

Teaching teams in MOOC of Mexican universities: A first approach

Equipos de enseñanza en MOOC: un acercamiento a cuatro universidades mexicanas

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Norma Isabel Medina Mayagoitia*
Martín Alonso Mercado Varela**

ABSTRACT

Keywords

MOOC, training, teaching teams, e-learning

This article is a first approach to the study of teaching teams within the context of the MOOC courses of four higher education institutions of Mexico. Based on a broader qualitative study in which the communication practices, the profile and the training of such teaching teams were explored, online interviews were conducted with four teachers and an equal number of facilitators from two public and two private universities. The analysis of the information allowed to identify more similarities than differences in the profiles of the participants, who gather appropriate conditions to achieve in MOOC and also desirable features are listed for the teachers and facilitators of these courses. However, there are gaps in the training received to teach or support MOOC, hence the need to prepare teaching teams not only in the technical-operational dimension but in the political-economic and pedagogical aspects of these massive, open and online courses.

RESUMEN

Palabras clave

MOOC, formación, equipos de enseñanza, educación en línea

Este artículo es una primera aproximación al estudio de los equipos de enseñanza dentro del contexto de los cursos masivos, abiertos y en línea (MOOC, por sus siglas en inglés) en cuatro instituciones de educación superior de México. A partir de un estudio cualitativo más amplio, que explora las prácticas de comunicación, el perfil y la formación de esos equipos de enseñanza, se realizaron entrevistas en línea a cuatro profesores y a un número igual de facilitadores de dos universidades públicas y dos privadas. El análisis de la información recabada permitió identificar más similitudes que diferencias en los perfiles de los participantes, quienes reúnen condiciones idóneas para desempeñarse en los MOOC y, además, se apuntan rasgos deseables para los profesores y los facilitadores de estos cursos. No obstante, se advierten vacíos en la formación recibida para impartirlos o brindarles apoyo, de ahí la necesidad de preparar a los equipos de enseñanza no solo en la dimensión técnico-operativa, sino en los aspectos político-económicos y pedagógicos de estos cursos.

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*Master on Education. Department of Communication of the Center of Social Sciences and Humanities of Universidad Autónoma de Aguascalientes [Autonomous University of Aguascalientes]. norma.medina.uaa@gmail.com

**PhD on Educational Sciences. Department of Education of Instituto Tecnológico de Sonora [Technological Institute of Sonora]. martin.mercado@itson.edu.mx, <https://orcid.org/0000-0001-8733-115X>

INTRODUCTION

The first decade of massive, open and online courses (MOOC) has elapsed. MOOC is undoubtedly the most advanced modality of online education which originated in 2008 and was created by Canadians Stephen Downes and George Siemens. These courses have drawn the attention of academicians and researchers and, they are also being integrated as an alternative in international educational policies. Notwithstanding their evolution, MOOC skepticism still persists, since their proposal has not completely renewed the existent online education offer and the success of massive learning environments is still being questioned (Bartolomé and Steffens, 2015; Vázquez Cano, López Meneses and Sarasola Sánchez Serrano, 2013).

The studies conducted after their creation and until now have identified a tendency to enquire on MOOC participants rather than teaching teams; hence research works focus on defining the profiles of those enrolling in these courses, the dropout indexes and graduation rates. Financing, sustainability, accreditation, and to a lesser extent, studies on MOOC pedagogical aspects, are some of the topics being addressed (Alemán de la Garza, Sancho-Vinuesa and Gómez Zermeño, 2015; Liyanagunawardena, Adams & Williams, 2013).

According to the foregoing, professors and facilitators of these courses, as a teaching team, are seldom mentioned in research; hence gaps in information about their profiles, their work and training that allowed them to perform in MOOC. Marcolla (2006) points out that the presence of information and communication technologies (ICTs) do not suffice for professors to become mediators between students and the construction of knowledge; the existence of MOOC does not either suffice; training is a must.

These courses, which currently target participants seeking knowledge for everyday life and personal development, represent an opportunity of increasing the access to formal technical and higher education studies.

