

MOOC Instructor Motivations, Innovations, and Designs: Surveys, Interviews, and Course Reviews

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Abstract

This mixed methods study explores instructor motivations for offering massive open online courses (MOOCs) as well as the instructional innovations used to enhance the MOOC design. The researchers surveyed 143 MOOCs instructors worldwide, interviewed 12 of these instructors via Zoom, and extensively reviewed the MOOCs of the interviewees. The primary motivations for offering MOOCs included “growth” needs such as curiosity about MOOCs and the exploration of new ways of teaching. In addition, “relatedness” needs of instructors included reaching more people, showing off research and teaching, marketing their university, integrating interactive technology, and obtaining peer reviews. The perceived instructional innovations included using problem-based learning, service learning in MOOCs, and cutting videos into chunks. Overall, instructors were satisfied with their MOOC designs.

Objectives/Purpose

Massive open online courses (MOOCs) have been offered by a variety of platforms and universities (Veletsianos, Collier, & Schneider, 2015) and the number keeps growing (Authors, 2015; Conole, 2015; Shah, 2015, 2016; Watson et al., 2016). MOOCs have expanded from the hard sciences, engineering, and computer technology to social science courses such as psychology and management (Rodriguez, 2012; Watson et al., 2016).

Not surprisingly, MOOCs have recently experienced a surge of researcher interest (Anders, 2015; Breslow et al., 2013), including MOOC design considerations and pedagogical innovations. The design of MOOCs can greatly influence learner engagement and interaction, deep and meaningful learning, and completion rates (Garrison & Cleveland-Innes, 2005; Pappano, 2012; Yousef, Chatti, Schroeder, & Wosnitza, 2014); however, there is a scarcity of studies specifically focusing on instructor motivation to offer MOOCs as well as their instructional innovations in designing MOOCs (Brouns et al., 2014; Lowenthal & Hodges, 2015; Margaryan, Bianco, & Littlejohn, 2015).

Therefore, this study explores instructor motivations for offering MOOCs and the design innovations in MOOCs to better understand MOOC design practices and to provide suggestions for future MOOC instructors. To this end, the following four research questions guided this study.

- (1) What motivates instructors to offer MOOCs?
- (2) What instructional innovations do MOOC instructors perceive?
- (3) What do instructors perceive as the strengths of their MOOCs?
- (4) How would they redesign the MOOC?

Theoretical Perspectives: Motivations for offering MOOCs

Motivation is a state that initiates, guides, and maintains goal-oriented behavior. Importantly, it determines whether or not, and the extent to which, an individual engages in an activity (Bandura, 2006; Maehr & Meyer, 1997; Ryan & Deci, 2000; Stage & Williams, 1990). According to need theory, people exhibit different performances based on different needs (Lăzăroiu, 2015). Alderfer (1969) argued that existence, relatedness, and growth (ERG) theory can be used to describe the reasons for individual behavior. In effect, the ERG model classifies needs into three categories: (1) growth needs (development of competence and realization of potential); (2) relatedness needs (satisfactory relations with others); and (3) existence needs (physical well-being).

In employing such theories, researchers have begun to explore instructor motivations to offer MOOCs (Hew & Cheung, 2014; Holland & Tirthali, 2014). The possible motivations for offering MOOCs have included improving educational equality by providing more accessible education and training to huge numbers of learners (Holland & Tirthali, 2014; Jacob, 2013). Other motivators have involved a sense of intrigue (Mackness, Mak, & Williams, 2010; Roth, 2013), gaining personal rewards (Hew & Cheung, 2014; Kolowich, 2013), and a sense of altruism (Hew & Cheung, 2014). Additional motivational factors discovered include finding ways to increase an institution's prestige, marketing the university to potential students (Belanger & Thornton, 2013), fostering innovations in teaching and learning, and conducting research on teaching and learning (Holland & Tirthali, 2014).

