Chapter 5

Addressing Knowledge Management and Virtual Learning Communities in MOOC Using Open Resources and Gamification

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ABSTRACT

The confluence of thousands of students in a MOOC is an opportunity to manage all the knowledge generated through the creation of open educational resources (OER), especially when a connectivist approach is applied and the MOOC makes use of virtual learning communities. The challenge is transferring the flow of knowledge, activity, and interactions of the course to the community and making that transfer sustainable and ongoing over time. For this purpose, the use of elements of gamification to train and retain the knowledge creators of the community along with the use of social networking platforms is proposed. This chapter analyses several editions of a MOOC and the opportunity offered by the use of different types of learning (formal, non-formal, and informal) that occur in them, thus characterizing patterns to train the open content and knowledge generation through gamification. From the results, indicators for managing successful and sustainable knowledge communities are proposed along with indicators for persistence and interaction between participants.

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1. INTRODUCTION

The emergence of MOOC (Massive Open Online Courses) had an impact on the educational world, with very different positions. These are free online courses with open access, a publicly shared curriculum and open academic results (McAuley, Stewart, Siemens, & Cormier, 2010). Among these positions, there are two streams, conductist approach (xMOOCs) with a behavioural methodology and like traditional online courses approach, and the connectivist approach (cMOOCs) (Fidalgo, Sein-Echaluce, Borrás, & García, 2014) based on virtual learning communities (VLC), this vision becomes an opportunity to take advantage of the collective intelligence of all participants (Borrás-Gené, Martínez-Núñez & Fidalgo-Blanco, 2015) in a collaborative way (Martínez-Núñez, Borrás-Gené & Fidalgo-Blanco, 2014). According to Downes (2012), Connectivism is “the thesis that knowledge is expanded through the connections and where learning is the ability to build that knowledge for yourself.”

In general, MOOC platforms offer a number of technical limitations to apply different models or pedagogical elements, especially in cMOOC (Borrás-Gené et al., 2015). One of the most common problems found in the world of e-learning and amplified in MOOC is this lack of interaction between students because there isn’t a physical space or classroom which favours relationships to motivate and help each other (Huang, Dasgupta, Ghosh, Manning & Sanders, 2014). However, although one of the main features of MOOC is that are open, its contents are really only accessible to registered users (Borrás-Gené, Martínez-Núñez & Blázquez-Sevilla, 2016). It is necessary to choose external solutions such as VLC that allow access at any time regardless of being enrolled in the course or on specific dates.

MOOCs offer new opportunities for learning because of their intrinsic characteristics: the massiveness of participants, peer-to-peer interactions, free-of-charge, openness and scalability that lead to a large heterogeneity of participants. (Martínez-Núñez et al, 2016) The incorporation of virtual learning communities (VLC) may provide greater interaction between participants, support and guidance to people with difficulties and may increase collaborative processes between participants (García-Peñalvo, Cruz-Benito, Borrás-Gené and Fidalgo Blanco, 2015). Enhancing interactions in MOOCs could mean more knowledge generated and shared.

Knowledge management processes must be able to support the transfer of knowledge (García-Holgado et al, 2015) that occurs in MOOCs. Virtual learning communities (VLC) may become as an essential tool for managing knowledge in Technology Enhanced Learning Systems. There is a clear need to design MOOCs that allow the creation of learning communities that complement the contents of the course, providing new resources and making this community last even after the course ends. (Fidalgo Blanco, Sein-Echaluce Lacleta & García-Peñalvo, 2013). MOOCs make available to many users (thousands in many cases) virtual classes as knowledge containers that provide open learning resources for all users enrolled in the course, as well as methods and systems to reinforce that knowledge acquisition (Cruz-Benito et al, 2017). A MOOC is not only another online course; it has different and specific features: its teachings must be completed with knowledge management, informal and social learning and lifelong learning principles (Borras-Gene at al, 2016)

The completion rate of a MOOC is one of the most widely indicators used to measure the success of a MOOC (Breslow, Pritchard, DeBoer, Stump & Seaton, 2013; Fidalgo Blanco, Sein-Echaluce Lacleta & García-Peñalvo, 2015). While in the xMOOC the specific event in time can be the most representative success indicator, in the case of cMOOC developed in different editions as the one analysed in this work, new items need to be taken into account in order to consider a xMOOC as successful. The identifica-