The Education 2030 Agenda of the United Nations Educational, Scientific and Cultural Organization (UNESCO, 2015), envisages MOOCs in the strategy to extend coverage using technological options as acceptable quality standards. The challenge is therefore greater for teaching teams that will need to prepare themselves in meeting the student demands for the future.

The findings presented in this paper are part of a broader study that aimed at recognize the communication practices, profiles and MOOC training of professors and facilitators from four Mexican institutions, and at associating these factors to the participants' learning. The general objective of this paper is to give an account of profiles and training only,

since the communication practices of teaching teams have already been disseminated at recent national and international congresses.

The hypotheses referring to the two aspects that guided this research are the following:

- MOOC professors and facilitators of Mexican universities lack the sufficient experience in unconventional educational modalities.
- The MOOC training professors and facilitators received has not been different from that offered for online education, leaving out major considerations such as MOOC openness and massivity.

THEORETICAL AND EMPIRICAL FUNDAMENTALS

This section addresses different components with synthetic and essential information to understand the object of this study.

MOOC Context

MOOCs, conceived as online courses, have the following characteristics: Open access, i.e., there are no participation requirements or associated cost, although the term “open” also involves the reutilization and adaptation of the resources used in the course; Scalability, that means that the courses are designed to support an indefinite number of participants, and that the participants develop the interconnections with little or no intervention of the professor.

As of 2012, the term MOOC spread and the media unceasingly repeated it to the extent of becoming the buzzword in the field of higher education. Moreover, great changes were felt and from that moment on, some of North-America’s elite universities adopted the MOOC model, this new trend expanded rapidly (Daniel, 2012; Siemens, 2012b).

Initially, two types of MOOCs were established: cMOOCs and xMOOCs. The first type uses connectivism pedagogical principles such as autonomy, diversity, openness, connectivity and interactivity. These courses do not manage a standard construction format since this learning model is distributed through open web platforms and learning connections are limitless (Universities UK, 2013). On the other hand, xMOOCs emphasize a traditional learning pedagogy; these MOOCs are increasingly applied through property learning management platforms contractually linked to institutions or individual academicians. These courses sustain a pedagogical model that conceives the “professor as an expert and the student as a consumer of knowledge” (Siemens, 2013, p. 7) and they are represented by professors associated to prestigious universities, which is their greatest appeal (Vázquez Cano, López Meneses and Sarasola

Sánchez-Serrano, 2013). The table below describes the features of these two types of MOOCs.

Table. MOOC general characteristics

cMOOC	xMOOC
Develop shared practices, knowledge and understanding	Acquire a plan of studies of knowledge and abilities
Network learning through multiple platforms and services	Individual learning on a platform
Community and connections	Scalability provision
Open-license access	Restricted open-license access

Source: Self development.

MOOCs are supported by a team of professionals responsible for teaching and learning. Professors and facilitators are the two central figures that conform this team. The former are responsible of the instructional design and the general supervision of the course, while the latter provide follow up, energize interaction spaces and solve the participants' doubts.

Theory and studies around MOOC

Connectivism, a theory proposed by Siemens (2005), underpins MOOC initial design. The author claims that, given the penetration of technology and the network universe where information abounds and knowledge evolves, a theoretical approach other than behaviorism, cognitivism and constructivism, is required since these theories do not focus on the value of what is being learned; hence, they do not suffice to address learning through technology.

This learning theory integrates other approaches such as chaos, networks, complexity and self-organization, present in the new ways of learning. Connectivism was thus named because of the connections, the knowledge and learning it creates between individuals. It is an environment in which the teacher is no longer the main node but rather one of the participants.

The teacher is "...an agent of change, given the impact [ICTs] supposedly have on the modes of accessing knowledge, the exchange of information and the methodology of teaching-learning processes" (Valerio Mateos and

Paredes Labra, 2008, p. 19); however, MOOCs require, from the teacher, a different intervention, thus the need of a specific training.

