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5 Language Teaching in MOOCs: the Integral Role of the Instructor

Abstract: Following the outbreak of Massive Open Online Courses (MOOCs) in 2012, the roles, competences and methodological strategies of online language teachers are once again called into question, mainly because of the “massive” nature of these courses in which tens of thousands of students may enrol. This work analyses the new teacher profile from a theoretical and practical standpoint, identifying its main roles and competences.

Keywords: Language MOOC teaching; MOOC teacher roles, competences, skills

5.1 Introduction

The recent emergence and sudden proliferation of Massive Open Online Courses (MOOCs) (Baker, 2012; Bershin, 2013) and their more than likely persistence and coexistence with other alternative forms of online teaching (Horizon Report, 2013; Yuan & Powell, 2013) have once again raised an urgent need among all stakeholders to rethink and investigate the role of educational institutions, students and, of course, educators (Glance, Forsey, & Riley, 2013; Pardos & Schneider 2013). Throughout the last decade, research related to online language teaching and, in particular, that investigating the skills, roles and competences of the foreign language teachers, was finally beginning to bear fruit. As a result, thorough case studies and papers on their roles and competences in virtual environments, either relatively closed (LMS, flipped classrooms, blended learning) or open, based on Web 2.0 collaborative tools (Crompton, 2009) emerged. MOOCs appeared quite disruptively in 2011 (Conole, 2013; Yuan, & Powell 2013) as a new model of online education evolving naturally from the learning based on the social network. Inspired by the initiatives promoted by the Open Educational Resources (Read & Rodrigo, 2014), they provide the best example of collaborative learning based on the connectivist and collective intelligence theories that “focus on the vast informational network that is produced by and further enables the participatory, creative moments of the users of the Web.” (Lévy & Bonomo, 1999, p. 3).

I agree with Stickler & Hampel (2007) in that there is little doubt that the success factor in learning a language is directly proportional to the quality of its transmission and hence the qualification of teachers. The disruptive and clearly differentiating feature of MOOCs versus other forms of online teaching is the number of students –in principle, unlimited– that these courses are targeted to. This requires rethinking the

contents, the methodological strategies for transmission, and –in close relation– the roles of the educators' teams.

It is noteworthy that there is unanimity among the above-mentioned authors when defining the main characteristics that underpin the structure of MOOCs: these courses consist of brief bites of videotaped content, automated correction assessment and feedback questionnaires, peer assessment tasks, and tools for communication and collaborative work, such as discussion forums, blogs and wikis (Glance et al., 2013). The new roles, competences and tasks of the teacher arising from this new open-course format have been insufficiently researched to date. Grounded on the current models and theoretical frameworks on which the profile of the online language teacher holds up (for example, Crompton, 2009; Hampel, 2005; Kessler, 2007; Salmon, 2003), and after a brief review of the parameters and theoretical frameworks supporting it, this paper aims at clarifying the profiles, competences and new roles in the new massive environments for language learning.

5.2 Background: Online Language Teaching

With the emergence of the Internet, the social network and the various mobile devices which make it widely accessible, online language learning has increased sharply (Hubbard, 2008; Stickler & Hauck, 2006; White 2003). Despite it being apparent that the new Virtual Learning Environments (VLEs) require the urgent definition of a theoretical framework supporting and defining the new roles of the online language teacher, the related bibliography is surprisingly scarce. Most authors agree on ascribing similar competences to face-to-face and online language teachers; however, they also highlight that there are significant differences too in the way knowledge needs to be transmitted so that virtual environments are successful, thus entailing an important adjustment in roles (Stickler & Hampel, 2007; Goodyear, Salmon, Spector, Steeples, & Tickner, 2001).

The constructivist nature of learning in virtual environments, arising from student autonomy and the new competences and roles of the teacher, had already been noted in the last century, among others, by Meskill and Ranglova (2000, p. 20): "Teachers guide students to sources, rather than acting as the source [...]. The teacher serves as a moderator who guides discussions and provides help when called on to do so." Furthermore, even before the widespread use of the Internet and the development of pioneering language teaching experiences on the Web, some authors such as Widdowson (1990) had discussed the need to redefine the roles of the foreign language teacher so as to get away from the rigid definitions in place at the time and to enhance the flexibility of their functions, "... such a rigid definition of roles impedes the natural learning process since it does not allow for learner initiatives ..." (p.181). This very concept of flexibility and the need to envision different learning styles in Computer Assisted Language Learning (henceforth, CALL) is likewise corroborated in

2000 by Warschauer & Kern, among others, who claims that language teaching on the Internet must not be based on a single methodological strategy but on “... a constellation of ways...” (Warschauer & Kern, 2000, p.17).

Throughout more than a decade, researchers such as Salmon (2003, p.29) have put forth theoretical models for the design and tuition of virtual courses elaborated mainly along constructivist teaching approaches (for example, Jonassen, Collins, Campbell, & Haag, 1995), in which the competences of the educators are profiled and developed in order to fulfil new social and pedagogical roles.

In this sense, and after more than a decade, successfully acclaimed implementation of Salmon’s model adapted to German language virtual courses in the scope of formal education within the different levels and degrees at the Spanish National Distance-learning University, UNED, I propose a framework to develop Language MOOCs (hereafter, LMOOCs) that, while originating in said tutoring model, has been further developed to introduce significant changes in how LMOOCs are elaborated and, therefore, requires the redefinition of the competences of the LMOOC teacher. My model links the specific features of LMOOCs to Salmon’s theoretical tutoring model and the new teacher roles.

Moreover, I agree with Compton (2014) who, after critical analysis of the bibliography existing to date, similarly proposes an alternative theoretical model for online language teaching, complementary to that of Hampel & Stickler (2005) and, in conclusion, suggesting the need to define three types of categories of basic competences for the online language teacher within the following areas or scopes: technology, pedagogy and evaluation. Hampel and Stickler’s model (2005, p.316) described seven basic skills in a pyramid so that they “build on one another from the most general skills forming a fairly broad base to an apex of individual and personal styles”. Such skills should have to be acquired sequentially, starting at the base of the pyramid.

I agree with Crompton’s criticism that students in CALL environments acquire skills concurrently and not sequentially and, furthermore, not necessarily in the order shown in Hampel and Stickler’s pyramid. Crompton’s model is intended to address the limitations implied in the pyramid’s sequencing, but also focuses on the skills of an online language teacher organised into three levels of expertise: novice, proficient and expert. His framework is based on the three major sets of online language teaching: technology, pedagogy and evaluation. Each of these sets have different skills that make up the basis of the new parameters defining the role of the LMOOC teacher, as described in the next section.

Figure 5.1: Skills pyramid (Hampel & Stickler, 2005, p.317).

