Chapter 9
Intercreativity and Interculturality in the Virtual Learning Environments of the ECO MOOC Project

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9.1 Introduction: ECO Project—The CIP Dimension

Learning today is a high-priority commodity, as it is the driving force that enables the advancement of individuals and society and the development of the economy, politics and culture. Access to good education guarantees citizens a better quality of life and the ability to engage more productively in all areas of knowledge.

The launch of the Web 2.0 has highlighted the need to invest in education technology. Now, thanks to Information and Communication Technologies (ICTs) and Open Educational Resources (OERs), the teaching–learning process can be made available to all individuals at very low cost. This has led to the emergence of a new type of large-scale learning known as massive open online courses, or MOOCs, which are poised to revolutionize the current education system. MOOCs based on OERs are set to become the main means of delivering a successful open education that breaks down barriers and opens up the possibility of education for

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the whole of society. However, MOOCs in the higher education system today still form part of informal education, and greater efforts are required in this area.

ECO Project was born as a consortium of 23 partners from different European Countries. ECO is a project integrated in the "Competitiveness and Innovation Framework Programme" (CIP), Theme 2: "Digital content, open data and creativity", Obj. 2.3.a: "Piloting and showcasing excellence in ICT for learning for all". In 2014, ECO Project was formally approved by the European Commission under CJP—call CIP-ICT-PSP-2013-7, project id: 621127. The goal was to take a step forward and to design virtual learning environments through MOOCs.

The Project aims to enable all Internet users interested in online or educational entities to proceed with their continuing training using state-of-the-art technologies and, subsequently, to be able to incorporate them to their teaching methods. Since the birth of MOOCs in 2008, two main pedagogical approaches were mainly used: cMOOCs, with a connectivist approach (Siemens 2005), and xMOOCs, which applies the traditional teaching model based on behaviourism.

Specifically, the ECO project proposes a new model, sMOOCs (social MOOCs), to foster participation in order to attain the necessary digital skills demanded by today's society. Students as participants are the protagonists of their own learning, building their knowledge through collaboration on virtual platforms and in different social networks, and from the exchange of information and feedback from all the other participants.

To attain digital skills and multiliteracies, qualified teachers are needed and one of the main objectives of the ECO project, which is in charge of implementing this new mode of sMOOCs, includes training e-teachers. A report coordinated by Sainz (2015) and published by the Telefónica Foundation in 2015 warns that "the lack of digital competence of many teachers is a significant barrier to the adoption of these new educational tools, which require a considerable adaptation effort" (p. 78).

As explained in the ECO_D4.3 (2015):

> ECO sMOOCs are "social", since they provide a learning experience marked by social interactions and participation, and "seamless", since ideally they should be accessible from different platforms and through mobile devices and integrate with participants' real life experiences through contextualisation of content via mobile apps and gamifications. (Fueyo et al. p. 8)

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Two of the key concepts driving sMOOCs are intercreativity and interculturality. Intercreativity refers to the collaborative creation of new elements, making use of digital tools. Interculturality denotes the relationship and exchange of information between people from different cultures. All this takes place within technosocial communities that is, through either analogue or digital social networks, viewed as an indissoluble whole. As explained by Camarero-Cano (2015):

> One way or another, we live in a society in which analogue and digital social networks are interconnected, forming traditional (analogue) and virtual (digital) communities whose indissoluble convergence is what we call technosocial communities (p. 188).

To create the conditions for intercreativity and interculturality, the cornerstone of the sMOOCs organized by the ECO project, which extends learning over time and space, is a pedagogical design based on constructivist and connectivist theories. The development of an intercreative and intercultural teaching–learning environment is instrumental in the creation of a "common brain" that is, of a collective intelligence in constant coordination, capable of uniting individualities, working towards the common good and enabling advancement at both the personal and social levels. Considering the technosocial and socio-cognitive dimensions in sMOOCs requires the integration of various frameworks that take into account the interplay between external context-specific dimensions and internal content-specific dimensions.

