

Definition and History of MOOCs

1) MOOCs stand for Massive Online Open Courses. MOOCs allow for unlimited participation and greater access because they are offered online for free. Online, distance and outreach opportunities are constantly increasing on college campuses. With the rising costs of tuition, greater student loan debt, a shaky economy, and people having to work harder for less money, online education makes sense.

The MOOC movement is not necessarily “new” but it is newly recognized. Many other countries have been experiencing the MOOC-world with the term first being coined in 2008 by Dave Cormier of the University of Prince Edward Island and Bryan Exlander of the National Institute for Technology in Liberal Education. The term was used to describe a course called Connectivism and Connective Knowledge, presented by George Siemens and Stephen Downes.

In 2011 Stanford University professor Sebastian Thrun ran a course called Introduction into AI. The course had 160,000 students enrolled. Thrun noted that in that one course, Thrun taught more students than most professors would in an entire lifetime. Following the success of this class, Stanford launched two more MOOCs by Andrew Ng and Jennifer Widom. Thrun quit his job at Stanford and opened up a company known as Udacity. Andrew Ng went on to create Coursera in 2012. Further companies have since emerged such as edX, which started when MIT wanted to create their own MOOC platform and not miss out on this online education phenomenon. Harvard joined MITx in 2012 which was later renamed edX. Blackboard has even launched their own platform to offer MOOCs.

In November 2012, The University of Miami launched their first MOOC geared towards high school students studying for the SAT subject test in Biology. Later, Udacity (in 2013) offered their first MOOC for credit with San Jose State University which led Udacity, AT&T and Georgia Institute of Technology to announce their first MOOC-based Master's Degree for \$7,000.

MOOC Providers

- 1) Udacity. Founded by Sebastian Thrun, a former professor at Stanford University, in 2012. The company was named after the word Audacity because of the companies ability to take risks for “you” the student. Udacity is funded by venture capital firm Charles River Ventures, Sebastian Thrun and Andreeseen Horowitz. In 2013, Thrun switched gears and moved to focus on vocational training for professionals. Currently Udacity has 1.6 million users in 12 courses and 26 free courseware.
- 2) Coursera. Founded by Andrew Ng and Daphne Koller (both professors at Stanford). Coursera works with institutions of higher education to offer courses in physicals, engineering, humanities, medicine, biology, social sciences, mathematics, business and computer science. Currently Coursera has over 7.1 million users in 641 courses at 108 institutions. In January of 2013, the American Council on Education recommended that institutions offer 6 courses from courser for credit. The subjects range from math to science and at the end of the course Coursera will team up with

company ProctorU to help proctor final exams in the course. Coursera recently announced specializations in which students can take multicourses to gain a deeper fuller view of a specific topic through following a series of courses. At the end, the user will get a certificate stating the completion of that series.

- 3) edX. EDx was founded originally as MITx which was a part of the Massachusetts Institute of Technology. Harvard eventually joined on board and the name changed to edX. EdX received monetary donations of about \$30 million from both MIT and Harvard to foster the learning and obtain resources. There are 47 partners that plan on offering courses through the MITx. Also there are currently 2.1 million users with 176 courses.

Who can Register for MOOCs?

- Anyone can register for a MOOC unless the MOOC is a specific MOOC associated with a specific group/institution and the class is restricted to registration from a certain group. The goal of a MOOC is to help create life-long learners so anyone can participate in the various MOOCs courses.

Can learners register for MOOCs and complete assignments and class content at any time?

- It depends on the setup of the MOOC. Each Mooc varies, however some MOOC Professors might have specific deadlines for when items must be completed and turned in. However there is usually a registration period in which MOOCers must be registered to take the course. MOOC users can move back and forth throughout the material to help facilitate learning and knowledge acquisition.

What is required for learners to register for a MOOC course?

- An open mind and the wantingness to learn. Also MOOCs are offered online so the ability to access the appropriate technology (internet, computer, etc). Most MOOCs are offered through a site so an account for that site as well is often required.

Briefly discuss the following MOOC costs:

Cost to the student – This ultimately depends on the type of MOOC being offered. Most MOOCs started as “Open” meaning free to everyone. MOOCs have found creative ways to bring in revenue by allowing students to pay for a “Signature Track” which is an official statement stating that the student completed the MOOC (outside of the Statement of Completion). Companies have sprung up which charge MOOC users to track, record, verify and serve as an official clearing house to prove that MOOCs were completed. Some schools have also started to charge for MOOCs to help offset the cost of the course. Eventually if colleges accepted MOOCs for credit, I would imagine that the student would have to pay some sort of tuition to receive the credits for that particular MOOC.