5.3 Redefining the Teacher's Role in Language MOOCs

Although the typology of MOOCs has become more diverse and new hybrid modalities have appeared (for example, Clark, 2013) this paper addresses the two original categories. It first deals with cMOOCs (connectivist MOOCs), because of their open and flexible nature and their epistemological foundation based on Connectivism (Zapata-Ros, 2013), not to mention their exclusively online transmission means. Connectivism has been defined among others by Siemens and Tittenberger (2009, p.11) as “the view that knowledge and cognition are distributed across networks of people and technology and learning is the process of connecting, growing and navigating those networks.” Additionally, I combine constructivist strategies, such as peer-assessment, with features belonging to the xMOOC model, such as the transmission of content via short videos –much closer to Mastery Learning (Bloom, 1968).

Without a doubt, we may speak of a new stage in online language teaching outside the classroom whose most surprising feature is perhaps the lack of direct teacher-student interaction (Williams, 2013, p.1). Paradoxically, this seems to tie it back to an early stage based on postal service (or even radio and TV broadcasts), except that in this later stage interactivity is channelled technologically and chiefly among peers, through social networks, forums, etc. Out of the six types of interaction occurring in virtual environments: 1) Learner-Teacher; 2) Learner-Learner; 3) Learner-Guest Expert or Learner-Community Member (Human interactions); 4) Learner-Tools;

5) Learner-Content; and 6) Learner-Environment (Non-human interactions) (Hanna, 2000, p.11) the first one in order of appearance, and also the most important one up to now (learner-teacher), descends to the last positions with the new MOOC model.

5.3.1 Criticism of G. Salmon's 5-Step Model: Why it is not Valid for MOOCs

The massive nature of MOOCs places a major constraint on the work of the teacher, whose fundamental activity is shifted preferentially to the design of the structure and the development of the course contents, including the recording of short videos as a preferred means of transmission, the design of peer-to-peer (henceforth, P2P) activities, rubrics and self-assessment exercises and the setting up of different communication channels, among other activities.

In her model for the creation and tuition of virtual courses, Salmon (2003) distinguished five stages that take place sequentially, entailing different extents of teacher-student interactivity. Although it is beyond discussion that this model –as noted before– has proved very successful in different formative assessments within my experience at UNED of teaching German as a foreign language for over a decade, it only partially applies to LMOOCs in terms of techniques to moderate and enliven the course. It does not apply, however, to the sequencing of stages, and even less so to the degree of interactivity expected from the teacher at each phase.

Figure 5.2: Salmon's Five Step Model (2003)

Notwithstanding, these five phases still follow each other in the new LMOOCs environments, albeit with a different sequence and interconnection, as will be discussed in the following section.

5.4 A Proposed Framework for MOOC Language Teaching

In order to identify the roles of the language teacher within the new massive virtual environments, I will build partially on the classification of pedagogic roles and competences of university-level educators in ELearning Environments created by Muñoz Carril, González Sanmamed, & Hernández Selés (2013). In Table 5.1 a classification of roles is proposed according to the several stages of the course.

Table 5.1: Teacher Roles in Massive Open Online Language Courses

Course stage	Teacher roles	MOOC characteristics
Before	MOOC structure designer-developer/ Organizer	Agenda, timeline
	Content expert/ Content creator/ Content facilitator	Short subtitled videos
		Quizzes
		Aid and supporting materials
	Assessment designer/ Evaluator	Peer- and self-assessment
During	Communication tools and structure designer	Email, forums, questions and answers tool, blog, wiki.
	Facilitators	Facilitating discourse
	Curators	Providing direct instruction
After	Researcher	Learning Analytics

5.4.1 Before the MOOC: the Teacher as Structure Designer and Content Generator

As suggested in the previous section, the main task of LMOOCs' teacher teams is shifted almost completely to the design and elaboration of the course. As described in the section on course tuition, the participation of the teacher in that phase is not regarded as being strictly necessary, since the tutoring functions have been assigned to the two roles which result from the impossibility for a single teaching team to work with tens of thousands of students, and which are typical of these courses: curators and facilitators, explained further on.

5.4.1.1 MOOC Structure Designer

Recent research (Glance et al., 2013) points out that the theoretical framework underpinning the MOOCs' teaching/learning model is based on "Mastery Learning" (hereafter, ML) as defined by Bloom (1968). The open online format of the MOOCs provides the students with learning strategies based on this model (Koller, 2012). Furthermore, the teaching models derived from ML require a high degree of planning and structuring (López, 2006). Along these lines, for the adequate development and structuring of an agenda, Gentile & Lalley (2003) propose a systematic, sequential plan based on ML, similar to the one which the MOOC educator must lay out for the course's instructional design. The major goal that the educator must face in such open environments is the creation of a structure, which is also based on the description of competences in the Common European Framework of Reference for Languages (Council of Europe, 2001), and is at once well-defined and flexible, contemplating different learning styles and scalability. To this end, the following four steps are proposed, based on Gentile & Lalley's (2003) 13 steps:

1. Divide your course in meaningful units or modules, 1- or 2-week long. According to recent research, the optimal length of MOOCs lies between 6 and 12 weeks. Longer courses have lower engagement and completion rates.
2. Estimate the hours of study for each unit or module. It is preferable to overestimate the number of hours to avoid the feeling of frustration which an underestimate may cause to the student. The average of weekly hours of study in MOOCs lies between 4 and 8.
3. Set a mastery standard for each unit and, depending on that, discriminate among compulsory and optional learning targets by assigning explicitly distinct tasks. The student must be aware at all times of the compulsory or optional nature of each of the tasks.
4. Include a proposed timeline with the sequencing of contents. Past experience seems to advise making the different units or modules incrementally available, and keeping them open and accessible up to the end of the course. In this way, learning along the suggested scheduling is facilitated ('guide on the side') while

flexibility is reinforced by allowing the student to enrol at a later time, to review the contents, to delve into previous units, etc.

Alemán para hispanohablantes: nociones fundamentales

Inicio | PyR | Foro | Blog | Alumnos | **Edición de Módulos** | Seguimiento | Gestión

Activar edición

Módulo 1: Preliminares

Actividades del Módulo

- Módulo 0: Presentación.
- Módulo 1: Preliminares
 - ✓ Video presentación Módulo 1
 - ✓ 1.1 Pronunciación. Vocales
 - ✓ 1.2. Pronunciación. Diptongos
 - ✓ 1.3. Pronunciación. Consonantes
 - ✓ 1.4. Ortografía
 - ✓ 1.5. Acento y entonación
 - ✓ 1.6. La estructura oracional
 - Test de autoevaluación
 - Tarea p2p: Presentación en alemán
 - ✓ Recursos de apoyo
- Módulo 2: El verbo (I)
- Módulo 3: El verbo (II)
- Módulo 4: El sustantivo, algunos pronombres y artículos
- Módulo 5: Los casos y algunas preposiciones
- Módulo 6: El adjetivo. La oración subordinada.