9.2 European Policies as Enablers of sMOOCs

MOOCs can be positioned within the broader development of open education, as an extension of OER Movement. The potential of open education was strongly marked by the Cape Town Open Education Declaration (Shuttleworth/OSF 2008). However, although the concept of open education is often mentioned, it is not usually combined with a clear and solid description of what the term means. What "open" means in open education has been the subject of some debate[1] and is increasingly becoming associated with "free". However, open education is primarily a goal associated with removing barriers to education (Bates 2015). The aim is to increase access to and successful participation in education by eliminating all sorts of obstacles and offering multiple ways of learning and sharing knowledge, and to improve accessibility to formal and non-formal education. In this context, MOOCs form part of open education and should be defined as such.[2] Recently, Jansen and Schuwer validated this relation between MOOCs and open education.

In general, Open Educational Practices (OEPs) are related to the removal of all kinds of obstacles in education. For example, successful participation in higher

[1] http://booktype.okfn.org/open-education-handbook-2014/what-is-open-education/.

[2] http://www.openuped.eu/images/docs/Definition_Massive_Open_Online_Courses.pdf.

education can be increased by removing economic barriers. MOOCs contribute both by reducing costs for participants and by providing education for the masses, but they also remove barriers related to entry requirements, location, scheduling, network connectivity, digital literacy, accessibility over time, language, age, culture, legal issues and quality. They focus on learner satisfaction, completion and recognition (Mulder and Jansen 2015).

In addition, on the macro level, OEPs are related to governmental policies that stimulate access to and success in education or society as a whole. Examples include open access policies for publicly funded research or open licensing policies for the outputs produced by subsidized education so that they benefit everyone in society and not only educators.

The European Commission's initiative, "Opening up Education", supports such public policy-making. It was launched in September 2013 as a European move towards innovative learning and teaching through ICTs aimed at modernizing education for the full spectrum of learners in all educational sectors using OERs and MOOCs. ECO, funded by the Competitiveness and Innovation Framework Programme (CIP), can be seen as part of this larger process of democratization of knowledge via the democratization of learning–teaching processes and strategies.

Online and open education has great potential to improve the quality of education by promoting innovation in teaching and learning processes and increasing flexibility and accessibility for students. Openness is an important driver for various social dimensions, but also for promoting the development of skills, enhancing knowledge transfer and increasing the pace of innovation. ICTs enable openness and in addition provide the efficiency and scalability needed in open education.

However, it must be recognized that different barriers exist in each continent, country and region and the incentives required will also vary. This is due not only to language differences, but especially to national and cultural characteristics. Open and online education can overcome these obstacles and provide access to and successful participation in higher education. The main challenge is to provide solutions that scale (both pedagogically and economically) and respect cultural differences and the need for personalized interaction in education. Specifically, interculturality must be combined with intercreativity within the massive dimension of MOOCs to help overcome some of the cultural obstacles that arise in the online exchanges among all types of participants.

9.3 Educational Virtual Environments Facilitating Intercreativity and Interculturality: Characteristics of the Eco sMOOCs

ECO project has a landing page http://project.ecolearning.eu/ where all topics related to the project are presented: the main goals, partners, news, the conferences and meetings ECO is involved in, and related documentation. The pedagogical and

communicative approaches of the project lay the emphasis on creating educational participation scenarios in which intercreativity and interculturality are the common threads for learning.

ECO also has another page for enrolling in ECO sMOOCs https://ecolearning.eu/. For each sMOOC, there is a vignette for visual identification, the course dates (specifying if the course is open, closed or always open), and who is promoting it (university or institution).

To enrol, users must register with the ECO community so as to be considered as participants in the ECO project. Once participants have enrolled, the system opens all the courses so that they can be explored and created with the contribution of each user. The course landing page provides a video presentation and information on: duration, estimated effort, languages, certified credits, evaluation criteria, learning goals, recommended requirements, audience, organizers and teachers.

After joining a course, participants can access four windows that facilitate access to content and foster communication: syllabus (information on course content), tasks (activities proposed by the team), newsfeed (comments by other participants) and notifications (information on facilitation issues).

Participants also have access on this page to the course forum, where the facilitation team posts all the messages to promote sharing and the construction of new knowledge. In this forum, users can vote on each post with a "like" or "dislike" and all participants can add comments.

Participants also have a progress window where they can see the total tasks proposed and the number of tasks they have completed. A progress bar shows what percentage of the course has been completed. If they click on the "*i*" icon, participants can see their course mark and what modules have been completed and corrected.

