Crowdsourcing MOOC Interactions: Using A Social Media Site cMOOC To Engage Students In University Course Activities

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Abstract
This paper reports on a study of the utilization of a connectivist-style Massive Open Course, or cMOOC, to engage students in online activities that were part of a first-year School of Education course. A customized ELGG social software platform, implemented as the Curtin Learning Commons, was developed to deliver a six-week cMOOC. The cMOOC, titled Participating in the Digital Age (PDA), engaged students in activities that used a variety of social media and crowdsourcing techniques to provide educational content and experiences. The goals of this MOOC were to provide conceptual understandings and opportunities to participate in tasks exemplifying the topic. The study presents evidence that blending MOOCs with classroom-based or online learning does provide higher education learners with personalized active learning opportunities. Further research on providing scaffolded support to enable learners to capitalize on additional aspects of networked learning in cMOOCs would advance this use.

Introduction

Curtin University, Perth, Western Australia provides programs for over 60,000 students both in Australia and abroad. The university delivers Australia's only fully online K-12 undergraduate Bachelor of Education degree, has a large internationally recognized business program, and works to innovate in blended and online course deliveries. Programs include undergraduate and graduate degrees studying in a wide variety of large enrollment, campus-based, and online-based delivery modes. Many of the common core courses offered by the Curtin Business School, for example, have several hundred students enrolled at any one time. These present challenges in delivery from the point of the lecturer and student. Consistent assessment, information flow from the lead course lecturer, support for students when and where they require it are some examples of these challenges. The School of Education too has large enrolment courses in the first year Education program, delivered in campus or fully online modes. Curtin University's Center for Teaching and Learning identified connecting students to their peers, to support educational activities outside of class as an innovation that could further assist students to achieve academic success, regardless of what delivery mode they take. This innovation and experimental attitude was the initiation point for a cMOOC development project in 2014.

The goal, and underlying design of Curtin's School of Education MOOC, was to utilize a connectivist-style (cMOOC) experience to provide student-centric learning designed to engage students in online activities that supported learning on the topic of the digital age participation. Wikipedia describes a MOOC as an

> "online course aimed at unlimited participation and 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 between students, professors, and teaching assistants (TAs)." (Wikipedia, 2015)

Furthermore Dave Cormier, the researcher who coined the term MOOC, provides a definition of cMOOCs which highlights the pedagogy, tools, and goals guiding the PDA MOOC design. Cormier describes cMOOCs as those which have

> "four types of activities: aggregate, remix, repurpose and feed forward. Therefore the intention of cMOOCs is to harness the power of social and participatory media to enable participants to communicate and collaborate through a variety of channels; for example Twitter, blogs, wikis, etc. and the use of hashtags and curation tools (such as Pinterest or Scoop.it) to filter and aggregate. The focus is on personalisation, but also collective intelligence (Lévy 1997). Each participate forges their own learning path through the materials; picking and mixing which content, activities and communications are meaningful for them." (Conole, 2014, p.70)

The potential for personalization, crowd sourced interaction and support, and open-endedness of the exploration provides a much-needed exploration of how cMOOCs might be able to support for-credit university courses.

The PDA MOOC was the first of the Curtin MOOCs designed to support the activities of an existing, in-delivery course while at the same time providing open learning opportunities for Curtin students and other interested online learners. Curtin's first year Education course titled, "Living and Learning in the Digital Age" (LLDA), a 13-week course delivered in both campus and fully online modes, utilized the PDA MOOC in a parallel delivery. The goals of the MOOC were to provide conceptual understandings and opportunities to participate in tasks exemplifying the topic. This provided an experiential learning space about the very topics being presented in both the PDA MOOC and LLDA courses. The parallel delivery with LLDA provided students with an innovation that supported active learning as a further way to engage in the topics that were relevant to the LLDA credit course. Another aspect of the MOOC is that it continues to persist as a drop-in MOOC for new learners with further plans for other cMOOCs on the website planned in 2017 (www.curtincommons.com). The outcome of the delivery and tools used by students in terms of value for learning is presented in the following sections.