Instructional Innovation in MOOC Design

The pedagogical strategies in each MOOC design vary (Anders, 2015). For example, connectivist MOOCs or “cMOOCs” value the interactions between a massive diversity of learners, while xMOOCs emphasize optimizing efficiency of knowledge acquisition (Mazoue, 2013). However, there are criticisms related to xMOOCs since they tend to formalize the instructional approach with pre-defined learning objectives and assessments, and, hence, are deemed a regressive pedagogical approach (Guardia, Maina, & Sangra, 2013; Hollands & Tirthali, 2014; Stacey, 2014). At the same time, cMOOCs are criticized since they can overwhelm participants with information and other distractions unrelated to their learning goals (Kop, 2011; Mackness, Mak, & Williams, 2010). In fact, both formats can lead to meaningful learning and instructional innovation (Anders, 2015) as well as serious problems and issues.

Methods

This study employed a sequential mixed method design (Creswell & Clark, 2007) to explore instructor motivations for offering MOOCs and instructional innovations in MOOC design. The data collection methods included: (1) an online survey of 1,400 MOOCs instructors from around the world using SurveyMonkey (143 valid responses); (2) interviews with 12 instructors; and (3) extended online course reviews of the MOOCs of the 12 interviewees. The authors used the survey results to help select interviewees and revise the interview questions. Interviewee MOOCs were reviewed to triangulate the interview data. The researchers validated and cross-checked the results by examining different data sources (Patton, 1990).

The survey participants were instructors who had designed MOOCs using various

established platforms. To select the twelve interviewees from the 61 volunteers, the researchers targeted diverse subjects, countries, and MOOC providers. The subjects that these interviewees taught included math, education, public health, computer science, chemistry, and language and literacy. They were from the U.S. (n=4), UK (n=2), China (Mainland and Hong Kong) (n=2), Canada (n=1), Australia (n=1), Sweden (n=1), and India (n=1). Their MOOCs were delivered on Coursera (n=6), FutureLearn (n=2), edX (n=2), Canvas (n=1), and Open2study (n=1).

This study employed descriptive statistics embedded in SurveyMonkey to analyze the survey data and content analysis methods to inductively code transcribed interviews and the open-ended questions for emerging themes (Elo & Kyngäs, 2008; Graneheim & Lundman, 2004). Two researchers coded the interview transcripts individually. Next, they discussed any discrepancies and reached consensus on categories and themes. Member checking was then conducted with the 12 interviewees.

Results

The survey participants (n=143) had diverse subject backgrounds; i.e., medicine and health (16%), computer science (14%), education (11%), language and literacy (8%), business (6%), and engineering (6%) (see Figure 1). Most of the survey participants have designed one MOOC (see Figure 2). Similarly, each of the twelve interviewees had only designed one MOOC. Overall, most MOOC instructors had limited MOOC design experience.

Research Question (RQ) 1. What motivated instructors to offer MOOCs?

Given the motivation of offering MOOCs may be related to the final design, this study classified interviewees' motivations into three categories: (1) growth needs; (2) relatedness needs; and (3) existence needs (Alderfer, 1969). The results showed that the primary growth needs included curiosity about MOOCs, interest in nontraditional ways of teaching, experimentation with MOOCs, and learning about course design from the MOOC experience. In addition, their relatedness needs included reaching more people, democratizing education, showing off research and teaching, marketing their university, and building their personal reputation. Finally, existence needs were embedded in requests by one's university to offer MOOCs.

Among these motivations, most often mentioned were growth needs. For instance, many of them wanted to experience instructional innovation with MOOCs. As one instructor from Canada mentioned:

I'm always interested in how you can provide a deep learning experience in untraditional ways. So when MOOCs came over, I didn't always understand it really well...I thought the best way to understand what was going on was to jump in. So more curiosity and wanting to learn about the world of MOOC.

Relatedness needs also motivated instructors to offer MOOCs. One of the motivations some of these instructors felt was to reach more students and democratize education. An instructor who taught a MOOC on psychology explained: "The other thing that was really tempting was that there may be many students there because of a lack of funds or because of geography where they happen to live do not have access to the education they would like."

The survey results paralleled the interview data. In fact, 102 out of 139 of the

survey respondents (73%) would like to experience teaching and connect to a large and diverse audience throughout the world. In addition, 101 of these instructors (73%) expressed interest in exploring innovations in online teaching and learning. Also of interest, 93 (70%) of these instructors wanted to increase learners' access to higher education worldwide, while 83 (60%) of them hoped to build institutional reputation. Finally, 59 (42%) of these instructors wanted to enhance their personal reputation by teaching a MOOC (see Figure 4).