Since the ECO sMOOCs are essentially social, participants have their own pages, with internal features, on the ECO website where they can share:

- Personal information (age, location, description, interests, Facebook, LinkedIn and GooglePlus profiles)
- Posts, to develop their ideas
- Courses, to show the list of courses they are enrolled in
- Badges, to display their list of badges received in all courses.

Administrators have their own section where they can manage the courses, the participants, the contents, the badges and the learning process statistics. The administrators can work in teams to edit content, to monitor data and to communicate with participants while fostering peer-to-peer evaluation. They do so in a manner that is not intrusive and that is characteristic of ECO's technical functionalities, developed in accordance with the connectivist–constructivist pedagogical design with the engineering team.

The course editing functionalities enable teachers to provide information (general information, additional information, course appearance, credits and diploma),

to interact with one another in the back office part of the sMOOC, to organize the sessions in modular units (videos, podcasts, presentations, docs, articles and others), to interact with groups of participants and to manage the attribution of badges.

Additionally, the administrators have access to data and learning analytics. They can follow statistics (general course statistics, general student/participant statistics); they can monitor participant progress and they can see the evolution of the participants' and teachers' lists. As for communication, they can create and manage announcements for participants (these announcements will appear in the notification window of the sMOOC), they can also send email messages to the participants and organize all sorts of live events so as to foster engagement within the ECO community.

This basic structure of the ECO environment provides a whole repertoire of e-strategies (navigation, mixing, pooling, gamification, etc.). The ECO platform also offers microblogging tools, file sharing tools and videoconferencing tools. It is filled in with all the information uploaded by the teaching team, the facilitators and the participants. Together, they form part of the ECO community, where each participant turns into a communicative node able to propose a transmedia narrative leading to the collaborative construction of knowledge.

9.4 sMOOCs and Intercreativity

ECO sMOOCs are an example of a teaching–learning process that promotes intercreativity and interculturality. Two of their most important characteristics are accessibility and ubiquity since these courses enable access for people with special needs or at risk of exclusion, and training can be delivered anywhere, anytime and through any device. These ECO features and affordances are coherent with the UNESCO policy guidelines for mobile learning (2013):

> Because people carry mobile devices with them most of the time, learning can happen at times and in places that were not previously conducive to education. Mobile learning applications commonly allow people to select between lessons that require only a few minutes to complete and lessons that demand sustained concentration over a period of hours. This flexibility allows people to study during a long break or while taking a short bus ride. (p. 14)

Such flexibility and ubiquity are not without challenges for the learner as he/she can feel isolated or at a distance. Therefore, implementing sMOOCs requires specific conditions that foster a participatory culture, buttressed on media convergence (Jenkins 2008). Henry Jenkins has speculated that "rather than talking about media producers and consumers as occupying separate roles, we might now see them as participants who interact with each other according to a new set of rules" (2008, p. 15).

In turn, Aparici and Osuna-Acedo (2013) lay the emphasis on connection beyond connectivity:

> The participatory culture is that which has no barriers for citizen expression, which supports creativity and sharing individual and collective creations. Individuals believe in the importance of their own work and feel a connection between what others say and their own contributions. (p. 138)

These external context-specific affordances provide new opportunities that can be harnessed to lead to the development of internal intercreative teaching–learning in sMOOCs.

9.4.1 Intercreativity: Definition and Features

The term intercreativity was coined by Berners-Lee in (1997) to refer to the capability people have of creating original and productive elements collaboratively, in a virtual environment and based on digital tools. The author explained it by saying: "I want the Web to be much more creative than it is at the moment. I have even had to coin a new word—intercreativity—which means building things together on the Web" (1997, Interactive Creativity section, paragraph 1).

The concept of intercreativity was created by joining the terms 'interactivity' and 'creativity'. Interactivity implies that there is interaction between people–machines–people. As described by Osuna-Acedo and Busón (2007), the ideal is to achieve the highest possible level of interactivity, in which citizens are active users and take the initiative. In turn, Martínez and Cabezuelo (2010) pointed out that the function of interactivity is to incentivise collaboration and sharing of information quickly, seamlessly and conveniently among all participants.

