**Informal and Self-Directed Learning from MOOCs and Open Education:**

**Learner Characteristics, Motivations, and Challenges**

Mimi Miyoung Lee, Ph.D.

Curriculum and Instruction Department

University of Houston

Farish Hall, 4800 Calhoun Rd.

Houston, TX  77204-5027

mlee7@uh.edu

Curtis J. Bonk, Ph.D.

Department of Instructional Systems Technology

Indiana University

School of Education: Room 2238

Bloomington, IN 47405

cjbonk@indiana.edu

**Abstract**

This is a two-part study looking at the general characteristics, motivations, and challenges of individuals who utilize massive open online courses (MOOCs) and open educational contents for aspects of their learning. The study analyzes respondent answers to 15 open ended items of a 43-item Web-based survey which explored the motivations, preferences, challenges, and accomplishments of self-directed online learners. The first dataset stems from 49 participants in a professional development MOOC hosted by Blackboard who had completed the open-ended items. This course was designed for instructors who taught online. The second dataset involved individuals who subscribed to the MIT OpenCourseWare (OCW) newsletter, of which 613 completed the open-ended items. The findings reveal a diverse array of intrinsic motivators for MOOC participants.

**Objectives/Purposes**

The environment for this study involves the use of massive open online courses (MOOCs) and other open educational resources such as opencourseware (Vest, 2001). MOOCs are a recent phenomenon which some feel are disrupting higher education as well as other sectors of education. After several high profile MOOCs from Stanford with over 100,000 learners in each showed a proof of concept (Markoff, 2011), an assortment of companies quickly emerged including Udacity, edX, Coursera, and NovoEd to offer MOOCs to millions of learners around the world (Sandeen, 2013). Today, there are expanding uses of MOOCs for advanced placement support, remedial education, and professional development (i.e., PD-MOOCs) of teacher educators and others (Laurillard, 2014a). As such, insights into learner benefits, obstacles, and general experiences from MOOCs should prove highly valuable to educators and others promoting their use.

Given that context, this study focuses on the following three research questions:

1. What are the general characteristics of MOOC participants?
2. What are the motivations of the MOOC participants in terms of informal and self-directed online learning?
3. What are the challenges and issues perceived by these MOOC participants?

**Perspectives**

MOOCs illustrate the fact that we have entered an age of information abundance instead of information scarcity (Kop, Fournier, & Mak, 2011). In such an age, there is increased interest in self-directed learning or the learner’s taking responsibility for the management of the learning process (Brookfield, 2013; Sze-Yeng & Hussian 2010); especially in online environments (Song & Hill, 2007). Research from Deci and Ryan (2012) on self-determined learning and intrinsic motivation has documented the need for personally meaningful, interesting, and enjoyable forms of learning where learners can set and self-monitor or evaluate personal goals.

While MOOC have been repeatedly praised by the news media (e.g., Pappano, 2012), serious questions about their benefits abound (Laurillard, 2014b; Hollands & Tirthali, 2014). Some research in the field is reliant on data analytics to better understand the MOOC experience (e.g., Belanger & Thornton, 2013; Christensen, Steinmetz, Alcorn, Bennett, & Woods, 2013; edX, 2014; Gasevic, Kovanovic, Joksimovic, & Siemens, 2014; MOOC Research, 2014; MOOC @ Edinburgh 2013 – Report #1, 2013; MOOC Research, 2014. In the Edinburgh study, for instance, insights were gained as to why participants enroll in MOOCs (e.g., to learn the subject matter, try online education, experience a MOOC, obtain a certificate, improve career prospects, etc.).

Relying on data analytics and clickstream forms of data, while valuable, faces a number of limitations and challenges. For instance, even though tens of thousands of people may enroll in a MOOC or view a particular online lecture, there is minimal understanding of the learning context or why a certain lecture was selected. In response, Veletsianos, Collier, and Schneider (2015) remind us of the saliency of learner choice and personal agency when deciding to sign up for a MOOC or browse open educational resources (OER). They argue that qualitative research such as learner interviews, focus groups, and content analysis can be equally, if not more, informative about learner self-directed online learning pursuits. In addition, as Veletsianos (2015) documents, some MOOC participants may be quite silent in terms of the discussion forums, but they are, nonetheless, often engaging in an online world that is equipping them with new skills and competencies. As part of one of the largest studies to date of learners who are more quiet or deemed to be “invisible” in a MOOC, Veletsianos and his colleagues are uncovering important aspects of their online experiences including their social networks outside of the MOOC experience, emotions related to the online experience, notetaking and overall study strategies, family life flexibility, and general learning goals.

Other researchers are beginning to ask questions from the perspective of the learner as well (e.g., Liu et al., 2014; Wiebe, Thompson, & Behrend, 2015). Such studies help to better understand who the learners are in MOOCs, their learning goals, time commitments, aspects of the learning experience that are most and least beneficial, and the decision making involved in completing or exiting a MOOC. For example, in April 2015, the Chronicle of Higher Education (2015) described Jima Ngei from Port Harcourt, Nigeria, who had recently completed and passed his 250 MOOCs from Coursera. Despite many Interest bandwidth issues, he expressed a sense of empowerment from participation in these MOOCs on topics ranging from Latin American culture to operations management to social epidemiology. There is a pressing need for more such stories and insights.

**Data Sources**

Fournier, Kop, and Durand (2014) argue that learner-driven environments like MOOCs are difficult to study and often require research that mixes quantitative and qualitative methods. The data used for this presentation is part of a larger dataset that includes 43-item survey questionnaire constructed and collected by a research team at a large Midwestern university. The survey was intended to understand self-directed learning from such free and open online environments; including the collection of life changing stories from MOOCs and OCW. For this study, we focus only on the 15 open-ended questions. The questions were about the participants’ informal and self-directed learning experiences such as their motivations, perceived benefits and challenges, supports received, and advice for prospective MOOCs learners.