Pedagogy and Factors Relating to cMOOC Implementation

Distance education, as a field of education, has the unique challenge of transactional distance (Moore, 1997) between the teacher and the learner that must be addressed in every course design. In face-to-face (F2F) classrooms, teachers have the ability to view their students and use real-time physical communication skills, such as reading body language, to support and guide learners. In print-based distance education programs learner support was designed into the course materials as best as possible, however this approach leaves the student support mainly on the students' own shoulders. Now with distance education's ability to move into the eLearning space, delivering materials and experiences in online spaces, transactional distance has certainly been greatly reduced. Teacher-designed supports in many forms – social media, custom-video, email, Skype – are tools commonly employed to address transactional distance. However, these approaches neither scale to very large numbers of students, as many of the xMOOC research reports, nor take advantage of other support factors in a F2F classroom. One of these other factors is *support by other learners* in the classroom.

In the PDA MOOC the instructor-designers selected cMOOC pedagogy while also designing for large numbers of students. The goal of supporting PDA MOOC learners by enabling them to access peer supports and personalize their learning pathways through internal (to the environment) exposure to social media tools and crowdsourced discussions were the key attributes of the Connectivist approach. According to Anderson and Dron (2012), three families of distance education pedagogies - Cognitivist-behaviourist (CB), Constructivist, and Connectivist – may each have a role in the delivery of effective distance education.

> "Connectivism is built on an assumption of a constructivist model of learning, with the learner at the centre, connecting and constructing knowledge in a context that includes not only external networks and groups but also his or her own histories and predilections. At a small scale, both constructivist and connectivist approaches almost always rely to a greater or lesser degree on the availability of the stuff of learning, much of which (at least, that which is successful in helping people to learn) is designed and organized on CB models. The Web sites, books, tutorial materials, videos, and so on, from which a learner may learn, all work more or less effectively according to how well they enable the learner to gain knowledge. Even when learning relies on entirely social interactions, the various parties involved may communicate knowledge more or less effectively." (p. 92)

Some of the identified challenges in the delivery of cMOOCs have been not related to the pedagogy, but rather the practical aspects of implementation (Kop, 2011). Using a social networking environment designed to provide the needed tools on one site, as opposed to some of the early cMOOCs where content was distributed over many tools on the Internet, has shown itself to be one way to address this challenge (Ostashewski & Reid, 2010). Providing common social media tools (twitter, blog, discussion forums, profiles) inside the cMOOC environment simplified access and use of these tools to support learners who are often new to a wide range of online tools.

PDA MOOC Design

The PDA MOOC was delivered in a customized ELGG social software platform intended to engage students in social media activities to support their experiential learning of the topics being presented. The six-week course presented topics relating to numerous aspects of digital age participation and what that means. Resources, presented weekly, included instructor-developed video segments, resources, and open-access documents, websites, videos, interactive tutorials, and reports. Activities over the term of the course included: discussions, blogs, online surveys and polls, social bookmarking, media production, twitter posts, and reflections on learning. Specific details about the PDA MOOC as distributed in public announcements and marketing materials by Curtin University are listed:

> About this Free Course.
> We live in an increasingly digital world. Many of us are constantly engaging with digital technologies in our personal lives and increasingly we are expected to be digitally fluent while at work. This course will navigate through commonly found online technologies to explore how and which digital communication tools can become valuable to our professional lives. The six-week course is delivered online and participants who successfully complete assigned tasks will receive a certificate of participation.
>
> Who is this Course for?
> University students, staff, teachers, and anyone interested in learning more about how to make use some of the most common online tools such as: Blogs, Twitter, Diigo, Youtube, Pintrest, online communities, and more.
>
> What Topics will be covered?
> Week 1 Topic: What is the digital age?
> Week 2 Topic: Managing your digital identity.
> Week 3 Topic: Digital information.
> Week 4 Topic: Learning digitally.
> Week 5 Topic: Digital Curation.
> Week 6 Topic: Digital citizens. (Curtin, 2014)

As the stated goal of the PDA MOOC was to support learner experience of social media tools in their lives, the course needed to present sufficient overview and opportunity to explore tools each week without overwhelming learners. Further to support a wide variety of learner experience, scaffolding of activities to allow new or very experienced users of the tools introduced weekly was incorporated.