Intercreativity, therefore, means that all people can be "webactors" (Pisani and Piotet 2009): they actively create content and solve problems collaboratively, improving the existing situation. Berners-Lee (2000) said that:

> We ought to be able not only to find any kind of document on the Web, but also to create any kind of document, easily. We should be able not only to interact with other people, but to create with other people. Intercreativity is the process of making things or solving problems together. (p. 156)

Mostmans et al. (2012) hold that intercreativity "emphasises the possibilities of creating together and being creative together" (p. 105). According to Meikle (2002), intercreativity entails creating new contents collaboratively, as well as using digital technologies with autonomy and freedom. Camarero-Cano (2014) explains that:

> The idea delves into the creation process, that is, from the moment an idea is born, throughout its development and until it ends. In short, it is a social process of creative exchange and a pathway to build knowledge together. (p. 2)

Hence, the culture of participation and media convergence, the architecture of participation (O'Reilly 2004) and co-creation–co-authorship are essential to making the development of intercreativity possible.

Jenkins (2009) proposed the following characteristics of participatory culture:

1. Relatively low barriers to artistic expression and civic engagement,
2. Strong support for creating and sharing creations with others,
3. Some type of informal mentorship whereby what is known by the most experienced is passed along to novices,
4. Members who believe that their contributions matter, and
5. Members who feel some degree of social connection with one another (at the least, they care what other people think about what they have created). (pp. 5–6).

O'Reilly (2004) explained that the nature of systems is designed for user contribution, and insisted on the idea that the more the people form part of a network, the better the product created. This confirms the importance of co-creation to drive intercreativity, as it refers to nonlinear and active creation by all participants, which implies that all members who are a part of the creation process are, at the same time, its co-authors.

Another of the essential characteristics is transmedia connectivity, that is, a communication process which uses various intertwined communication channels. This concept is derived from transmedia storytelling (Jenkins 2008), which defines narrative coordination through various virtual platforms. A striking element of this communication process is the "feed-feed model" (Aparici and Silva 2012):

> Rather than a process for reinforcing messages, it should be understood as an act of construction and connection between all interactors where there are no divisions of any kind; they all have the same status and rank, regardless of the type of declaration made. (p. 3)

The ECO technical and social functionalities allow for transmedia and convergence: videos and other analogue solutions are mingled with digital social networks on the same platform and within the same course. They also facilitate participatory culture with low barriers of entry, easy registration, formal and informal mentorship, the possibility to communicate within heterogeneous groups, not necessarily under the oversight of the administrator team. Additionally, participants have the possibility to feedback and to feed-feed as well as to evaluate their work amongst peers.

9.4.2 Intercreative Approaches in sMOOCs and Collective Intelligence

The development of an intercreative teaching–learning environment in sMOOCs makes it possible to create a common brain, leveraging the rise of collective intelligence (Lévy 1994), smart mobs (Rheingold 2002) and the wisdom of crowds (Surowiecki 2004). As asserted by Lévy (1994), collective intelligence:

> …is a form of universally distributed intelligence, constantly enhanced, coordinated in real time, and resulting in the effective mobilization of skills. […] the basis and goal of collective intelligence is mutual recognition and enrichment of individuals rather than the cult of fetishized or hypostatized communities. (p. 19)

There are different areas in which collective intelligence can be applied. Marco (2010) suggests nine domains that take into account technical and social engineering.

- Decision Support: the more there are people involved in decision-making, the more the ideas and solutions will emerge. It will be possible to verify the information from different perspectives, so that it will be easier to detect and prevent errors.
- Open Innovation: knowledge, opinions and experts' field experience are integrated with input provided by potential users. Thus, feedback will efficiently improve the products received.
- Crowdsourcing: the work gets outsourced, being the citizens the ones who take charge of finding solutions collaboratively.
- Social Collaboration: social software facilitates collaborative work, such as using tags to categorize data. This makes information search-and-find faster and more efficient.
- Control: closed, hierarchical structures are set aside in order to give way to open, nonlinear and outsourced structures.
- Diversity versus in-depth expertise: there must be a balance between diversity and expertise in order to generate original ideas and tailored solutions.
- Engagement: motivation, appreciation and recognition are a must, in order to get active and committed participation.
- Policing: the more people are involved, the more likely negative behaviours are detected. This establishes some kind of control, to take care of unacceptable situations.
- Intellectual Property: it is essential to clarify the terms and conditions of intellectual property in terms of ideas, solutions and work done, to avoid misunderstandings.