RQ 2. What instructional innovations do MOOC instructors perceive?

As MOOCs are quite different from face-to-face or traditional online classes, instructor perceptions about their instructional innovations in MOOCs are also different. The interviewees of this study mentioned the following instructional innovations: problem-based learning, service learning, integrating interactive media, peer review, and cutting videos into small chunks.

Two instructors claimed that problem-based learning in their MOOCs was an instructional innovation. One instructor from education stated: "I think it is the problem-based learning. It's sort of, out-of-the-classroom learning, having them go out and do the assignment at their house, in their backyard, or on their sidewalk. So it automatically is integrated into their everyday life."

Similarly, another instructor had learners to connect learning with real tasks by using a service learning strategy. This instructor also added: "And so just from a service learning standpoint, I do think that's a unique aspect of a MOOC."

RQ 3. What do instructors perceive as the strengths of their MOOCs?

The strengths of these 12 MOOCs were different in each one. Such MOOC strengths included the topic itself, the pedagogical methods, and the impact of MOOCs. As to content, instructors perceived their MOOC topic as interesting. One instructor mentioned: "So some of the strength is its accessible and interesting math. Even if you have a Ph.D. in engineering or something else, you'll find it's interesting. The material has intrinsic interest."

The pedagogical strengths that these MOOC instructors mentioned included having jokes and making comfortable learning environments. One interviewee from Canada claimed the strengths of his course is making it informal.

This is nothing I try to do but I have some comfortable, smile that makes it feel like we're having an informal discussion... A lot of the people that I get emails from say: "I love the way you teach. I love the comfortable level, feels like we've been friends. You're welcome to my kitchen anytime."

RQ 4. How would they redesign the MOOC?

As to redesigning the course, these instructors had various ideas. Overall, they were satisfied with the current course, especially with the structure. Regarding redesigning their MOOC, one instructor emphatically stated: "Actually no. I'm quite happy with it and we've had good feedback from learners." Such instructors might make minor changes. Their suggestions for redesigning their MOOCs included using learning analytics before redesigning, making the length of the MOOC shorter, increasing instructor-student and peer-to-peer interaction, cancelling peer-grading, adjusting the

difficulty of quizzes, adding lab experiences, inviting guest speakers, adding international perspectives, and having session-based MOOCs.

Before they redesign the course, they would like to use learning analytics to discover areas in need of improvement. As one instructor from Sweden explained:

When I do the revision, I will for sure look at the detailed statistics... For example, you can get statistics [on] how much they rewind. That would be a sign that there is something that is not clearly explained. They have to listen [to] it again and again and then they get there.

Discussion and Significance of this Study

As mentioned in the results section, growth and relatedness needs were the primary instructor motivations for offering MOOCs. Growth needs included curiosity about MOOCs and the exploration of new ways of teaching; such findings align well with the research from Hew and Cheung (2014). Similar to the findings of Belanger and Thornton (2013) as well as Holland and Tirthali (2014), the “relatedness needs” included reaching more people, showing off research and teaching, and advertising one’s university.

Various MOOC strengths and pedagogical innovations were mentioned by the interviewees. Some instructors used problem-based learning or service learning, whereas others considered integrating interactive media in MOOCs and peer review as an innovation due to its rarity in traditional classroom instruction. Overall, the instructors interviewed were satisfied with the designs of their MOOCs. If they could redesign the MOOC, some might use learning analytics to help with decision making, whereas others suggested shortening the course, increasing learner interactions, and revising the methods of assessments.

This study provides key insights into instructors’ motivations for offering MOOCs as well as instructional innovations in MOOC design. The results may inform MOOC stakeholders of how to foster instructor motivation and instructional innovation in MOOCs. Future research might explore the relationship between instructor motivation and the types of instructional innovations in MOOC design.