As stated previously, the PDA design needed to be able to deliver quality online learning for large numbers of learners. The "learning at scale" challenge of extremely large MOOC deliveries - with respect to teacher-student interaction - is one reported negative consequence of large MOOCs. In traditional online courses, like the F2F counterparts, instructors and/or tutors are available to provide the guidance students need in order to meet their personal learning during a course. As MOOCs are free to participants, there is little ability once a course gets over 100 students, to be able to meaningfully provide support for *each* individual learner. The way in which the design team addressed this can be understood by looking at the Community of Inquiry (CoI) framework (Garrison, Anderson, & Archer, 2000).

The CoI framework, a well established and researched online education model, describes the learner's educational experience as being composed of cognitive, teacher, and social presence. Social presence is "the ability of participants to identify with the community (e.g., course of study), communicate purposefully in a trusting environment, and develop inter-personal relationships by way of projecting their individual personalities." (Garrison, 2009). Teaching presence is the "design, facilitation, and direction of cognitive and social processes for the purpose of realizing personally meaningful and educationally worthwhile learning outcomes" (Anderson, Rourke, Garrison, & Archer, 2001). Cognitive presence is the "extent to which learners are able to construct and confirm meaning through sustained reflection and discourse" (Garrison, Anderson, & Archer, 2001). While education experiences require all three to be present in order for learners to succeed, Anderson (2013) hypothesizes that increased amounts of one presence can compensate for less of another. In the PDA MOOC – less than *normal* teacher presence (teacher-student guidance) was compensated for with *enhanced* social presence (peer interactions) and *enhanced* cognitive presence (crowd-sourced posts, polls, and discussions).

> "cMOOCs induce students to take more active roles in their learning and to construct, share, distribute and comment upon artifacts of their learning experience. Thus, they are gaining scalability by substituting student-teacher interaction by scaling student-student interaction. In my interaction equivalency theory (Anderson, 2013) I argue that high levels of learning can and do occur when any of these three modes of interaction (student-student, student-content, student-teacher) are at a high level. The other two may be reduced or even eliminated. However, additional forms of interaction may enhance teacher and student interaction, but these come at a cost of time and/or money. In this sense MOOCs can be used as a supplement by students or by teachers to the many other forms of learning opportunity afforded on the net through either formal or informal learning opportunities." (Anderson, 2013, p. 4)

Other aspects of the PDA MOOC that are relevant to the design include the environment and tools as well as the approach of the instructors. In the PDA MOOC, a conversational on-the-street discussion tone in the weekly course videos was achieved by using two instructors. Weekly videos included an introduction segment, 1-3 learning segments, and a closing segment. The environment was a customized social media environment that is based on the Landing, a previously implemented and researched system to support online learners (Dron & Anderson, 2014). In general the environment provides for learner control, social connection with others, safety, accessibility, and social reward in a fully mobile-accessible site. The Curtin Commons site features include: social networking with user profiles, personal dashboards, an activity river, groups, blogs, social bookmarking, wikis, microblogs, file sharing and discussion forums. As author Dron was the ELGG environment developer and site manager throughout the project, there were a total of three instructors who at various times communicated with students in the PDA MOOC. The social networking environment, tools, and activities took place inside a single group space, with weekly tabs and menus to provide access to course activities.

Participant Survey Results

Upon completion of the PDA MOOC delivery, a survey link was provided to Curtin students who were enrolled in both the LLDA for-credit course and the PDA MOOC as part of the LLDA course. The survey had a potential respondent pool of 345 first year undergraduate pre-service teacher

education students. The total number of respondents to the survey was 48 (N = 48) representing a 14% participation rate.