Such domains resonate with ECO's pedagogical design and technical functionalities in support intercreativity: openness is sustained, with Intellectual Property issues resolved via Creative Commons licensing; engagement and policing are maintained with the help of the facilitating teams and mentoring to support collaboration; crowdsourcing is enabled by peer-to-peer interaction and peer-to-peer evaluation that support innovative solutions and provide feedback and feed-feed.

Using all these elements incorporated within the sMOOCs pedagogical and technological design, ECO aims at ensuring empowerment of the participants so they can fully participate in the intercreative actions being carried out. The roles of teachers and students are transformed, making it possible for "everyone to learn with/from everyone". Initiatives, contributions, observations, criticisms and so on

are open and expressed by all the participants without any type of censorship or undue policing and control.

In terms of effective implementation, ECO proposes several actions to guarantee the attainment of the project's objectives: (1) The administrators teams are provided with a "checklist" that enables them to follow ECO's pedagogical design in a transparent and collaborative manner; (2) A quality committee has been set up to monitor the implementation of intercreative practices, as designed in the pedagogical model; (3) Participants are given a voice to express their opinion in this regard in a satisfaction questionnaire which they can complete anonymously. The questionnaire results are then used to improve the sMOOCs over the following iterations (three in total over 2 years).

The quality committee comprises three people who coordinate the actions for ensuring compliance with all the requisites established in the area of intercreativity. These include activities for internal assessment between the different ECO sMOOCs. Each sMOOC team assesses two other courses according to a series of variables and criteria previously established by the committee.

The participants' satisfaction questionnaire collects their opinion on several aspects related to intercreativity, such as:

- Design of collaborative tasks
- Promotion of participant involvement
- Promotion of participation with other participants
- Promotion of participant creativity
- Social interaction and support from other students
- Feedback and comments on other participants' work.

The results of the first iteration tend to show an overall high degree of satisfaction that confirms the positive feelings elicited by participatory social sMOOCS (see Fig. 9.1: Satisfaction questionnaire). The results confirm that courses delivered within an intercreative teaching–learning environment that promotes collaborative work and co-creation by all participants are largely appreciated by participants.

Those responses obtained in ratings "very good", "good", "fair", "completely", "to a large extent", "excellent", "good" and "satisfactory" are considered as positive responses. Accordingly, the aspects better ranked in descending order are: the design of collaborative tasks (82 %), social interaction in general and the received support by other students (80 %), promotes student creativity (78 %), promotes learner involvement in the course (76 %), the feedback and comments given by others to your works (76 %) and promotes interaction with other learners in the course (65 %). In consequence, the pure components of intercreativity (interactivity and creativity) are within the level of satisfaction of the participants in the ECO sMOOCs qualified between 80 and 78 %, respectively, leaving the remaining percentage to aspects that support the concept.

Although the data generally are quite satisfactory, it is necessary to point out that there is an amount of participants, between 4 and 12 %, who "do not know" how to