En el siguiente vídeo presentamos el Módulo 1 "Preliminares", en el que se iniciarán, entre otros objetos de aprendizaje, en la **pronunciación y acentuación de la lengua alemana**. El Módulo consta de las siguientes píldoras didácticas:

- 1.1. Pronunciación. Vocales
- 1.2. Pronunciación. Diptongos
- 1.3. Pronunciación. Consonantes
- 1.4. Ortografía
- 1.5. Acento y entonación
- 1.6. La estructura oracional

Para trabajar correctamente este Módulo, debe ver todos los **vídeos** correspondientes a las píldoras, **descargarse y estudiar los pdfs que acompañan a cada píldora**, consultar el **material complementario**, y **debatir en los foros** habilitados. Asimismo deberá usted realizar el **test de autoevaluación** de forma obligatoria y, finalmente, le recomendamos especialmente en este Módulo **participar en la actividad p2p** (actividad no obligatoria).

Iniciar

Figure 5.3: LMOOC Structure example⁸

5.4.1.2 Content Expert/ Content Creator/ Content Facilitator

Once the mastery standard for the contents of each unit is set, the educator can apply heuristic strategies to present and transmit them through short videos. This constitutes an appropriate methodological framework to explain the learning objects at a practical level. Furthermore, this entails providing appropriate aids to our students so that they may become capable of acquiring the scheduled linguistic competence through heuristic strategies such as reasoning by analogy.

According to the mathematician Polya (1945), the foundation of this lies in the experience of problem solving and seeing how other people do it. The students of

⁸ “The following video introduces Module 1 ‘Foundations’, which will get us started in the pronunciation and stress of the German language, among other learning objects. The Module is comprised of the following learning pills: [...]. In order to work on this Module properly, you must watch all the videos corresponding to the pills, download and study the pdfs associated with each of them, check the supplementary material, and debate in the forums. Also, it is compulsory to do the self-assessment test and we particularly recommend participating in the P2P task of this Module (non-compulsory).”

these massive courses watch in the videos how the teachers help them solve the problems by applying strategies, methods or criteria which explain the usage of complex structures in a simple way, involving strategies that are generally reliable and efficient rather than “optimal” (Abel, 2003, p.55). Heuristics are closely related to creativity, a feature which is also linked to MOOCs and is proving to be extremely relevant to the transmission of knowledge and the negotiation of meaning in these learning environments.

As Anderson and Block (1985) point out, ML provides students with as much time as needed to acquire mastery of a skill. Thus, the use of short videos along with quizzes that provide formative assessment (Glance et al., 2013) seems material for the transmission of knowledge in these open online learning environments. This means of content transmission was adopted by Peter Norwig (2012) in his now famous MOOC on artificial intelligence and is the one generally implemented in all subsequent MOOCs. The short videos resemble individualized tuition and allow students to control the delivery speed by stopping at certain passages, replaying others and reviewing contents. The effectiveness of using video to enhance language learning by providing opportunities for learners to construct and negotiate meaning had already been firmly established prior to the proliferation of these new environments (Chun & Plass, 2000, p. 161).

In LMOOCs’ videos it is likewise crucial to provide detailed subtitling enabling the students to follow along with the contents. Subsequent to research such as Talaván’s (2013), the “great possibilities for feedback existing between AVT (audiovisual translation) and language pedagogy, particularly in today’s multi-media, multi-sensorial, multi-methodological, multi-tasking and multi-semiotic society” seem well-established (Talaván, 2013, p.135). The most widely used video channels such as YouTube or Vimeo include advanced automated caption tools to facilitate this task; however, given their relatively poor results, I recommend careful revision.

According to Khan (2012), the optimal video length to catch and keep the students’ attention lies in the span of 10 to 15 minutes. My experience shows that video length should not exceed 10 minutes; in longer sequences students claim to get distracted and to perform parallel tasks mechanically and unconsciously (such as opening up new tabs, participating in chats, etc.). This conciseness makes it necessary to choose the contents to be transmitted adequately. In order to make the most of them and to reinforce the retention of the concepts transmitted through the MOOC’s videos, recent research such as that of Williams (2013), prompts the educator to elaborate a set of several questions and issues to be tackled by the student before, during and after viewing the instructional videos. The cognitive benefit rendered through the questions examined prior to viewing would be grounded on the activation of the student’s schemata. Intra-modular questions would lead to reflection on and clarification of concepts and, finally, post-modular ones spaced out through the following modules would help revise and best secure the concepts.

Yet another of the educator's competences as content creator is the elaboration of supplementary materials which, on the one hand, help strengthen the knowledge of advanced students and, on the other, facilitate learning language structures to students unfamiliar with online learning. The heterogeneity of the student body in this kind of course requires the design of a scaffolding structure that accounts for the scalability of knowledge. On the other hand, it is the heterogeneity itself of the profiles that makes personalization easier without needing to resort to complex adaptive algorithms. Students access the contents individually through their own device and interface, at their own pace (Schneider, 2013). The relevant fact is that students can "pick and choose" the contents, creating, thus, their own learning path.

5.4.1.3 Assessment Designer/Evaluator

The "massive" number of students in LMOOCs makes it impossible for the educator to manually assess the progress in the acquisition of knowledge—individualized feedback by the teacher is altogether out of the picture in this kind of learning environment. To date, there are two modalities of assessment used in LMOOCs: self- and peer-assessment. The effectiveness of the former in online learning environments has already been pointed out by a number of researchers (for example, Garrison, 2003; Taras, 2010). It is advisable that these activities include readily-accessible answer keys. The success of self-assessment tasks depends on the adequate design of tests and other exercises and, above all, on the appropriate automatic feedback previously designed by the teacher. In this kind of course, it is crucial that students obtain effective feedback for both correct answers (for example, drawing relations, analogies, etc.) and incorrect ones (including relevant explanations and examples).

As language learning research has shown (see for instance Ellis, 2002), raising language awareness contributes significantly to language learning. Error awareness and correction should prevent the errors from being fossilised and also help "with the de-fossilisation of the already fossilised errors." (Dodigovic, 2005, p.5). In all cases, explicit reference must be made to the corresponding content in the teaching materials and to the particular sequence where the learning object under assessment is described and explained. Similarly, it is very effective to link the learning objects under assessment to the several threads in the forums, blog or wiki pages of the course where they are discussed. Under the assumption that most students actually enrol in the courses to broaden and strengthen their knowledge and not just for the certification (as shown in recent statistics summarized in the graph below) it seems suitable to set up unlimited access to these self-assessment tests, so that the students have a maximum of opportunities to strengthen and secure their knowledge of the subject matter.

