The massive open online courses (MOOC) as ecologies of learning: a case study.

Ramón Montes-Rodríguez, **Juan Bautista Martínez-Rodríguez**
University of Granada, Spain
Presenting Author: **Montes-Rodríguez, Ramón; Martínez-Rodríguez, Juan Bautista**

The current and complex proliferation of educational research on MOOCs (massive, open, online courses) does not correspond to the in-depth exploration of the formative and sociological processes that take place in them. There are many studies focused on certain characteristics of MOOCs (success, abandonment rates, motivations, satisfaction...) (Veletsianos and Shepherdson, 2016) but, nevertheless, there are no studies that put emphasis on the participants themselves, on their heterogeneity, on how they interact with the platforms and among themselves, in how knowledge is exchanged and in how the digital culture allows new forms of teaching and learning. In this research, located within the R&D Spanish national project "Ecologies of learning in multiple contexts: analysis of expanded education projects and conformation of citizenship" of the ICUFOP research group, one of these MOOC courses is analyzed in depth, specifically one of training of trainers in the field of health education, from the assumptions of an ecological perspective (Jackson, 2016, Haythornthwaite, 2015) and defining it as a virtual community of (in)visible learning practices (Cobo and Moravec, 2011). The objective of this research is to know (from a micro perspective, not macro) how training is produced, how knowledge circulates and through what channels, who mediates in the process and for what purpose. In the same way, it explores how access to knowledge occurs and how they are put into practice, what knowledge is experienced, produced or disseminated and how the participants of the course handle the knowledge acquired. The methodology selected to answer these questions is the case study (Stake, 2005), collecting the data from its original sources and applying in the analysis of the discourses the categories of mediation theory in the field of communication (Martín Barbero, 1987, Orozco, 1997, Scolari, 2008). The results of the research show: a) the positive and negative effects of the interaction between the pedagogical, digital and institutional cultures in conflict; b) a rich typology in the forms of appropriation of knowledge and the use of different soft skills; and c) how the forms of implication or participation of the agents involved unequally affect the foregoing, which conditions the unique characteristics of what we know as expanded education (Zemos98, 2012).

This MOOC is also analysed as a training experience representative of new ways of understanding the production and spreadability of knowledge (Jenkins, 2008), as well as the interaction of formal, informal and non-formal learning types. For that, it is focused on the interests of citizenship construction processes related to the exchange of knowledge, the identification of mediation practices and the opening and expansion of knowledge. All this, with the aim of detecting and identifying those learnings called "invisible" (Cobo and Moravec, 2011), tacit knowledges and knowledge in relation, trying also to identify the corresponding soft skills (Buckingham, 2013) used by the participants during the process. And more specifically it explores: a) The structural conditions in which the agents involved in the training interact, as well as the set of rules/principles applied during the development of the course; b) The forms, modes or codes of relationship and exchange between agents, that is, what we understand as forms of social mediation that occur through social communication; c) The theories of the formation of the pedagogical and digital culture that are giving new meanings to the practical teaching knowledge due to its ubiquitous, tacit and informal nature in the collaborative environment of the MOOC and d) The modalities of participation, communication and forms of involvement and commitment that develops in the process of collective production of knowledge in different contexts, and that generate citizen elements of the "commons" (Lafuente, Alonso and Rodríguez, 2013).

Methodology, Methods, Research Instruments or Sources Used
The methodology designed for this research is a qualitative case study. We used various procedures and techniques of data collection that facilitate the understanding of the reality that is being studied, from the particularity and complexity of a singular case (Stake, 2005). Those procedures are:
- Non-participant observation of the tasks and interactions of the participants in the MOOC platform (activities, forum interactions and some digital productions like their "Personal Learning Environments" - PLEs). Here we have analyzed their speeches as a system (Conde, 2009) in the interactions between users in several selected activities that the participants did in the different forums of the MOOC platform.
- In-depth interviews with nine selected individual profiles. Six women and three men who met certain criteria of heterogeneity. For its selection, we made a follow-up process of its participation in the tasks of the MOOC and in the forums of the platform. In this way, all of them were represented in the interviews: different levels of proactivity during the course and different level of technical-digital experience. Some profiles were identified using a pseudo snowball sampling, in which profiles were chosen for their interaction with others already selected. The research uses this data for analyzing daily socio-educational practices that they have experience during the course, and for analyzing in the meaning that the participants assign to the knowledge that they use to satisfactorily overcome the MOOC. Some knowledge and tacit skills (social or soft kind of) that are considered as invisible learning.
- In-depth interview with the MOOC coordinators. Three of the coordinators were interviewed together in their work space, a couple of months after having finished the course. This interview aims to deepen the knowledge about how the course is conceive from its origin, under what situations was born, as well as the way in which it is conditioned by the institution that governs and assess it.
- Virtual ethnography of the interactions of the participants on Facebook and Twitter, through the institutional accounts/profiles of the MOOC and the hashtag that were promoted. In this, we analyzed the discourse of the participants on the social networks to see in what ways, beyond the MOOC, the learning processes have expanded during and after the course.
- Analysis of the official documents that conform the educational project of this course. The syllabus and the content of the eight units that are the structure of the MOOC.

Conclusions, Expected Outcomes or Findings

After the elaboration of the case study (and other case studies from the R&Dproject), several issues can be highlighted briefly:

1. The learning processes that occur in these MOOC courses are obviously not linear or unidirectional. The importance of them is not so much in the sender, the message or the receiver, but more in the spaces and contexts that surround them, where the produced knowledge is continually mediated (individually, culturally, socially or institutionally). These mediations have been conceptualized (in the communication studies field) as those places or cultural instances in which the meanings that are put in relation with other agents or social instances are produced and recreated (Alonso, 2010).

2. Our own cultural luggage and previous learning experiences influence the training processes that occur in the MOOC. The traditional pedagogical knowledge comes into conflict with new cultures and digital practices - connectivism (Siemens, 2004).

3. The configuration and structure of the platform and the institutions that carry out the MOOC influence ambivalently in how the agents relate to the training process and the way in which they exchange knowledge.

4. There is a negotiation and struggle between digital, academic and institutional cultures that favour or obstruct management for the access and appropriation of knowledge in an egalitarian manner. The appropriation of knowledge is sometimes interested, individual, not shared.

5. A gender issue is invisible in the courses. Women and men are treated as equals in the MOOC, but they are involved in a different way, they intervene with different purposes, at different times and with different degrees of solidarity and companionship.

6. In the use of technologies, we find tensions and conflicts that limit the development of the course. The diversity that we find among the abilities of the participants conditions their involvement when participating, collaborating, creating or sharing.

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