Design and Development of a MOOC: The Value of a Collaborative Process

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Abstract

Few current educational technology innovations have received the attention of Massive Open Online Courses (MOOCs). Both trade and popular publications have featured articles extolling the promise that MOOCs will revolutionize higher education. Most of the discourse, however, is limited to hypothetical suppositions. This paper describes the unique collaborative process one institution followed to design and develop their first MOOC, including recommendations for other institutions beginning their MOOC journey.

Overview

Massive Open Online Courses (MOOCs) are not new, but in the past year, they have roared into the media spotlight. Some argue that MOOCs will revolutionize higher education (Cormier & Siemens, 2010; Pappano, 2012), diminishing the role of universities, and possibly even eliminating them altogether (Kolowich, 2013; Parry, 2013; Shirky, 2012). Others laud MOOCs for bringing education to those who would not otherwise have access to higher education by increasing access and decreasing cost (Coursera, n.d.; Koller, 2012).

MOOCs have suffered criticism, too. Critics argue that the majority of MOOCs may be ineffective, or at least that there is not enough research to determine that they are effective (Marucs, 2013). They point out that many MOOCs utilize primarily broadcast media like video lectures and offer little (or no) interaction between the instructor and students. In addition, despite enrollments in the thousands, and frequently over 100,000, completion rates for MOOCs tend to be very low (Jordan, 2013).

Gaps in the Literature

Despite the broad hopes of MOOC proponents, very little is known about learning and student success in MOOCs. There is a distinct lack of research on learning outcomes in MOOCs. Most of the discourse on MOOCs focuses on the platforms (especially Coursera, Udacity, and EdX) and the promise of radical change to higher education. There is a need for more discussion of course design, development, assessment, and evaluation of MOOCs to determine the impact they will have on students, higher education establishments, and society.

For example, who enrolls in MOOCs? Are MOOCs reaching their target audience – those individuals who could not otherwise attend higher education? Is there evidence that students learn as a result of a MOOC? How do design choices affect student motivation, completion, and learning? Before considering MOOCs and a DIY credential as viable replacements for traditional degrees, these questions must be answered.

On the other hand, for institutions considering offering their first MOOC, there are even more practical considerations. How much time does it take to design and develop a MOOC? How much financial investment is necessary? What technologies and proficiencies should be considered? How can effective online pedagogies be scaled for massive audiences?

Given the lack of literature, it seems many institutions have been reluctant to share their experience with design, development, and delivery of MOOCs, which makes it challenging for others to determine effective practice. It is through such sharing that the community at large can learn and improve, and is the spirit in which this paper is written.

Project Information

In 2012, a team at Northern Illinois University (NIU), a Midwestern public university, began designing the first MOOC to be offered by the university. The MOOC was the project of Dr. Greg Long, a professor in the School
of Allied Health and Communicative Disorders, who teaches a face-to-face course at NIU titled “Disability in Society.” Long developed the course 10 years before because, while disability is a fact of life for millions of people in the world, it tends to make people uncomfortable, so it is not talked about. Since that time, the course has become quite popular on campus as a general education course, with over 300 students enrolled every semester. Disability in Society provides a broad overview of disability awareness, background knowledge, and selected issues of disability across the lifespan.

According to Long, every semester, students report that they view disability (and individuals with disabilities) more positively as a result of the course. Students begin to see accessibility as an issue of equal access and societal. Student feedback from the course indicated that the course was very beneficial to the students who took it, and several students every semester report that the course should available to more people. This encouraged Long to develop a MOOC, so that the information he shared in the course could be freely available to a wider audience.

The MOOC, titled “Perspectives on Disability,” addresses the history, culture, and stigma of disability, with a goal of raising awareness and encouraging dialogue about issues related to disability. Long felt it was important for the course to be appropriate for anyone from middle school and up, with or without a background in disability. His first step was to begin recruiting assistance from other faculty, staff, and students from across the university.