Figure 5.4: Data related to student's motivation to enroll in the MOOC "German for Spanish Speakers: Fundamentals" (2014) (Note: responses were not exclusive)

Peer-to-peer activities make up one of the best options for the design of tasks aiming at the development of oral and written skills. Although there are opinions against the effectiveness of this kind of tasks (Sadler and God, 2006; Sluijsmans, Dochy, & Moerkerke, 2004), it seems proven that they enhance students' cognitive skills deriving from the capacity to analyse and synthesize, to identify problems, and to come up with solutions (Nelson & Schunn, 2009). Some recent research suggests that the results of task revision by four peers would be just as appropriate as those provided by the revision conducted by a single instructor (Patchan, Charney, & Schunn, 2009). To get the right result from these kinds of activities, the educator must incorporate a high degree of flexibility into their design, offering different possibilities to solve them. At this point, it is important to be reminded of the heterogeneity in the profile and background of the students, and the varying extent of their digital literacy, among other factors.

The autoethnographic approach to learner experiences in MOOCs of Bentley, Crump, Cuffe, Gniadek, Jamieson, MacNeill, & Mor (2014) has proved highly clarifying in this regard, since it points out the different perception that students themselves have about success in MOOCs, in which they value above all being able to work at their own pace in a non-competitive yet productive way: "Adapting to the connectivist pedagogy of open learning [...] had its challenges which I overcame with perseverance, support and luxury of sufficient time." (Bentley et al., 2014, p.20). When preparing an activity based on, say, an audio or video recording intended to practice pronunciation, we must take into account that the description of the task must be preceded by a detailed explanation of the technical possibilities for such recording: recording software, recommended formats, etc. The technical component must be explicitly mentioned and described. It seems appropriate to classify tasks requiring

the use of complex tools as optional. A sample description for this kind of task (from the course “German for Spanish Speakers: Fundamentals”⁹) is given next, illustrating the foregoing:

“P2P Tasks (peer-assessment tasks)

In some Modules you will also be given the possibility to carry out P2P tasks (tasks where course-mates assess one another). The specific explanation for each P2P task will be given within each available task. As this is quite of a novelty, we detail next how these tasks work, some possible problems and their solutions. To carry out these tasks, you will create a file in your computer in order to upload it to the platform following the directions to be found. Please be reminded that, when prompted, it is also compulsory to write something in the textbox and to attach the file. Following that (usually the day after the file is uploaded), the platform will display your coursemates’ exercises, which you shall review and comment. The assessment consists in reading, listening or watching what your coursemate has written or recorded and in writing a piece of assessment in the textbox with the help of the rubric to be found next to the description of each task.[...]. We discuss here some of the problems which came up in other courses already using these tasks, and some possible troubleshooting: [...]Most importantly, do not worry if any problems come up—remember these activities are optional in this course.”

(Note back: translated from Spanish)

My voluntary approach to these and other similar activities fits with MOOCs’ connectivist nature and is based on research such as that carried out by Bentley et al. (2014) who conclude that the success rate in online language learning depends on self-confidence, advancing at your own pace, and finding paths adequate to our learning style. On the other hand, the inclusion of rubrics with assessment criteria based on teaching units which are clear and precise comprises one of the keys to success in the significant achievement of peer review. Table 5.2 shows four basic criteria for rubrics in LMOOCs:

Table 5.2: Basic Rubric Criteria in LMOOCs (Adapted from Bárcena et al. 2104)

Category	Criteria
Semantic	Appropriateness of vocabulary, terminology and register
Grammatical	Grammatical correctness
Phonological/Phonetic	Fluency, pronunciation and intonation
Pragmatic/Contextual	Intelligibility and coherence

⁹ The MOOC “Alemán para hispanohablantes: nociones fundamentales” (German for Spanish Speakers: Fundamentals) was developed by the author and went on to win the MECD-Telefónica Learning Services-Universia prize for the best course (2013).

5.4.1.4 Designing and Structuring Communication Tools

According to Andersen (2009), the construction of knowledge only takes place when there is a highly planned communicative structure underlying the learning act. Without the adequate planning of communicative acts, only low-level cognitive interactions are generated. This theory, which applies to all learning modalities, both face-to-face and online, is particularly pertinent in massive online learning environments, where the appropriate design and planning of the MOOC's communication tools by the educators team is highly relevant. Most MOOC platforms incorporate communication tools such as blogs, wikis and, of course, emails and forums. The first major decision the educator faces when planning the communicative strategies of the MOOC concerns the tools to be implemented and their targets, so that their structure can be subsequently organized.

Table 5.3 shows some communication tools and their likely applications in LMOOCs:

Table 5.3: Communication tools in LMOOCs and likely applications

Type of communication	Tool	Likely applications
Asynchronous	mass mailings	First contacts before starting the course, relevant punctual communication (technical difficulties, possible malfunctions, etc.), encouragement, feedback
	Blog	Relevant punctual communication (technical difficulties, possible malfunctions, etc.), encouragement, feedback, other notifications
	Wiki	Repository P2P assignments Other collaborative tasks
	Online Forums	Direct help with problems, assessment or understanding a concept (Darabi et al., 2011) Social interactions
Synchronous	Webconference	Solving doubts, practice
	Chat	Solving doubts, practice

Depending on the technological platform on which the MOOC is implemented, the educator will have available different communication resources which shall be carefully set up prior to beginning the course in order to let communication flow in an organized and structured way, thus enabling students to make progress with their learning smoothly and flexibly by negotiating meaning, providing resources and

raising questions related to their learning process. Some considerations concerning design and planning with these tools are given next:

1. Assess possible tutoring aids when setting up the tools (availability of curators and/or facilitators, video infrastructure).
2. Assess our own expertise and mastery thereof (setting up all the tools without a proper follow-up does not help improve the course).
3. Synchronous tools in massive environments are hardly ever effective; on the contrary, it is extremely difficult –almost impossible– to originate high-level cognitive interactions through them.
4. Some of the best-documented failures in MOOCs arose from the inclusion of compulsory tasks based on communicative or collaborative tools external to the platform (for example, *How NOT to Design a MOOC: The Disaster at Coursera and How to Fix it*, 2013).
5. In the design of the forums, the overall aim of the teaching team must be to devise a structure encompassing all kinds of possible issues. Multiple-threaded conversations on a network can be overwhelming to most language learners (for example, Swaffar, 1998). To prevent the *c* for course from becoming a *c* for chaos, the educator must design a rigid structure based on categories, subcategories and conversation threads which allows for the logical distribution of topics, as in Figure 5.5:

Figure 5.5: Forum Structure Example

5.4.2 Throughout the MOOC: New Forum Curator and Facilitator Roles

Faced with the “massive” number of students in a MOOC, and in order to make tuition feasible, two roles have arisen to support the teacher team in this process who undertake part of their function, while replacing the profiles of “moderator” or “tutor” from closed online environments: the curator and facilitator roles.

According to the holistic model (Simpson, 2012, p.15), the former (curator) should provide students with academic support (cognitive, intellectual and knowledge

issues), whereas the latter (facilitator) offers non-academic support or counselling, and helps students with the emotional and organizational aspects of their studies.