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Appendices

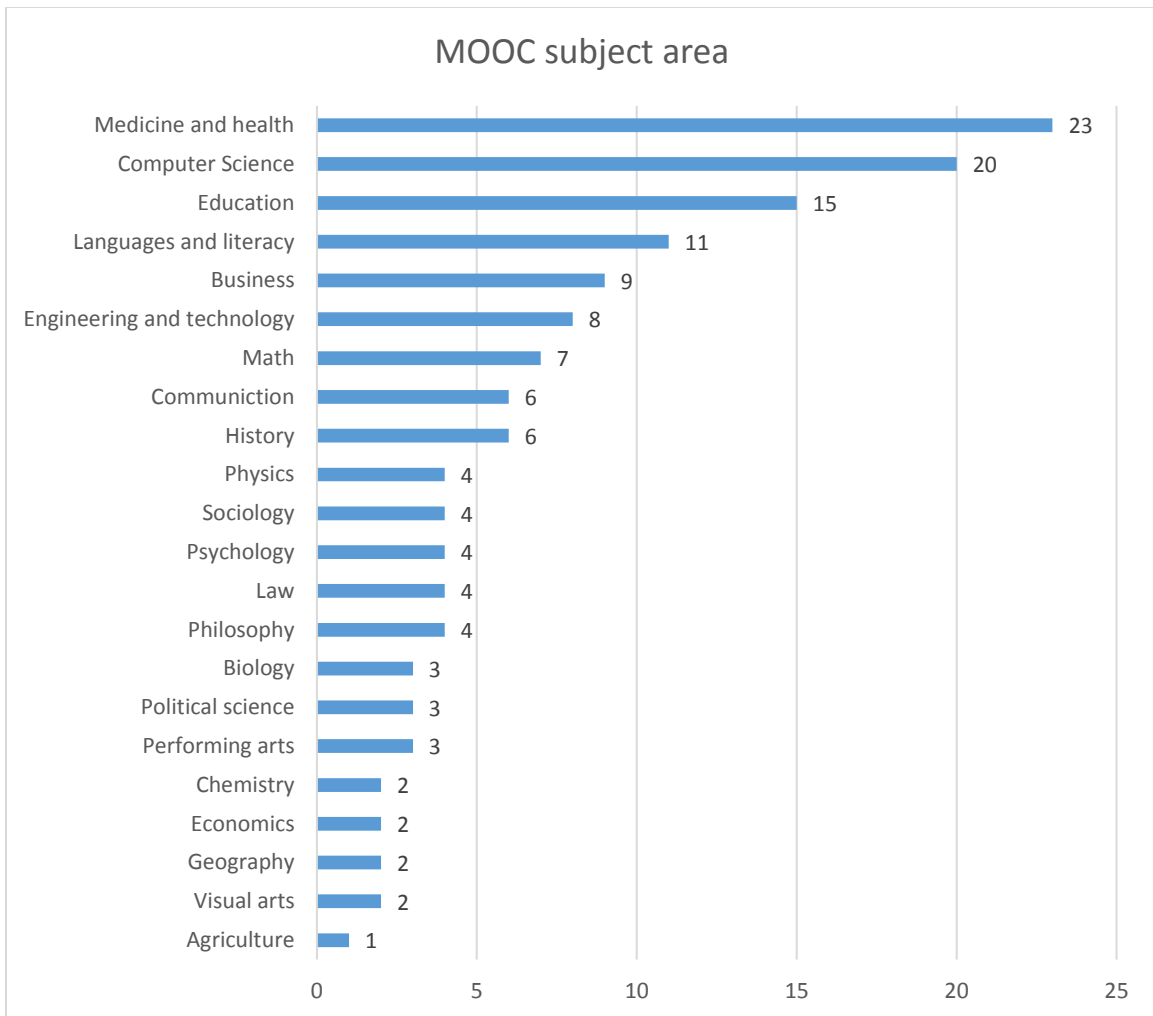


Figure 1. The subject areas taught by MOOC instructor respondents