Collaborative Design Approach

From the beginning, the MOOC was a collaborative project. Unlike other institutions, NIU did not have a formal structure in place to support the design and development of a MOOC, so the collaboration grew throughout the project. Long’s first contact was to the Faculty Development and Instructional Design Center on campus for assistance. He recruited over 50 graduate and undergraduate students to assist with the design process and to provide feedback on the content of the MOOC. He also partnered with a professor of documentary filmmaking and began a project with her students to capture and edit the interviews. With additional support from technical services, media services, and the outreach center, the project quickly became a collaborative campus-wide project.

Throughout the project, Long served as the subject matter expert for course design and content. He provided expertise on what content to include and how to present it, including developing the initial draft storyboards, selecting readings, and identifying additional resources, for each lesson. Long was the face of the course and recorded all of the lectures. When the MOOC began, he also facilitated the course delivery by posting materials, sending announcements, and responding to student concerns and questions.

Long consulted with the Faculty Development and Instructional Design Center for advice on delivering a MOOC and recommendations on the use of technology. Generally, the Center supports effective teaching practices and technology integration for NIU’s faculty, academic support staff, and graduate teaching assistants. For this project, the Center provided guidance about the pedagogy of teaching a MOOC, developing materials for online delivery, and assessing a massive audience. In addition, the Center established a relationship with Blackboard CourseSites to deliver the MOOC and forged partnerships with other units within NIU, such as the Division of Communications and Marketing (formerly the Division of University Relations), Media Services, and the Office of General Counsel. The Center continued to be engaged during the delivery of the course by offering feedback on the course and assisting with the deployment of material and assessments in the course management system.

A defining characteristic of the collaborative approach for designing Perspectives on Disability was a commitment to involving students. The goal of doing so was to provide the students with a voice in the course design, to promote quality through increased feedback, and to provide experiential learning opportunities for NIU students. Overall, more than 50 graduate and undergraduate students contributed to the course design and development. The largest group met as part of an independent study in the spring 2013 semester. These students learned about online course design, helped to select the weekly topics, drafted initial outlines for the lessons, and researched potential readings for the MOOC. The seminar students also reflected on their experience with taking the traditional course and unanimously agreed that some of the strongest aspects of the course were the guest speakers who presented about their experience with disability. Because of this, including those stories became a high priority for the course.

In the same semester, another group of students collaborated to create disability tutorials for the Presidential Commission on Persons with Disabilities. The videos were a collaboration between students with disabilities or family members with disabilities and documentary film students from the Department of Communication. While these videos were created to accompany a text-based tutorial, some of the videos are included in the lessons of the MOOC. In addition to these tutorials, two graduate students from the Department of Communication recorded all of the lectures and interviews with the guest speakers.
Two graduate students from the Department of Educational Technology, Research, and Assessment served as interns for the course development and delivery. One developed the lecture videos by combining the lecture and guest speaker videos with visuals. This intern also compiled transcripts for the lessons and posted the videos on YouTube as well as in the course. The second intern wrote the quizzes and built them in the course management system. She also monitored interaction on the discussion boards and replied if necessary or forwarded them to the professor for follow-up.

In addition to students, a number of other faculty and units at NIU were involved in the collaboration. Dr. Laura Vazquez, Professor in the Department of Communication, supervised the students who recorded the video tutorials, guest speakers, and lectures. The Division of Communications and Marketing provided advice for marketing and promoting the MOOC, including writing and distributing several press releases about the course. The Division also used the official university social media channels to spread the stories. Media Services created the graphics, including course logos and social media profile images. They also created caption files for the lessons. The Office of General Counsel provided perspective on the legal risks and concerns associated with offering the MOOC and developed the terms of use for the MOOC with the Faculty Development and Instructional Design Center.

Results

The resulting course is ten weeks in length. Each week covers a facet of disability, including models of disability, perceptions and definitions, portrayal in language and the media, education, community living, and employment. Each week’s lesson consists of four to six short video segments that are approximately eight to twelve minutes long. Based on feedback from the seminar students, each week (and most of the individual segments) include stories from the guest speaker interviews.

Data on student success in the MOOC is not yet available, but the design and development process has been successful. The resulting course is driven by the stories and experiences of individuals with disabilities, so students connect to the human side of the content. Content is media-rich and uses a combination of lectures and interviews presented through videos and text-based reading assignments. The course is accessible to all students, however, regardless of prior knowledge, education level, or disability.