As pointed out in the introduction, research studies related to the training of the teaching teams using MOOCs are scarce. In Mexico, we have identified some studies that have been published, although, in certain cases, they are educational experiences and interventions that were first implemented and then evaluated. Canto Herrera, Méndez Ojeda, Ramírez Montoya and Quiñonez Pech (2014), e.g., refer to the design, conveyance and evaluation of a MOOC seminar in which participated 1,124 teachers from 13 countries of Latin America belonging to the Open Regional Latin American Community of Social and Educational Research (CLARISE, [Spanish acronym]). The outcome highlights the benefit of having formed human resources, who were in favor of this update and the collaborative work promoted.

Ramírez Montoya (2014), on the other hand, analyzed the case of the first MOOC designed and implemented in Latin America from 2011 to 2012, in which 45 professors and 10 Mexican institutions participated and were trained in open access to knowledge as an opportunity to democratize learning. Among the main outcomes, the author mentions the teachers' disposition toward this modality, the participation of experts that supported the learning process and the academic collaborative networks for the design and implementation of MOOC.

Likewise, García González, Rivera Vázquez and Ramírez Montoya (2014) decided to identify the main issues a team of facilitators faced in a MOOC. Therefore, based on a purposive sampling of 200 facilitators, called teaching assistants, they acknowledged the need of providing them with training or guidance prior to starting the MOOC to support their follow-up tasks in a course of this nature.

Hernández Carranza, Romero Corella and Ramírez Montoya (2015) conducted a MOOC case study supported by the National Distance Education System, involving 58 teachers. The results inferred the importance of training to perform successfully in MOOCs, since the participants' self-learning and the differences in digital literacy constitute important challenges teachers face.

DESIGN

This research, which is a multiple case study with instrumental interest, was developed on the 2016-2017 period. From the case analysis, we enquired on the profile and training of the teaching teams conformed by professors and facilitators from four Mexican higher education institutions, in order to understand from these professionals' experience, the desirable features that a teaching team must have to efficiently comply with their function in the MOOC space.

The Universidad Nacional Autónoma de México (UNAM) [The National Autonomous University of Mexico] and the Universidad Tecnológica de Puebla (UTP) [The Technological University of Puebla]; and two private universities: el Instituto Tecnológico y de Estudios Superiores de Monterrey (ITESM) [The Technological and Higher Studies Institute of Monterrey] and the Universidad de Celaya (UDEC) [Celaya University]. The UNAM and the ITESM are pioneers in offering MOOC in Mexico since 2013, followed by provincial institutions such as UDEC and UTP; the latter started giving courses in 2016. The platforms hosting these courses are *México X*, *Coursera* and *Miriada X*.

The participation of the first two institutions in our country (UNAM and ITESM) to offer a MOOC course was benchmark in the selection of the cases. Subsequently and in contrast, we selected the UTP and the UDEC for being the universities that most recently offered the MOOC courses. More specifically, the selection criterion of the institutions was the learning opportunity they offered in knowing the profile and training of the teaching teams of professionals responsible for MOOC.

In every one of these cases, we invited a professor and a facilitator to collaborate in the research; hence, we had a total of eight key informants. The MOOC professors of the UNAM and ITESM were taken into account given their more extent experience in this type of courses. Regarding the UTP and UDEC, the contact was made with professors that, at the time of the study, had given at least one MOOC. On the other hand, the facilitators were recommended directly by the teachers, since they were professionals included not only in the course follow-up but also in its design and analysis.

To collect data, we designed an interview guide and an academic-labor datasheet we submitted to a panel of three experts prior to their final application.

A central or focused interview was conducted to every informant. According to Vela Peón (2013), said interview was semi-structured and addressed topics defined by the researcher. Moreover, this type of interview is recommended when it is known that the interviewee intervened in a specific situation such as the MOOC professors and facilitators in our study.

Since the participants reside in different parts of the country, we used an online interview to collect data as we believed it would be most adequate to facilitate the access without geographical limitation and for the opportunity it offered the interviewer and interviewee to connect at convenient time (Cohen, Manion & Morrison, 2007; Salmons, 2012).

The interview guide and the academic-labor datasheet gave us the opportunity to enquire on the two main categories of the research:

- Profile. A set of features of the MOOC professors and facilitators to identify their academic, professional and labor background that led them to enroll in this type of courses, as well as work in them.
- Training. Characteristics of the training and updating activities for MOOC professors and facilitators.

