer assistance, out-of-band learning**- MOOC is useful for peer assistance learning that provide students the facility to work together to gain deeper understanding of the course content and learn difficult content in a specific course.

7. **Online quizzes and assessments**- MOOC uses the video lecture and quizzes as the instructional methods for their course. Moreover, quiz is the basic method used for assessment by most of the MOOC providers.

8. **Online mode of delivery**- It means internet based teaching program designed to handle thousands of students simultaneously and that aims to attract unlimited students to learn through the web.
9. **Short videos** - It provides the usual traditional classroom material in the form of filmed lectures, readings, problem sets. Their main focus on delivering content to the learner through video.

10. **Online forums** - It is an interactive forum where students, teaching assistants and professors can communicate through online mode. Students are able to find best lectures online without sitting in to the classroom.

11. **Short videos and quizzes** - Videos and quizzes can serve as a powerful teaching tool to take learners into new spaces they could explore in person, or add an experimental aspect to the content.

12. **Peer and self-assessment** - The most widely approach for all MOOCs to date is to use peer and self assessment to provide the necessary feedback. Several methods are available today to improve on the accuracy of peer assessment results for formative assessment.

**Importance of MOOCs for students**

- Educator involvement: While educators are involved in the design and production of the MOOC, their involvement during the running of the course is minimised because of the lack of formal assessment or formal academic credit.
- Engagement: It is possible to engage with a large number of students via discussion forums.
- Re-watchable: Students are able to watch and re-watch lecture videos.
- Scale: MOOCs are designed to reach a large number of students.
- Assessable: Most MOOCs include in-video, concept-check questions, with immediate feedback, as well as peer review.
- Customised learning experience: Participants can learn at own pace and choose which material they engage with.
- Massive open online courses (MOOCs) are a flexible and open form of self-directed, online learning designed for mass participation.
- There are no fees or entry requirements and no formal academic credit is available.
- MOOC platforms provide institutions with cloud-based hosting environments for delivering courses, offering scale and functionality while the institution provides the course material and reputational value.
- While access to the course material is free, MOOC platform providers often offer certificates of completion at a cost.
- Offer quality education to the most remote concerns of the world.
- Help people further their careers.
- Help people expand intellectual and personal networks with strong communities.
- Push towards autonomous learning.
- Develop or sharpen critical thinking.
- Offer an alternative for speedy, bright students.

**Importance of MOOC for teachers**

- It plays important role for the professional growth and development of teachers.
- MOOCs deal with as addition to class/ curriculum. By using of MOOCs curriculum becomes easy, interesting and burden less.
- It helps to Increase specific knowledge within area of expertise. It provide
- Satisfy personal knowledge interest.
- Look over the shoulder of other colleagues.
- Potential for informal teacher group education.
- It is very useful for increase digital skills.
- Explore and understand contemporary online learning.
- Expand peer network (international teacher connect).
✓ Useful for Leisure learning.
✓ Professional profile of teacher is changing.
✓ Digital and learning analytic skills.
✓ Shifts towards lifelong learning for all.
✓ Necessary skills increase like digital and learning analytic.
✓ Globalisation of higher education.

Conclusion: After the above discussion about MOOCs we can conclude the following points:-
  • MOOC= Just one type of online learn.
  • MOOCs cause educational disruption, possible reforms.
  • It is good to explore.

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