Cost to the college or university

The cost to a college or university is pretty high, especially if a college or university is using an existing platform such as Coursera, edX, and Udacity. Coursera charges \$250,000 to

design and develop a course on their site and \$50,000 for every time that course is used. However some schools can create their own platforms such as the University of North Carolina that developed Skynet which offers MOOCs about astronomy and is free to the public. Either way, dedicating a faculty member to teach a MOOC or a group of IT people to develop a framework for an in-house MOOC platform will still cost money to an institution.

College or university's cost per student taking the course, comparing MOOCs vs face-to-face.

Obviously face to face interactions allow institutions to charge tuition to cover costs to provide the class to the student. Currently MOOCs do not have a business model in which to make them sustainable, however there are several suggestions when it comes to funding Moocs.

Data Mining – MOOC hosts could sell student data to advertisers, potential employers, etc. Selling this data could generate lots of money for MOOC hosts, especially if there are over 100,000 students enrolled in a particular MOOC.

Cross or Up-Sell – MOOCs can always generate revenue by having to sell products to students. Selling a book, videos for class, etc but also incorporate fees to access the social networks and discussion forums, or fees to have work graded.

Advertising – MOOCs can sell advertising spots to companies as “sponsors” of that course. For instance, if you are teaching a course on Leadership Development and LEADERSHAPE purchased an advertisement or donated X dollars to sponsor that MOOC could be beneficial to both the sponsor who might have 100,000 students or more seeing their brand name.

Tuition Model – MOOC organizers can charge tuition to participate in the class. Again I think in order for this model to work there needs to be more “Bang” for your buck such as the offer of college credit, etc.

Spin Off/Licensing Model – Selling parts of the course or requiring a license to use parts of a course can also generate income for a MOOC.

Regardless, MOOCs do cost money to the institution, and institutions can choose if the expense correlates to the benefits that are obtained from teaching MOOCs such as benefits from having its faculty teach them such as notoriety, brand image, reputation, connection to the institution, being trendsetters in the world of online/e-learning. If institutions do not necessarily feel that the benefits meet the expenses, institutions will have to be creative in developing ways to generate revenue from MOOCs.

MOOC Types

- An xMOOC is the most typical type of MOOC. The xMOOC is organized around a central professor and curriculum taught by that professor.

-A cMOOC is a “connectivity” MOOC which is set up more like a graduate seminar. The cMOOC is basically student to student, peer to peer interactions that start out with a topic and let the students facilitate the conversation where most learning comes from student to student interactions.

The first MOOCs to exist were cMOOCs which actually predate the Sebastian Thrun experiment at Stanford and the resulting creation of companies such as Coursera, edX, and Udacity.

The first MOOC, entitled Connectivism and Connective Knowledge, presented by George Siemens and Stephen Downes was actually a cMOOC in that it was based upon George Siemens philosophy that learning happens within a network. In this network, students use digital platforms to foster connections with content (such as wikis, blogs, social media, etc) to create and construct knowledge.

List and briefly explain at least three different reasons why universities would want to offer MOOCs, and three arguments against using MOOCs in K-12, Higher ed, or corporate, military, or organizational training.

In favor:

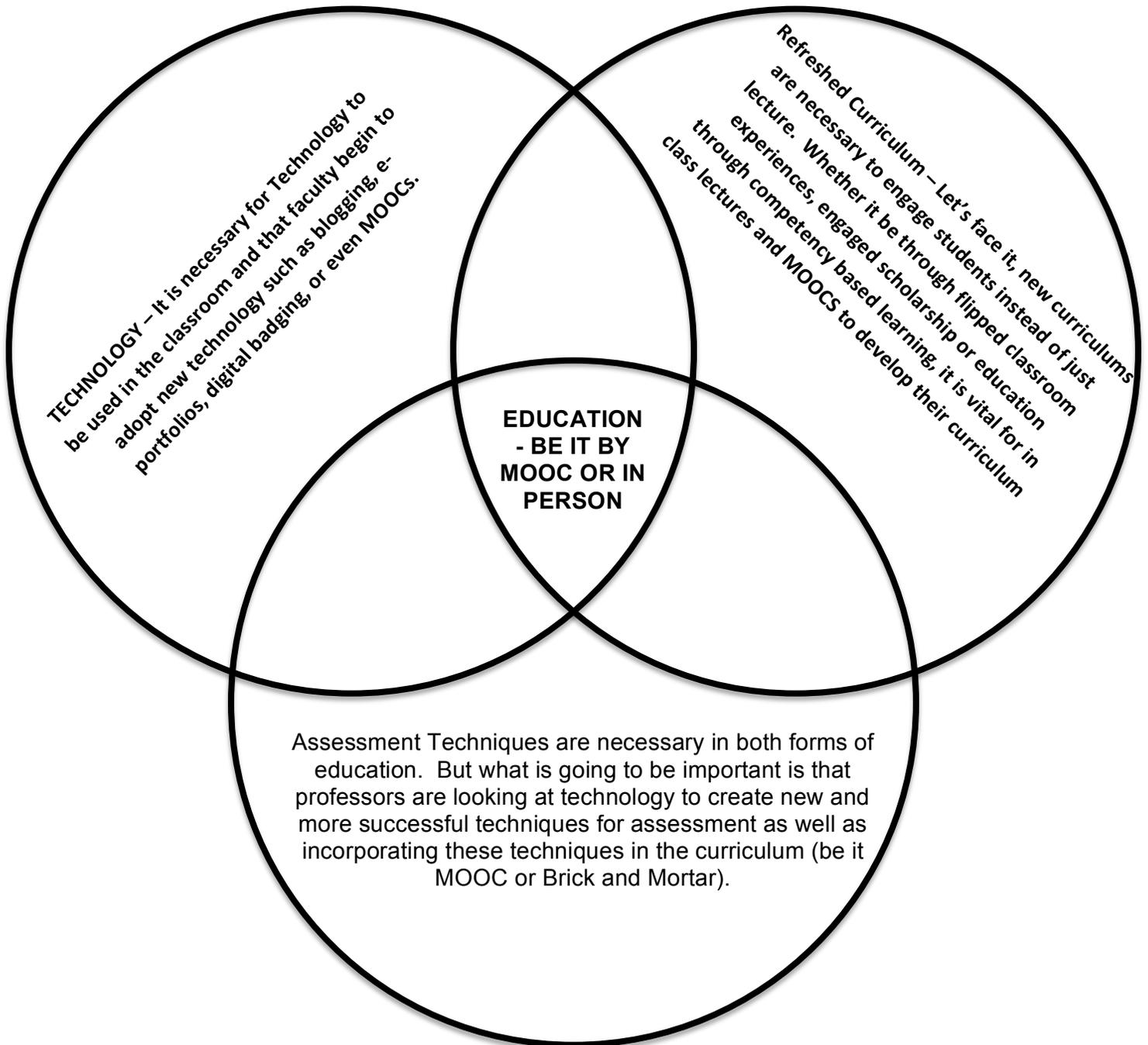
- 1) Notoriety of the institution. If 100,000 students are taking a course that your institution is offering it says a lot about your institution. If the professor is great, it can showcase the quality of professors, curriculum, etc that your institution has and promotes. It can also allow for professors to talk about the “brand” of the institution by incorporating that feeling of being a part of the overall institution even though it is an online course.
- 2) Increase the number of participants that are connected to the institution which could help to build a larger “alumni” base or bring in more money for donations. If a student really connects to a course, they might be willing to donate to help establish more courses and help fund e-learning through that institution.
- 3) If MOOCs were offered for credit, it could generate extra tuition dollars for the institution. It can also help to eliminate some of the larger classes or allow for the combination of smaller classes into larger classes. Using a platform that can host over 100,000 students could allow the institution the ability to diversify classes by using a MOOC platform.
- 4) Help facilitate and foster student learning through peer to peer interactions.

Against:

- 1) I think using a MOOC format in k-12 could be quite dangerous. Currently, working parents need their children to attend school. If an entire highschool education could be obtained from the comforts of the home, parents would have to readjust their working schedule to ensure that they were at home during the day for students that were enrolled in MOOC style education.
- 2) I think that the people aspect of Higher Education is important. If you remove students from the classroom, from the residential experience, from the on-campus opportunities, we are developing students that can only connect through technology yet act socially awkward face to face. I don't think there is any real substitute that can be made to help further foster these important personal interactions than actually having those interactions.
- 3) Creating MOOCs could lead to disruptive innovations that in turn replace the overall higher education model. If a Massive Online Open Course can exist and enroll thousands of students while offering the material for FREE, this could cause institutions to have to struggle to find other ways to generate lost revenue from classes that are completely free.