RESULTS

With the purpose of systematizing the information, it was necessary to process the data of the eight datasheets sent to the participants in order to identify and compare the MOOC professors and facilitators' profile of the four institutions. The 06:57:12 recording time interviews were transcribed in text files to sort, organize and analyze their content, in order to recognize not only supplementary data of the professors and facilitators' profile but also the training general conditions of the teaching teams to subsequently distinguish the coincidences and contrasts based on the categories of the study analysis.

After completing the analysis, sub-categories emerged which are specified in the figure below as to subsequently give an account of the findings.

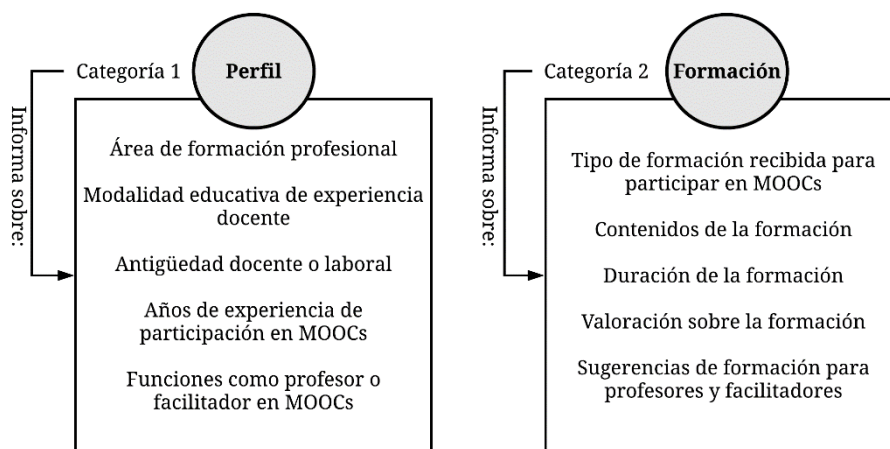


Figure. Sub-categories derived from the profile and training categories.

Professors and Facilitators' Profiles

Of the four participating professors, two are females and two are males, aged 30 to 60; three of them are full-time lecturers and one is part-time. For the UNAM and ITESM professors, the last degree obtained is PhDs in Social Sciences and Humanities; the UTP professor has a master's degree in Educational Engineering while the UDEC participant has a bachelor's degree in Health.

The professors of the UNAM and ITESM have more than 20-year seniority in in-class teaching and their online teaching experience is less than eleven to more than fifteen years. The UTP and UDEC professors have less experience in in-class and online teaching, their seniority fluctuates between six and ten years. Likewise, the UNAM and ITESM professors are those who have registered more seniority years in conveying MOOCs in comparison with the UDEC and UTP professors who have participated in MOOC from one to three years.

Instructional and pedagogical course design and topic development are among the main functions performed by professors and which coincide with MOOC functions which were developed with the support of guest teachers and technological resources. In the case of the UTP and UDEC MOOCs, there was a greater participation of professors to provide feedback and review the work of the participants.

Regarding the facilitators' profile, there are two females and two males, younger than the professors, since three of them are less than 40 years of age and only one is less than 50. Regarding the training area in undergraduate and graduate studies, the UTO and UDEC facilitators come from engineering faculties; however, the first one also has a master's degree in Education. The UNAM and ITESM facilitators have PhDs in Linguistics and Education respectively.

The activities carried out in their universities are directly linked with teaching, in the case of the UTP and ITESM facilitators with less than ten-year seniority as full-time lecturers. The UDEC facilitator has less than five-year seniority, and the UNAM's less than fifteen year-work experience; both performed administrative tasks in senior high and bachelor's degree academic coordination.

The four facilitators have teaching experience in different educational modalities: in-class, online and combined environments. The seniority of the MOOC facilitator was less in the case of the UDEC and UTP participants who had been in service for barely one year. The ITESM facilitator had been collaborating for more than two and up to four years in this type of courses; the UNAM facilitator was the one with more experience since he had been giving support to the MOOC professors of his institution for at least five years.