The competences associated with the curation of contents in digital environments are linked to the process of searching, organizing, and online publishing of contents in the chaotic and never-ending online world. MOOCs have given rise, on the one hand, to the role of curator as content expert and, on the other, to the facilitator, who takes up the course tutoring more directly (equalling the moderator (Salmon, 2003) of other non-massive, closed online environments). Table 5.4 summarizes the competences and roles of each profile:

Table 5.4: New professional roles within MOOCs: curator and facilitator

Profile	Role	Competences	Scope
Curator	Provides direct instruction	Solves doubts about teaching materials Suggests additional material to enhance performance Focuses the learners attention on specific issues Supplies summaries on subject matter	Course Forums
	Mediates among educators team and facilitators	Reports on possible errors in subject matter, progress, recurring complaints and possible problems	
Facilitator	Facilitates discourse	Oversees and moderates debate forums Maintains a pleasant learning environment Motivates students Oversees possible social networks associated to the course (Twitter, Facebook, etc.)	
	Oversees quality	Performs a final qualitative test before course start Reports on technical issues	

Glance et al. (2011) point out the lack of consensus on the optimal level of presence in online learning environments: from “sage on the stage”, to “guide on the side” and “ghost in the wings” (Mazzolini & Madison, 2007). In MOOCs, the teacher should not need to participate in forums, provided that the communication channels with students have been properly set up and that curators and facilitators fulfil their role satisfactorily.

I focus next on some concrete aspects of the facilitator role throughout the different stages of the course. In this sense, it is relevant to be reminded that the first MOOCs experiences date back to 2011 and their outbreak only took place in 2012—even if they sometimes seem to have been around for at least a decade, due to their

widespread reverberation. Thus, there is not enough information among students about their specific operation and features. As Kizilcec (2013, p. 67) claims: “Most of these [MOOC] learners would benefit from increased guidance on how to use MOOCs to enhance their learning.” He states in his research that a big majority of students have no self-taught competence or are “MOOC-ready.”

Moreover, research such as that of Sharples, Andrew, Weller, Ferguson, FitzGerald, Hirst, & Gaved (2013) confirms that enrolling in a MOOC without having previously developed specific study skills and work habits can be frustrating and lead to early dropouts. Therefore, it is of utmost importance that facilitators start their performance with a Module 0 for MOOC induction, where brief tutorials on the technical platform supporting the course and its tools are also advisable. One of the aspects to be highlighted is, precisely, the lack of communication with the teaching team and the clarification of the different agents and resources available for the interaction. In order to achieve optimal levels of cognitive interaction in these massive environments, the facilitators also undertake the task of establishing a ‘netiquette’ policy and making it explicit, so that the interaction originating in the forums helps build up the cognitive skills of the students and generates a feeling of belonging to a learning community, while helping students understand discourse expectations. I describe next six recommendations that facilitators should pass on to the students in the “access and motivation” stage of the course (Salmon, 2003):

1. First of all, it is advisable to appeal to the need of conciseness and accuracy in student exchanges by reminding them that summarizing skills are essential in massive environments: *“Try to be dynamic in your contributions: use short questions and –if possible– answers.”* (This and the following are literal excerpts from the course “German for Spanish Speakers: Fundamentals”).
2. It is also crucial to explicitly highlight the academic nature of the forums. It is a fact that students tend to mistake the register, not distinguishing academic forums from other digital leisurely environments typical of the social networks: *“Try to contribute with more than just your opinion: experiences, references from other authors, links, etc.”*
3. Selection skills are paramount in these environments in order to avoid being overwhelmed, which boosts a feeling of frustration and leads to course failure and dropout: *“Choose those issues which you find more interesting and avoid participating in all the discussions: quality over quantity.”*
4. As noted elsewhere, further from the teacher’s efforts to contrive a clear structure to guide interaction in a systematic way, it is essential to foster the skill of producing effective headlines among the students, that is, of summarizing the gist of their communicative act in one or two words, in order to cope with the enormous amount of information generated in these environments: *“Think out the subject line of your message, and make it meaningful.”*
5. Given the original connectivist nature of these MOOCs and their operation based on voting to get badges for social recognition within the community (karma), it is

important to make this system explicit in this early stage: *“Keep in mind that your course-mates may assess your participation positively, if they deem your message worthwhile, or negatively, if it is confusing or makes them waste their time. Use the power of your vote: you’ll help make interesting contributions stand out.”*

6. Finally, one of the features that massive environments share with other non-massive, online environments is the great advantage of asynchrony in computer-mediated communication at the forums. The tendency to impulsive, hurried communication that usually finds its way into these environments can be minimized by making it apparent from the very beginning: *“Above all, take advantage of this asynchronous tool: read and think, then write.”*

The curator must be an expert in the course contents. This function would be ideally taken up by members of the teaching team itself, although this is uncommon. The curator’s task is mostly framed by the last two phases in Salmon’s model (“Development” and “Knowledge construction”, see figure 2), which in these environments run however parallel from the very inception of the course, given the students’ irregular access and learning pace. In order to avoid dysfunctions and frustrations, the curator must conform to the peer-learning theoretical frame during the tuition (vs. top-down approach), understanding right from the beginning the lack of control on students’ learning, compared to that of traditional systems. This entails moderately slowing interventions down, so as to let students themselves act as clarifiers in the forums. A delay of at least 48 hours is recommended before answering questions unsolved by peers.

5.4.2.1 The Role of the Teacher as Course Manager and Administrator

Throughout all the phases comprising the MOOCs, the teacher must administrate and manage all the elements thereof. To that end, they must in the first place be proficient in all the supporting technological tools, so that the appropriate resources can be chosen and suggested. This is particularly relevant in Language MOOCs. For example, recording a video presentation from the teaching team inviting students to do the same as a P2P task (encouraging pronunciation practice at early stages of the course) contributes, on the one hand, to demonstrate leadership qualities (Muñoz Carril et al., 2013); on the other, it works as a learning-conductive icebreaker in this early stage (socialization, see Salmon, 2003). The role as course manager and leader is made apparent through the use of massive emails and, overall, the course blog. It seems quite well-established that restricting publication in the blog to the educators’ team helps provide a coherent reference to students, pinpointing the guiding principles throughout the learning process. The following figure shows a sample in relation to video subtitling:

Figure 5.6: Blog posting restricted to the teaching team¹⁰

Undoubtedly, another tool which provides cohesion to the course is email—and one which the educators’ team must handle carefully lest it create saturation among students. In my experience, the use of email as a teaching tool to provide weekly feedback and positive reinforcement to students is one of the most effective and highly-regarded options. Recent research carried out by Coursera insists on the encouraging power of these emails, which boost the commitment to remain engaged with the course by several percentage points, thus improving the controversial dropout figures, and much conversely to “threatening” emails with reminders on tasks deadlines. The following excerpt presents one of this positive feedback emails from the course “German for Spanish Speakers: Fundamentals”:

Liebe Lerner und Lernerinnen,

We have great news just two weeks down from course start: you’re highly committed and willing to learn. Some of you are still joining in; that’s not a problem, the course is open until Jan 14. Kudos! to those making steady progress, each at his/her own pace:

- *Almost 73% of all enrolled students have already begun the course.*

¹⁰ “We’re taking advantage of a student’s query (many thanks for bringing it up!) to let you know that the videos in this course have been captioned manually (i.e., the educators team has personally undertaken the correction of the quite faulty automatic captions). You just need to activate the option “Spanish (Spain). We’re well aware of the importance of subtitles as a fundamental resource when using audiovisual resources to learn a foreign language. It has taken up quite some time, but we’re certain that the captions will provide much-valued additional aid in your learning of German. Bis bald!”