Select a way (i.e. Venn diagram, table, lists, illustrations, etc) to portray similarities and differences between MOOCs and traditional classrooms, using accompanying

Similarities between MOOCs and Traditional Classrooms



Differences between Moocs and Traditional Classrooms

MOOCS	TRADITIONAL CLASSROOMS
Can be opened to an extremely large amount of students that a typical class room cannot handle	There is a limit to the number of people that can participate in this class.
Currently, most MOOCS are not for credit.	For Credit
Allows students to work at their own pace and flexibility. If you miss a class no big deal because it is all online.	Students have to follow specific guidelines for class assignments as well as having to make sure that the class itself follows into their schedule
For the most part, free for the user	Tuition Credits are expensive
Extremely expensive for schools to participate if they use programs like courser, udacity, etc	Not as expensive as offering a MOOC.
Probably better for self-starting, motivated, independent students	Works best for students that need the attention and help from face to face interactions with professors
Opportunity to share with colleagues across the world and not just a few...but a lot. Peer to Peer editing and networking to evaluate. PEER ASSESSMENT.	A limit to peer-to-peer assessment, evaluation.

Write a two-page (maximum) letter to the President of the University of your choice advising about whether or not to offer MOOCs and stating your rationale.

Dr. Baron,

Penn State University has had 159 years of academic excellence and it is because of the dedication of the faculty, staff, administrators and students that Penn State remains a world-renowned school in academics. Since the founding of the World Campus in 1998, Penn State has made amazing strides in offering education to students who simply cannot attend a brick and mortar institute. This outreach is an important function for the university and ensuring that Penn State remains a world-leader in the use of new technology, creative and fresh curriculums and establishing its credentials around the world.

In order to stay at the forefront of education, it is vital that Penn State remains competitive with new technology such as Massive Open Online Courses (MOOCs).

There are many Pros to incorporating MOOCs into the Penn State system, but I think what is really important is that Penn State stays on top of this new movement. It is going to be beneficial for Penn State to get ahead of this movement and develop the appropriate technologies so that we will be ready and prepared when MOOCs take off. Some of the biggest pros for MOOCs include:

- Helps extend the Penn State Brand and visibility of the Institution
- Helps promote the quality of professors at Penn State and their credentials
- Penn State will be viewed as a forward-thinking institution
- Furthers the Institutions mission to provide access to high-quality education, globally
- Embodies the research mission of the institution by being the lead in MOOC research
- Will allow for global feedback and professional development for faculty which will further improve on-campus instruction
- Could lead to a new revenue stream for the institution
- Could help increase the enrollment numbers for distance education which will help bring the World Campus enrollment to 45,000 in the next few years
- Ensure a global perspective for the students involved in the course.
- Allow continued access for lifelong learning of alumni

There are always unknowns when it comes to something new and even though there maybe cons to establishing MOOCs at Penn State, if we get a head of the movement, we can start planning for ways to avoid these challenges. Some foreseeable challenges include:

- Creating a MOOC is going to require a lot of time, especially to ensure that the lessons and assessments are well designed and executed which could take up valuable faculty time that could be used on other tasks
- A funding system needs to be established. There are going to be some initial start up costs to build the infrastructure and ongoing costs to upkeep and maintain the program

- Plagiarism is going to be a risk. Having a class with over 100,000 students is going to offer many challenges to ensuring that the work that is being submitted meets an honors code.
- The MOOC will be a representation of the Institution. Therefore if the MOOC goes poorly, it will have a negative affect for Penn State, but if the MOOC goes well, it will be a positive for Penn State.
- A structure for faculty compensation will be needed to ensure that the faculty who are devoting time to creating and implementing MOOCs are rewarded for this new endeavor

As a recommendation, I propose that we, as an institution, establish a committee that will look at and regulate the development of Penn States MOOCs. I feel that this committee should develop several ad-hoc committees to focus on several major areas:

- Compliance/Rules/Regulations and Approval Committee
- Infrastructure Committee (technology, business model, funding, compensation, etc)
- Engagement and Marketing Committee (Outside collaborations, alumni, high school students, etc)
- Assessment Committee

As a large research institution, we should offer several trial MOOCs so that we can have our own research and data on the success of the program. Once we have information based upon our trials, we can continue to meet to discuss the future of MOOCs at Penn State.

Respectfully,

Shaun O'Malley