The functions mentioned for MOOC facilitators were diverse and depended on the design of the course in which they participated. Nevertheless, they coincided in highlighting periodical monitoring and follow-up of the course participants in forums or through other media (e-mail, Facebook or Twitter), doubt solution and, occasionally, assistance in the production of the corresponding MOOC material.

Undoubtedly, it is possible to state that in the professors and facilitators' profiles there were more similarities than differences among them and

also within every group. Regardless of the fact that their field of studies was not necessarily related to teaching or education, six of the eight informants had postgraduate studies in those fields. This has given them tools to participate in MOOCs; of course, some with greater track record and experience than others, such as the UNAM and ITESM teaching teams, since they pioneered this type of course in the country.

The common denominator among professors and facilitators is their participation in distance and online modalities as part of their academic-administrative activities, and the distinction in the functions one and others perform is clear.

Training to participate in MOOCs

The training and updating of the interviewees to become MOOC professors have had their own characteristics in terms of formal/informal features, schedules and contents.

The UNAM professor, for example, believed that this preparation could be less formal, without requiring highly structured courses. In 2008, he participated in the first MOOC offered by the Canadian creators; and although, later on, he learned how to design this type of courses through the *Coursera* platform, other informal activities were more significant, such as learning from peers of his institution who had already given MOOC courses, reading articles in journals about this educational innovation, in addition to his previous experience as student of these courses.

The ITESM professor explained that the group of colleagues of his institution who offered MOOC has the support of an area of development of learning innovative environments that acts as an intermediate between them and the *Coursera* platform. This area provides technical-pedagogical training, updating and consultancy which allow them to find technological solutions to their didactic proposals. Therefore, the ITESM professor valued this support and was satisfied with the training he received. On the other hand, the UTP offered her professors a certificate course on didactic strategies applied with technology. Afterwards, those who had implemented the first MOOC in that university attended a workshop from the personnel of *Mexico X* platform given in Mexico City. Although, after this training on the platform technical operation, they continued their training through a MOOC offered by Mexico X to learn how to design a course, the UTP professor pointed out that it was not enough; he felt that he required another type of training to which we will refer further on.

The UDEC professor prepared to give a MOOC through a three-week course in charge of the *Miríada X* platform, which contents were technical only and they were used to learn how to place the material, videos, links and how to insert responses to participants. This training was necessary and sufficient to initiate the course, according to the professor's comments.

When asked what recommendations would they give to train future MOOC professors, the UNAM professor stressed the importance of having been a MOOC student first, and pointed out that the preparation is achieved by learning from other MOOCs, going over MOOC good practices, and consulting literature on the subject.

The ITESM professor mentioned that training in different environments was necessary, above all, environments that involve communication, feedback, pedagogy and distance motivation. Likewise, he referred to the pedagogical training in the MOOC instructional design and the importance of identifying technological platforms potentialities.

Regarding the UTP professor, he added that preparation was necessary to motivate the participants, learn to attend in a massive but personalized manner, train in computer and digital skills, in information management through technological resources and know how to write to communicate adequately.

The UDEC professor emphasized that technological training is able to manage resources and programs that benefit developing materials, even though he pointed out the need of pedagogical aspects to attend the diversity of participants.

Regarding the training of facilitators, it should be mentioned that they have resorted to their previous experience in distance and online modalities mainly, without having received any specific training as it is the case of the UNAM facilitator who learned hands-on; or only through a reference briefing session, as it is the case with the ITESM facilitator who said that having been a MOOC student and researcher helped him in performing as a facilitator.

The UTP and UDEC facilitators participated in introductory courses provided by the *Mexico X* and *Miríada X* platforms, respectively, although the contents of this training were technical and aimed at getting familiar with the virtual environment which they supplemented with the support of other professors or the technological coordination area of their institutions to become online consultants.

The suggestions to train other MOOC facilitators contain technical, pedagogical and even epistemological aspects. The UDEC and ITESM facilitators focused mainly on technology management, although the first referred to software learning to render MOOC presentations and material more appealing; the second, mentioned that it is necessary to train facilitators in virtual space management to achieve learning transfer.