- *80% of those starting Module 1 have finished it up already: Congrats: you've just broken a record! Herzlichen Glückwunsch!*
- *Besides, 35.5% have now started working hard on Module 2—almost one third have completed that one too: Good job!*
- *Engagement in discussion keeps growing exponentially: you keep proving that collaborative work pays out.*

We're heading on to our third week together: keep up the spirit, and keep pushing. There's plenty of time ahead, and don't hesitate to raise any issues in the forums. [...]"

5.4.3 Before, during, and after the MOOC: the Teacher's Role as Researcher

The analytical evaluation of language courses in online environments open to a massive number of students provides a huge amount of potential information to help find out improvement factors after their formative assessment. As Williams (2013, p.13) claims, MOOCs not only give information about the learning styles of the students enrolled, but they also provide a most valuable platform to investigate how knowledge is acquired: "The large number of students and the computerized means of instruction mean that MOOCs are very amenable to experimentation and careful observation." Recent research endorses the importance of the analysis of MOOC course metrics, which can be used to improve course design and achieve higher rates of completion (Kizilcec, Piech, & Schneider, 2013). The almost absolute lack of investigation to date opens up an invaluable horizon for the analysis and execution of formative assessment and investigation-action programs to the Language MOOC teacher. This researcher role must be foreseen in the preliminary course stages by preparing surveys, diagnostic tests and other usual resources for quantitative and qualitative analysis. It must go on throughout the course with intermediate testing, and must be completed with final questionnaires, analysis and conclusions.

In a pioneering study on the participation of students in a Foreign Language MOOC, and based on Nunan's (1992) proposal, Bárcena, Read, Martin-Monje, & Castriello (2014) put forward a mixed-method approach for the investigation of these environments by combining quantitative and qualitative data. As to quantitative data, MOOC platforms themselves provide relevant information for analysis. The data related to standard MOOC course metrics that get automatically saved on the online platforms refer at least to three dimensions:

1. System interaction data (i.e. number of registrations, clicks, navigation, pauses, pages access, time-on-task, successful submissions, modules completed, etc.).
2. Interaction data (i.e. discussion forum posts, visits to forums, blog access, wiki entries, etc.).
3. Profile data—personal information.

In addition to the study habits of the students and their profiles (Williams, 2013), qualitative analysis can be effected via anonymous assessment questionnaires filled out by the students themselves, in which several aspects related to methodology, satisfaction, perception on knowledge acquisition, etc. are included. Spontaneous student participation in the forums is also a precious assessment tool, supplying significant data for qualitative assessment. As stated by Downes (2010) “There are different tools for measuring learning engagement, and most of them are quantifiable [...] But to think that constitutes analytics in any meaningful sense would be a gross oversimplification. There is a whole set of approaches having to do with content analysis. The idea is to look at contributions in discussion forums, and to analyse the kind of contribution. Was it descriptive? Was it on-topic? Was it evaluative? Did it pose a question?”. As highlighted in the Horizon Report (2012, p.8), the analytics data supplied by online activities will enable a sustained improvement in the learning results for these environments.

In that sense, LMOOCs offer a unique opportunity to set teachers and researchers on track by addressing language learning methods and strategies on a large scale. Such an empirical research enables a comprehensive review of a great number of language teaching methods and subsequently frameworks. As vast amounts of discursive data are usually generated and collected in LMOOCs, analysis and computational tools have to be used to represent the networks of the activity, to identify themes in the data, etc. and also for analysis and interpretation of the qualitative research data. It seems that learning analytics can be powerful in giving meaning to interactions and actions in learning environments such as generated on MOOCs, providing scope for personalized learning and the creation of more effective learning environments and experiences.

5.5 Conclusion

This paper has sought to identify and describe the roles and competences of the online language teacher in massive open courses by drawing on my own experience and building up on the roles described for online language educators in non-massive, non-open environments. In my study, I have focused on the connectivist course model which, to my knowledge, is the most suitable one because of its possibilities for interaction in the negotiation of meaning and for practicing the different skills needed to learn a foreign language. However, I combine the connectivist model with features belonging to the xMOOC model. I propose a framework to develop LMOOCs that links to Salmon’s theoretical tutoring model and that is based on Hampel & Stickler’s skills pyramid, however focusing on Crompton’s framework that includes the three major sets of online language teaching: technology, pedagogy and evaluation.

To identify the roles of the language teacher within the MOOCs, I propose a classification according to the several stages of the course. Firstly, I describe the wide range

of roles that come into place before the MOOC runs: the teacher as structure designer and content generator. At this stage is where the main task of LMOOC's teacher is shifted. For the course instructional design I propose a systematic, sequential plan based on Mastery Learning following four steps. Moreover, I suggest applying heuristic strategies to present and transmit the contents of the course. As an assessment designer and evaluator, the teacher has to develop self- and peer assessment tasks, including readily accessible keys, with an appropriate feedback raising language awareness among students. I recommend a voluntary approach to these activities due to MOOC's connectivist nature. Regarding the designing and structuring of the communication tools I present a table with their likely application in LMOOCs. In that sense, I also propose a rigid forum structure based on categories and subcategories in order to avoid multiple-threaded conversations that can result overwhelming to most language learners. Secondly, I introduce the two new roles that have arisen to support the teacher team in order to make tuition feasible in LMOOCs: the forum curator and facilitator roles according to the holistic model. Furthermore, I include the role of the teacher as a course manager and administrator, providing cohesion, feedback and positive reinforcement to students. And finally, I describe the teacher's role as a researcher within LMOOCs, what enables the analytical evaluation of language courses open to a massive number of students providing a huge amount of potential information to help find out improvement factors in language teaching.

The rapid evolution of this type of learning environment, partly due to the progress made in the field of artificial intelligence and task automation, makes it necessary to constantly and thoroughly revise these roles and methodological strategies. MOOCs are expanding, not only language learning horizons, but also language teaching research.