**Dataset 1:** A massive open online course (MOOC) on “*Instructional Ideas and Technology Tools for Online Success*” was taught from late April to early June in 2012 by a faculty member in the Midwest. The course was hosted by the well-known e-learning company, Blackboard, using their free course management system called CourseSites. Shortly after the course ended, a link to the 43-item Web-based survey was sent out to 3,800 participants of the MOOC. There were 159 completed surveys from the Blackboard MOOC participants, including 49 who completed the open-ended items. The majority of the survey respondents were female (73%) and were from North America (81%). In addition, 72% were over 40 years old. It should also be noted that a large percentage of the respondents in this subject pool were college instructors who signed up for the MOOC as a means of enhancing their skills in teaching online.

**Dataset 2:** The same survey used in Dataset 1 was sent out to those subscribing to the e-newsletter of the MIT OpenCourseWare (OCW) project. The MIT e-newsletter is highly international in scope and well recognized. The results were balanced in terms of age with half of the subscribers age 40 or younger. Of the 1,429 survey respondents, 613 completed the open-ended survey items. In exploring the responses to the open ended items, the researchers noticed about 10 percent of the respondents referred to MOOCs that they had completed, were currently enrolled in, or had explored. For many of these individuals, these MOOC experiences were deemed highly consequential in terms of their life goals and present career situations.

**Data Analysis**

At the first round of coding, the data were analyzed by each question. After this initial analysis, however, we realized that due to significant overlap between the survey questions, this method of coding proved to be too technical and produced highly surface level codes. In response, a decision was made to look at each participant across all 15 answers, treating answers as one short interview. This second round of coding produced much more useful results. For example, while some people spoke specifically about their internal motivation when asked explicitly about it, whereas others surprisingly expressed their motivations when asked about benefits and challenges or even suggestions for other people. These two rounds of coding of the open ended data produced interesting findings.

**Results**

Our findings will be presented in three sections: characteristics of MOOCs participants, motivation and challenges.

1. Characteristics of MOOC and Open Education Participants:

The characteristics could be summarized in the following four ways.

1. Participants tended to have strong intrinsic motivation and often prided themselves as being a “self-directed learner.” Words related to “self” (i.e., “my own pleasure,” “self-motivation”) mostly frequently appeared in their answers. The data also showed that the participants valued autonomy and considered it empowering.
2. Sharing was also an important part of learning and teaching for these participants. Many mentioned the pleasure of sharing their knowledge as well as the responsibility to do so.
3. Act of creating and a sense of creativity or contributing something unique were also important components of informal learning and taking MOOCs.
4. The participants enjoyed the community of people with similar interests but not necessarily the face-to-face interaction.
5. Learners thrived on being recognized as an expert by their peers. One participant’s sentiment expressed in his comment “I’m tutor of many!” was shared by many others.
6. Learner Motivations:

There were many motivational aspects as to why the participants were interested in informal learning and taking MOOC types of classes, including to: (1) improve their job prospects, (2) pursue personal interests or hobbies, (3) obtain certification, (4) seek information, and (5) improve one’s performance in his/her formal learning setting. One person stated, “Yes, indeed, on a personal level, I developed self-respect for my own self; I started realizing the potential I had and I found out that I can make an impact in the society with the knowledge I gained.”

1. Key Challenges and Issues:
2. The participants mentioned the challenge in being able to discern the quality of information. It was interesting that the wealth of information was seen both as a benefit and a challenge. While they appreciated the large amount of information openly available, evaluating the quality of information was difficult at times. Participants mentioned the need for “something to sort, filter and connect.” One person mentioned the difficulty as follows: “While the experience is informal, you need to give it more of a formal importance in your daily schedule.”
3. The participants who were taking MOOCs and pursuing informal learning to better their job performance mentioned their concern that their informal learning was not recognized by their superiors or employers. As a result, it failed to directly translate into their job advancement.
4. Some participants did not want to be assessed or badged. For instance, one person stated: “amateurish…I think we need to de-emphasise formal assessment and accreditation and encourage our playful side to see what is possible. Too much informal learning wants to get itself 'badged' or validated too quickly and this means its losing its genuine amateur status.”

**Discussion and Significance of this Research**

As suggested by Veletsianos and his colleagues (2015), by exploring these two datasets with additional qualitative research analyses, we reveal the goals, aspirations, and challenges of highly experienced informal learners who are now learning from MOOCs and OER. If their learning approaches, study habits, technology access issues, and motivations or incentives are better understood, instructional designers might be able to create more effective instructional aids, guidelines, and other scaffolds for those who have less experience with open educational contents or online forms of learning. This research can also inform MOOC providers as to the types of individuals enrolling in their courses and their specific expectations and needs.

As budgets are reduced and the number of people seeking higher education expands, educators and politicians are increasingly interested in the potential use and impact of MOOCs. For instance, Georgia Tech found unique ways to lower the cost of its’ computer science master’s degree via MOOCs (Lewin, 2013). More recently, Arizona State University partnered with edX to create introductory courses via MOOCs as part of a Global Freshman Academy (Lewin, 2015). Other universities are becoming members of Academic Partnerships and offering the initial course in a master’s program for free as part of MOOC2Degree (Academic Partnerships, 2015). However, there remains a pressing need for more empirical studies to understand the motivations, obstacles, and intents of people who are engaging in MOOCs and their informal and self-directed learning needs. Understanding more about the MOOC learners and their motivations and challenges could inform many new initiatives. We hope that our research with these two highly unique datasets can make a contribution to these efforts.

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