Chapter 8

An Exploratory Study in an Emerging Approach to E–Learning:
Massive Open Online Courses (MOOC)

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ABSTRACT

The number and range of MOOC courses seem to be expanding constantly, making it difficult for researchers to describe MOOC and to prescribe principles of MOOC design and delivery. In this study, the authors joined several MOOC courses in order to investigate the aspects of online learning that are familiar, but that may be amplified in massive and open e-learning. These include technical issues, learner interactions on discussion boards, and learners' concerns with grades. By counting and categorizing learners' posts made on discussion boards in nine courses, the authors found that MOOC learners remain focused on grades, and that their interactions are more often social than indicative of deep learning.

INTRODUCTION

Massive Open Online Courses (MOOC) may seem like a new idea to scholars, researchers, and practitioners in the field of E-learning in particular and education in general. However, it is interesting to note that this idea can be traced back at least to R. Buckminster Fuller's early-1960s proposal of industrial-scale technology (Fuller, 1962). None-theless, the implementation and implications of truly massive online teaching suddenly drew the attention of educators, researchers, practitioners, and educational administrators when Sebastian Thrun and Peter Norvig from Stanford University provided a course in artificial intelligence for more than 160,000 learners. Based on the experiences of that course, Thrun and Norvig founded Udacity, one of the first platforms for MOOC, in 2012.

MOOC has since been further developed by big names in education, such as Harvard, MIT, and Berkeley. While MOOC mania is heating up the field of E-learning, the question is whether MOOC is to be welcomed as an evolution of traditional E-learning to advance the information-based societies into more involved societies by engaging more people in creating and sharing knowledge. Another question is whether the role of traditional brick and mortar educational settings will be affected by MOOC. Because MOOC is too new to academia, answers to these questions are still ahead. Within the scope of this study, however, we address several aspects of MOOC. We start with an overview of MOOC. Then we present our findings on how learners interacted with each other in the MOOC setting, how they evaluated the course material, and what technical problems they faced in MOOC. Data for this study are collected from nine courses in Coursera because these courses met researchers' selection criteria.

BACKGROUND

What is MOOC?

According to Siemens and Downes (2009), a massive open online course (MOOC) is a natural byproduct of open teaching and learning. Siemens and Downes may have delivered the first MOOC in 2008 when they opened a "Connectivism and Connective Knowledge" course that was taught to on-campus students. This course was opened for more than 2,300 learners, who took the course not for credit, but rather to participate in different activities, such as course lectures, discussion forums, and weekly online sessions (Educause, 2012). McAuley, Stewart, Siemens, and Cormier (2010) took a broader description of MOOC as an online course that has the following characteristics: open and free registration, a publicly shared curriculum, and open-ended outcomes. A MOOC heavily relies on social networking,

and accessible online resources. Such a course is often facilitated by leading practitioners in the field of study. Masters (2011) further elaborated that a massive course should be open to thousands of learners simultaneously engaged in a single course. In the future, that number of learners is expected to be even higher. Due to its early stage of development, there has not been a commonly accepted definition of a MOOC. However, there are two predominant features in MOOC. First, it offers open access to all participants. MOOC participants do not need to be registered students to "take" a MOOC, and they are not required to pay a fee. This aspect may change soon as for-profit MOOC providers such Udacity and Coursera have joined the field. If this happens, its key feature of "open access" will have to be redefined. Another core characteristic of MOOC is scalability. While traditional brick and mortar courses and even traditional online courses depend on a small ratio of learners to instructor, the "massive" in MOOC indicates that the course is designed to be able to admit an almost indefinite number of participants.

Initial Evaluation of MOOC

In an early study of MOOC, Mackness, Mak, and Williams (2010) examined a MOOC in "Connectivism and Connective Knowledge" offered by Stephen Downes and George Siemens through the University of Manitoba, Canada in 2008 to explore the perspectives of some of the participants on their learning experiences in the course. Instruments used to collect data for this study were an online survey and email interviews from self-selected interviewees. The researchers found that autonomy, diversity, openness, and interactivity were typical characteristics of a MOOC. A year later, Kop (2011) studied a 10- weeklong course that made use of the Moodle learning management system (LMS) for discussion board and blogs, social network, such as Twitter and Facebook, and twice-weekly synchronous Elluminate sessions. The researcher observed that during the

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