Bibliography and Webliography

- Abel, Ch. F. (2003). Heuristics and Problem Solving. *New Directions for Teaching and Learning*, 95, 53-58. Austin: EBSCO Publishing.
- Anderson, L.W. & Block, J.H.N. (1985) Mastery learning model of teaching and learning. Husen, T & Postlethwaite, T.N. (Eds.) *The International Encyclopedia of Education*, 3219-3230 Oxford: Pergamon.
- Andresen, M.A. (2009) Asynchronous discussion forums: Success factors, outcomes, assessments, and limitations. *Educational Technology & Society*, 12, 1, 249–257. Retrieved Mars 24, 2014, from http://www.ifets.info/journals/12_1/19.pdf.
- Bárcena, E., Read, T., Martin-Monje, E., & Castrillo, M D. (2014). Analysing student participation in Foreign Language MOOCs: a case study. *Proceedings of the European MOOC Stakeholder Summit 2014*, 11-17. Retrieved Mars 24, 2014, from <http://emoocs2014.eu/sites/default/files/Proceedings-Moocs-Summit-2014.pdf>.
- Baker, T.J. (2012). MOOC pedagogy: Theory & practice. *Profesorbaker's ELT Blog* (1 October), Retrieved Mars 22, 2014, from <http://profesorbaker.com/2012/10/01/mooc-pedagogy-theory-practice>.

- Bentley, P., Crump, H., Cuffe, P., Gniadek, I., Jamieson, B., MacNeill, Sh., & Mor, Y. (2014). Signals of Success and Self-Directed Learning. *Proceedings of the European MOOC Stakeholder Summit 2014*, 18-25. Retrieved Mars 24, 2014, from <http://emoocs2014.eu/sites/default/files/Proceedings-Moocs-Summit-2014.pdf>.
- Bershin, J. (2013) The MOOC Marketplace Takes Off. *Forbes*. Retrieved Mars 29, 2014, from <http://www.forbes.com/sites/joshbersin/2013/11/30/the-mooc-marketplace-takes-off/>.
- Bloom, B.S. (1968). *Learning for mastery*. Durham, N.C.: Regional Education Laboratory for the Carolinas and Virginia.
- Clark, D. (2013). *MOOCs: taxonomy of 8 types of MOOC*. Retrieved April 01, 2014, from <http://donald-clarkplanb.blogspot.co.uk/2013/04/moocs-taxonomy-of-8-types-of-mooc.html>.
- Collaboration, Analytics, and the LMS: A Conversation with Stephen Downes*, in Learning Management that fits, Dell cloud services. Retrieved Mars 29, 2014, from <http://bit.ly/938t1o>.
- Conole, G. (2013). Los MOOCs como tecnologías disruptivas: estrategias para mejorar la experiencia de aprendizaje y la calidad de los MOOCs. *Campus Virtuales*, 02, v. II. Retrieved Mars 29, 2014, from <http://www.revistacampusvirtuales.es/images/volII/num02/Revista%20Campus%20Virtuales%2002%20II-articulo%201.pdf>.
- Council of Europe (2001). *Common European Framework of Reference for Languages: Learning, Teaching, Assessment*. Cambridge: Cambridge University Press.
- Compton, L. K.L. (2009). Preparing language teachers to teach language online: a look at skills, roles, and responsibilities. *Computer Assisted Language Learning*, 22:1, 73-99.
- Chun, D. & Plass, J. L. (2000). Networked multimedia environments. In Warschauer, M. & Kern, R. (Eds.), *Networked-based Language Teaching. Concepts and Practice* (pp. 151-170). Cambridge: Cambridge University Press.
- Dodigovic, M. (2005). *Artificial Intelligence in Second Language Learning. Raising Error Awareness*. Second Language Acquisition: 13. Clevedon: Multilingual Matters LTD.
- Ellis, N. (2002). Unconscious and conscious sources of language acquisition. *The Sixth International Conference for Language Awareness, ALA2002*. Umea, Sweden.
- Garrison, D.R. (2003). Cognitive presence for effective asynchronous online learning: The role of reflective inquiry, self-direction and metacognition. In Bourne, J. & Moore, J.C (Eds.) (2003), *Elements of quality online education: Practice and direction*, 4, (pp. 47–58). Needham: Sloan Consortium.
- Gentile, R. & Lalley J.P. (2003). *Standards and Mastery Learning. Aligning teaching and assessment so all children can learn*. California: Corwin Press.
- Glance, D.G., Forsey, M. & and Riley, M. (2013). The pedagogical foundations of massive open online courses. *First Monday*, Volume 18, Number 5–6 May 2013. Retrieved Mars 29, 2014, from <http://firstmonday.org/ojs/index.php/fm/article/view/4350/3673>.
- Goodyear, P., Salmon, G., Spector, J. M., Steeples, C., & Tickner, S. (2001). Competences for online teaching: A special report. *Educational Technology Research and Development*, 49(1), 65–72. Retrieved February 12, 2014, from <http://www.springerlink.com/content/q101330606t10301/fulltext.pdf>.
- Hampel, R. & Stickler, U. (2005). New skills for new classrooms: training tutors to teach languages online. *CALL*, 18(4), 311–326.
- Hanna, D.E., Glowacki-Dudka, M., & Conceicao-Runlee, S. (2000). *147 Practical Tips for Teaching Online Groups*. Madison: Atwood Publishing.
- How NOT to Design a MOOC: The Disaster at Coursera and How to Fix it*. Retrieved Mars 29, 2014, from <http://onlinelearninginsights.wordpress.com/2013/02/01/how-not-to-design-a-mooc-the-disaster-at-coursera-and-how-to-fix-it/>.
- Hubbard, P. (2008) CALL and the future of language teacher education. *CALICO Journal*, 25(2), 175–188.