This collaborative approach brought multiple departments and individuals together so that weaknesses or deficiencies of individual skill were not an issue. Seeking student input strengthened the design of the course. While there were obstacles and challenges throughout the process, maintaining a focus on sharing knowledge rather than gaining institutional or individual recognition inspired all of the project participants to maintain their commitment to the project and ensure the final product was the best possible.

Recommendations

This experience has led the team to develop a number of recommendations for others developing a MOOC. In the spirit of the collaborative approach to designing the MOOC, it is hoped that these recommendations will help others to develop stronger MOOCs and advance the discussion around pedagogy of MOOCs.

The first recommendation is perhaps the easiest and most obvious: participate in a MOOC. Preferably, participate in several, on multiple platforms, led by different faculty. If possible, participate actively with a goal of completion, and reflect on the design and how it impacts motivation and persistence. The experience will help to guide the design and development process. For Perspectives on Disability, several staff of the Faculty Development and Instructional Design Center had completed several MOOCs and engaged in extensive research into the structure, pedagogy, and assessment of MOOCs. This experience was an important factor in the design of the MOOC.

Unlike many other courses and teaching opportunities, it may be possible to have full control over the choice of topic for the MOOC. Choose a topic that you are passionate about, so that you are motivated to create the course and facilitate thousands of students. The entire collaborative team for Perspectives on Disability was committed to the topic of disability and this dedication helped the team maintain focus and motivation throughout the project.

It is also important that the topic is appealing to MOOC students, particularly if the course will not result in college credit. Since the choice of topic may be the most important decision in the success of the MOOC, consider conducting a needs analysis or gather extensive feedback from colleagues or industry leaders to determine the importance of the topic for the intended audience. In the case of Perspectives on Disability, student feedback from the traditional version of the course provided evidence for the importance and applicability of the content. Further conversations with disability rights groups and K-12 educators reinforced the need for the topic.
Given the potential diversity of MOOC students, it is also important to determine the target audience for the MOOC, particularly education level and pre-requisite knowledge, skills, and abilities. This will impact the level of language used throughout the course, the depth and breadth of the content, and assessment approach. It is important to remember that, in many MOOCs, a substantial portion of the students are non-native English speakers, so it may be challenging for some to understand complex language or write lengthy assignments. The cultural aspect of diverse students is a factor when considering content, as well. Perspectives on Disability was designed for any student from middle school through adult and primarily for those without background in disability. One area that was challenging was incorporating perspectives from outside of the United States, so one assessment option was to submit information about the topic from a different cultural perspective.

It is also strongly recommended to build a team as early as possible. This team should cover design and development, subject matter expertise, review and testing, technology support, media production, marketing and publicity, legal, and others as necessary. A team approach for delivery and facilitation of the course would be wise, as well. Individuals on the team may fulfill multiple roles. The team for Perspectives on Disability grew over time, as dictated by the progress of the project, which was both beneficial, since individuals were able to join and leave the project as needed, but also a challenge, since there was a delay between identifying a need and finding someone to fill the role.

The final recommendation is to use MOOC design and development to think differently and creatively about what defines a course. Because they are detached from other institutional regulations about credit, assessment, and seat time, it is possible to design a MOOC to explore alternatives for content delivery, community engagement, and assessment. For example, in Perspectives on Disability, the content delivery approach was somewhat traditional, based primarily on lectures by a faculty member. The video format, however, allowed the guest speaker stories to weave with the lecture in a way that would be difficult in a traditional course. In addition, the course assessment strategy was unique, with a combination of objective assessments (quizzes) and the choice of multiple activities that were “graded” on submission only. These are just a few examples; there are a multitude of ways to experiment with course design that may be discouraged in a traditional course but are possible in a MOOC.

### Conclusion

The opportunity to experiment by designing and delivering a MOOC has been a valuable experience for everyone involved. Using a collaborative approach to the design, development, and delivery has permitted a wide variety of individuals to benefit from the experience, including faculty, staff, and students.

### References