The majority of participants, 60.25%, responded that they enjoyed the PDA MOOC, but only 58.25% felt that it was easy to navigate or use. This is to be expected due to the large emphasis on learner-created content that does not necessarily conform well to an instructor-imposed structure. Survey participants were asked to categorize the tools used in the PDA MOOC as being either; useful, useless or neutral. One of the survey questions was presented as a click and drag response type question, where respondents dragged the response item into the box they felt was best fit. Figure 1: Identified Usefulness of MOOC tools presents the findings of this question.

Students identified the four most useful tools as: the weekly videos, the group discussion forums, the group blogs and group bookmarks. The least popular tools were: the badging system (rewards for task completion) and the group Wire tool (Twitter-like tool). The PDA MOOC was an open-access course that resulted in non-university students also participating. Very few courses, within university programs of

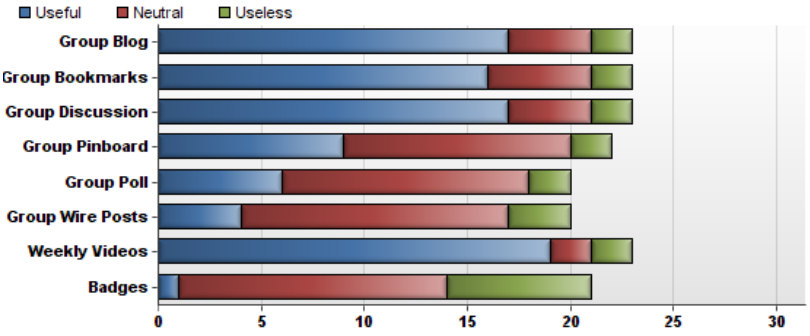

Figure 1: Identified Usefulness of MOOC tools

study, allow for non-enrolled students to participate, however the cMOOC experience, designed to take advantage of learners supporting each other, was hoped to lead to enhanced peer-peer support. Survey respondents were asked their opinion about the non-university/ university student collaboration within the MOOC. Figure 2: Student Opinion Regarding Open User Participation presents the findings of this survey question. Students indicated that: 55% had no strong opinion regarding this aspect of the course, 36% felt positive and 9% were negative.

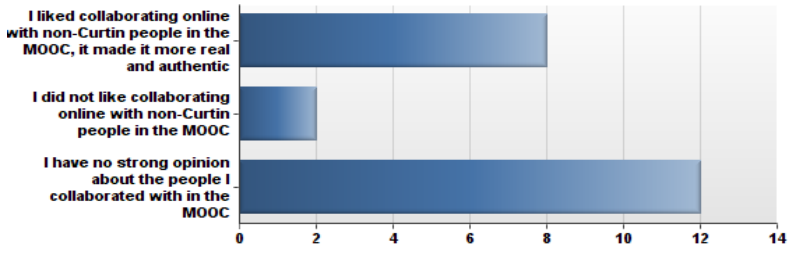

Figure 2: Student Opinion Regarding Open User Participation

The student survey shows there is value to students in participating in a “moocified” version of a course, or a MOOC within a for-credit university course. While students may not be aware of the inherent value to learning activity experience such as the learning done within a social networking site, there is growing evidence that such types of online learning for teachers is particularly important (Laurillard, 2014).

Conclusion

In conclusion, the PDA MOOC design and Curtin Learning Commons platform provide a successful example of the delivery of online learning of the cMOOC type. There is evidence that cMOOC implementations can be scalable, provide for valuable *moocification* of university-credit courses, support peer-peer interactions via integrated social media tools and techniques, and provide for open-access personal learning experiences. Future research, into what types of learner-learner and learner-tool interactions are required to design learning activities that support a wider range of personal learning, is needed. Also needed is a theoretical framework that provides an understanding of how cMOOCs may be viewed in the wider scope of *learning using the Internet*. The PDA MOOC shows that learning using the Internet can be made personally meaningful for both credit and open access learners in the same space. This type of open online course space is perhaps one way in which higher education students and universities can engage with communities that are interested in the same topics for learning. Further research on providing support to enable learners to capitalize on additional aspects of networked learning in cMOOCs would advance this use.

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