- Johnson, L. Adams Becker, S., Cummins, M., Estrada, V., Freeman, A. & Ludgate, H. (2013). *NMC Horizon Report 2012: 2013 Higher Education Edition*. Austin, Texas: The New Media Consortium. Retrieved Mars 27, 2014, from <http://www.nmc.org/publications/horizon-report-2012-higher-ed-edition>
- Jonassen, D., Collins, M., Campbell, J., & Haag, B.B. (1995). Constructivism and computer-mediated communication in distance education. *American Journal of Distance Education*, 9, 2, 7-26.
- Khan, S. (2012). *The one world schoolhouse: Education reimagined*. London: Hodder & Stoughton.
- Kicizek, R.F. (2013). Collaborative Learning in Geographically Distibuted and In-person Groups. *AIED 2013 Workshops Proceedings*, Volume I, 4., 67-73.
- Kizilcec, R., Piech, CH., & Schneider, E. (2013). Deconstructing disengagement: analyzing learner subpopulations in massive open online courses. *LAK '13 Proceedings of the Third International Conference on Learning Analytics and Knowledge*, (pp.170-179). New York: ACM. Retrieved Mars 27, 2014, from <http://www.stanford.edu/~cpiech/bio/papers/deconstructingDisengagement.pdf>
- Kessler, G. (2007). Formal and informal CALL preparation and teacher attitude toward technology. *Computer Assisted Language Learning*, 20:2, 173-188.
- Koller, D. (2012). *What we're learning from online education*. Retrieved Mars 27, 2014, from http://www.ted.com/talks/daphne_koller_what_we_re_learning_from_online_education.html.
- Lamy, M.N. & Hampel, R. (2007). *Online Communication in Language Learning and Teaching*. New York: Palgrave Macmillan.
- Lévy, P. & Bonomo, R. (1999). Collective Intelligence: Mankind's emerging world in cyberspace. Perseus Publishing. In Schneider, E. (2013). *Welcome to the Moocspace: a proposed theory and taxonomy for massive online open courses*. In AIED 2013 Workshops Proceedings Volume I,4.
- López López, E. (2006). El mastery learning a la luz de la investigación educativa. *Revista de Educación*, Vol. 340, 625-665. Retrieved Mars 25, 2014, from http://www.revistaeducacion.mec.es/re340/re340_23.pdf
- Mazzolini, M. & Maddison, S. (2007). When to jump in: The role of the instructor in online discussion forums. *Computers & Education*, 49, 2, 193–213. Retrieved Mars 25, 2014, from <http://dx.doi.org/10.1016/j.compedu.2005.06.011>.
- Meskill, C. & Ranglova, K. (2000). Sociocollaborative language learning in Bulgaria. In Warschauer, M. & Kern, R. (Eds.) *Networked-based Language Teaching: Concepts and Practice* (pp.20-40). Cambridge: Cambridge University Press.
- Muñoz Carril, S., González Sanmamed, M. & Hernández Selés, N. (2013). Pedagogical roles and competencies of university teachers practicing in the e-learning environment. *The International Review of Research in Open and Distance Learning*. Vol 14, No 3. Retrieved Mars 25, 2014, from <http://www.irrodl.org/index.php/irrodl/article/view/1477>.
- Nelson, M.M. & Schunn, C.D. (2009). The nature of feedback: How different types of peer feedback affect writing performance. *Instructional Science*, 37, 4, 375–401. Retrieved Mars 29, 2014, from <http://dx.doi.org/10.1007/s11251-008-9053-x>.
- Norvig, P. (2012). *Peter Norvig: The 100,000–student classroom*. Retrieved Mars 25, 2014, from http://www.ted.com/talks/peter_norvig_the_100_000_student_classroom.html
- Nunan, D. (1992). *Research Methods in Language Learning*. Cambridge: Cambridge University Press.
- Pardos, Z.A. & Schneider, E. (2013). Artificial Intelligence in Education. *AIED 2013 Workshops Proceedings, Workshop on Massive Open online Courses (moocshop)*, ii. Retrieved Mars 29, 2014, from http://ceur-ws.org/Vol-1009/aied2013ws_volume1.pdf.
- Patchan, M, Charney, D. & Schunn, C. (2009). A validation study of students and comments: Comparing comments by students, a writing instructor, and a content instructor. *Journal of Writing Research*, 1(2), 124-152.
- Pólya, G.: (1945). *How to solve it*. Princeton: Princeton University Press.

- Read, T. & Rodrigo, C. (2014). Towards a quality model for UNED MOOCs. *Proceedings of the European MOOC Stakeholder Summit 2014*, (pp.282-287). Retrieved Mars 24, 2014, from <http://emoocs2014.eu/sites/default/files/Proceedings-Moocs-Summit-2014.pdf>.
- Sadler, P.M. & Good, E. (2006). The impact of self- and peer-grading on student learning. *Educational Assessment*, 11, 1, (pp.1-31). Retrieved Mars 19, 2014, from http://dx.doi.org/10.1207/s15326977ea1101_1.
- Salmon, G. (2003). *E-moderating: the key to teaching and learning online* (2nd edn). London & New York: Routledge Falmer.
- Schneider, E. (2013). Welcome to moospace: a proposed theory and taxonomy for massive open online courses. *AIED 2013 Workshops Proceedings Volume I*, 4., 2-9.
- Sharples, M., MC Andrew, P., Weller, M., Ferguson, R., FitzGerald, E., Hirst, T. & Gaved, M. (2013). *Innovating pedagogy 2013. Open University Innovation Report 2*. Milton Keynes: The Open University.
- Siemens, G. & Tittenberger, P. (2009). *Handbook of Emerging Technologies for Learning*. Retrieved Mars 24, 2014, from <http://elearnspace.org/Articles/HETL.pdf>.
- Stickler, U. & Hauck, M. (2006). What does it take to teach online? Towards a pedagogy for online language teaching and learning. *CALICO Journal*, 23(3), 463-475.
- Sluijsmans, D., Dochy, F. & Moerkerke, G. (1998). Creating a learning environment by using self-, peer- and co-assessment-. *Learning Environments Research*, 1, 3, 293-319. Retrieved Mars 20, 2014, from <http://dx.doi.org/10.1023/A:1009932704458>.
- Simpson, O. (2012). *Supporting Students for Success in Online and Distance Education*. New York: Routledge.
- Strickler, U. & Hampel, R. (2007). Designing online tutor training for language courses: a case study. *Open Learning*, Vol. 22, No. 1, pp. 75-85.
- Swaffar, J., Romano, S., Markley, P. & Arens, K. (Eds.) (1998). *Language Learning Online. Theory and Practice in the ESL and L2 Computer Classroom*. Austin: Daedalus Group.
- Talaván Zanón, N. (2013). *La subtitulación en el aprendizaje de lenguas extranjeras*. Barcelona: Octaedro.
- Taras, M. (2010). Student self-assessment: Processes and consequences. *Teaching in Higher Education*, 15, 2, 199-209. Retrieved Mars 20, 2014, from <http://dx.doi.org/10.1080/13562511003620027>.
- Warschauer, M. & Kern, R. (Eds.). *Networked-based Language Teaching: Concepts and Practice*. Cambridge: Cambridge University Press.
- White, C. (2003). *Language learning in distance education*. Cambridge: Cambridge University Press.
- Widdowson, H.G. (1990). *Aspects of Language Teaching*. Oxford: Oxford University Press.
- Williams, J.J. (2013). Improving learning in MOOCs with Cognitive Science. *AIED 2013 Workshops Proceedings Volume I*, 4., 49-54.
- Yuan, L. & Powell, S. (2013). MOOCs and disruptive innovation: Implications for Higher Education. *eLearning Papers, In-depth*, 33, 2, (pp.1-7). Retrieved January 22, 2014, from <http://www.openeducationeuropa.eu/en/article/MOOCs-and-disruptive-innovation%3A-Implications-for-higher-education>.
- Zapata-Ros, M. (2013). MOOCs, una visión crítica y una alternativa complementaria: La individualización del aprendizaje y de la ayuda pedagógica. *Campus Virtuales*, nº 01, v. II. Retrieved January 30, 2014, from <http://www.revistacampusvirtuales.es/index.php/es/revistaes/numerosanteriores/29-voliinum1/67-voliinum1-art2>.