The UTP facilitator specified that to comply with this role, training in communication, motivational psychology and time management in virtual environments were required. On the other hand, the UNAM facilitator pointed out that it is necessary to train in autonomy and self-regulation

aspects as well as having knowledge of the principles of connectivist pedagogy as proposed by Siemens and Downes.

DISCUSSION

The state-of-the-art on this topic confirms the gap of information on MOOC teaching teams at international level (De Corte, Engwall & Teichler, 2016; Liyanagunawardena, Adams & Williams, 2013), hence, this approach to professors and facilitators of courses given from Mexico benefited profile recognition that have allowed them to perform in this educational modality from a national setting.

More specifically, the findings reveal the need to train not only these facilitators but also the participating professors, since knowing MOOC philosophical and educational bases would be relevant for the teaching teams. The training received through platforms has prioritized the technical contents and, to link all this, professors and facilitators have found other training resources that address pedagogical attention that participate in a MOOC requires of them.

As in the revised studies (Canto *et al.*, 2014; Ramírez Montoya, 2014), the interviewed professors showed great readiness in being prepared as MOOC educational agents; through their own initiative, they even sought updating their skills and they also planned offering their course on other technological platforms.

On the other hand, the study of García González, Rivera Vázquez and Ramírez Montoya (2014) provides elements to design the training facilitators require in order to follow-up on MOOCs to support professors, even though it is necessary to consider that not all institutions meet the conditions to have this support group.

According to Valerio Mateos and Paredes Labra (2008), it would be convenient to attend MOOC professors and facilitators' training to encourage new ways of accessing knowledge. This training should not be materialized in the technical-operational dimension the participants of our study mentioned but it would be relevant to provide, from a political and economic dimension of these courses, an invitation to reflect on the educational democratization of MOOCs, as well as to discuss the sustainability and business models that have emerged around MOOCs.

In addition to these two dimensions, the training cannot exclude the pedagogical component to become a MOOC professor or facilitator, dimension referred to by the interviewees and also documented by several authors in regard to the ICT teacher training topic (Casanova Correa, 2007; De Pablos Pons, Area Moreira, Valverde Berracoso and Correa Gorospe, 2010; Levis, 2008).

The results presented here, through the analysis of four case studies, are an indication of what is likely to be identified in other MOOC teaching teams. This research revealed the academic and labor features found in Mexican institutions, two of which have the highest recognition and experience in these courses in our country. We have also disclosed relevant data on the training these professors and facilitators have received and that they have sought other professors and facilitators in order to comply with their educational task while acknowledging that their training has not yet ended.

CONCLUSIONS

The purpose of giving more visibility to those responsible for the teaching of MOOCs in Mexican universities was reached to the extent in which the characteristics of the professors and facilitators who participated in this research were described.

While the results show us different profiles, it is possible, from these professors and facilitators' experience, to outline and share some desirable features to participate in a MOOC: previous experience in online and MOOC modalities preferably, whether as a student or professor; update in pedagogical trends and technologies linked to education; genuine interest in unconventional ways of teaching and learning, sufficient digital skills, communicative competences for virtual environments, as well as empathetic and motivational attitudes toward the participants of online and MOOC courses in particular.

It is important to mention that MOOCs add to the list of other educational innovations whose training and updating of educational agents is still to be systematized. Institutions rely on the professors' previous experience that will help them dabble into modalities such as MOOCs. However, it highlights what these teaching teams require to strengthen their performance with theoretical bases and more solid practices that lead to the improvement of learning.

Based on the above, the hypothesis established at the beginning on the training of these teaching teams is confirmed through the professors and facilitators' comments, since it has not been very different from what was provided for previous options of online education, and without further considerations of the openness and massivity of MOOCs.

On the contrary, it is necessary to state that most of the professors and facilitators of these Mexican universities that participated in this research do have sufficient experience in unconventional educational modalities, which is a result that contributes to good practices in the MOOC context.

The contributions of our studies could be revisited as a benchmark for other universities of the country interested in integrating and training teaching teams based on the experiences accumulated by key institutions

in providing MOOC course. These results and those that will be provided by future research studies on MOOCs will also allow designing plans and training and updating programs directed to professors and facilitators of these open, online and massive courses.

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