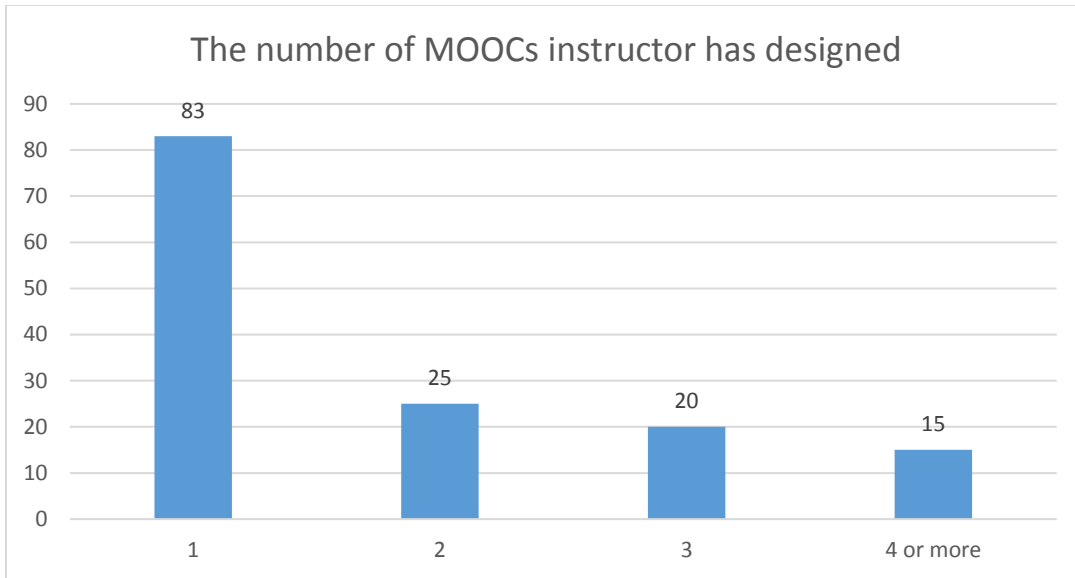


Figure 2. The number of MOOCs the instructor had designed

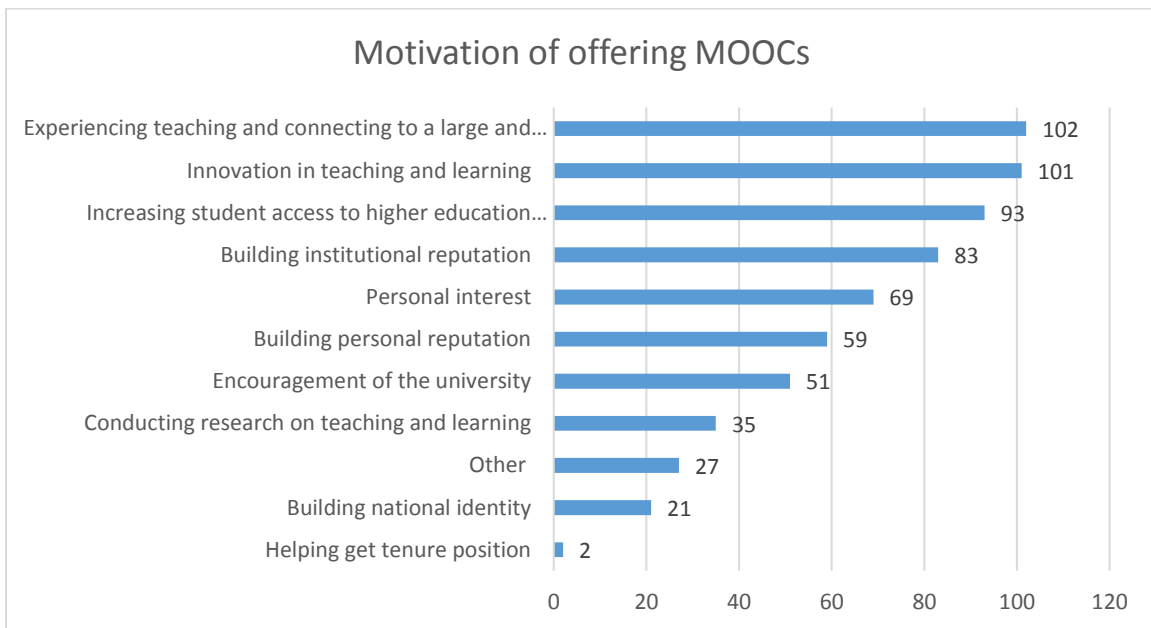


Figure 3. Motivation factors of instructors for offering MOOCs