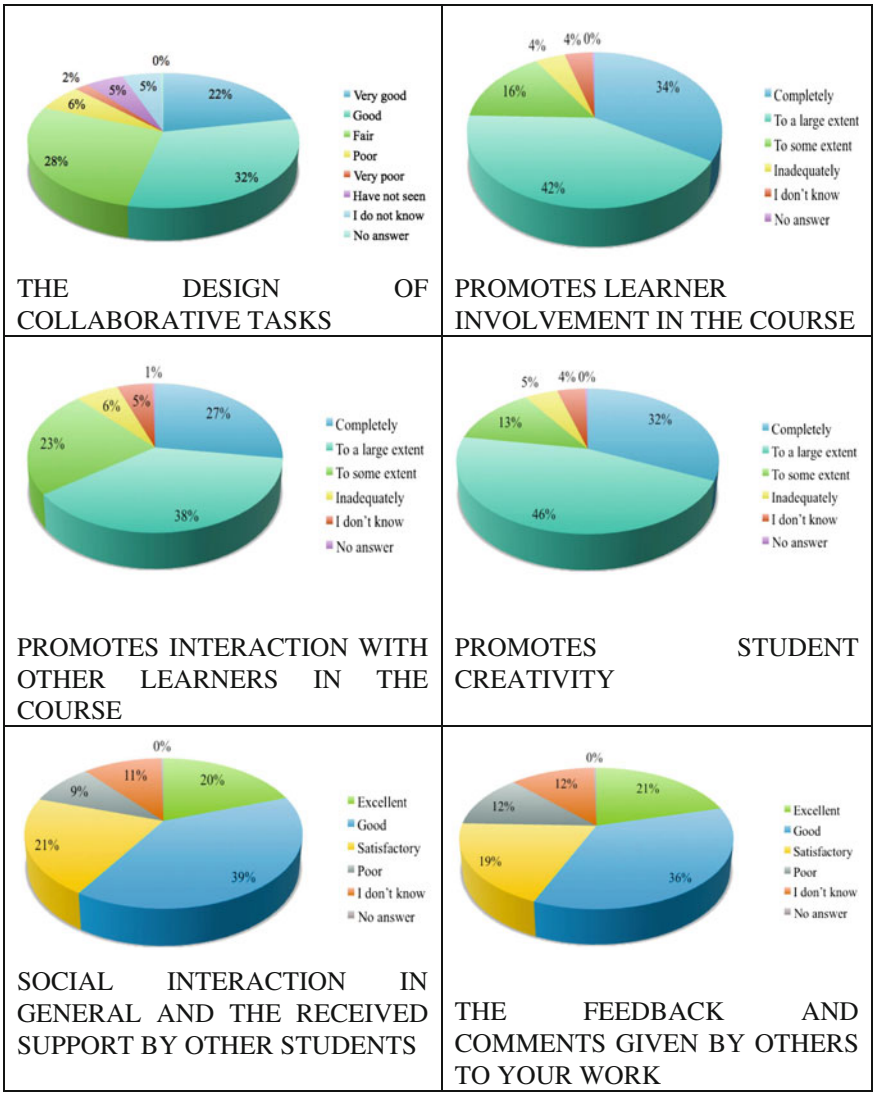

Fig. 9.1 Satisfaction questionnaire for ECO project participants in the first edition of its sMOOC (*Source* Fueyo et al. 2014)

reply to aspects regarding the interaction among the learners and the promotion of collaboration and creativity. These are some elements that show that cognitive and cultural barriers still exist to intercreativity. The second and third iteration results still showed some resistance at that level and point to the need to address them in the future.

Fig. 9.2 Shared experiences in the sMOOC "Alfabetizacion Digital para Personas en riesgo de Exclusion Social"

When considering the output from some sMOOCs, intercreativity appears as capable of addressing burning issues and contributing to social change. For instance, in the sMOOC "Alfabetizacion Digital para Personas en Riesgo de Exclusion Social", offered by Oviedo University, Pinterest is a tool used to share experiences and to fight exclusion (see Fig. 9.2: Shared experiences).[3]

In this sMOOC, one intercreative activity consists in having participants look for digital literacy specialists within a collective in risk of exclusion. This creates a real case study focus on a common set via a participative videoconference on YouTube where any person can ask their own questions throughout the sMOOC's Twitter or Facebook accounts. The experience reaches the end when a videoconference summary gets published in the internal sMOOC bulletin.[4]

In the sMOOC "Comunicación y aprendizaje móvil", offered by UNED, an intercreative activity is performed via Twitter using #ECO_CAM_1A. All the participants build a transmedia narrative, which allows them to discuss and reach a consensus about all the course's contents.[5]

Another example can be found in the sMOOC DIY MIL (on competences for media and information literacy), administered by the French team of Sorbonne

[3] www.unioviedo.es/ecolearning/presentacionmooc.

[4] https://www.youtube.com/watch?v=2ZF2lPGvq44.

[5] https://hub8.ecolearning.eu/course/comunicacion-y-aprendizaje-movil/.

Nouvelle University. Several participants built collective projects to address the issue of radicalization by social networks following the terrorist attacks in Paris on 13 November 2015.[6] One of them, Mrs Farinella created a project called "Info ou intox sur le web, comment faire la différence dès le primaire?" to turn primary school children into "info-detectors". It was then showcased in a conference organized by the Ministry of Education "Réagir face aux theories du complot" (Paris, February 2016, http://www.ac-grenoble.fr/ien.cluses/spip.php?article583).

In a similar move to recognize the social value of such innovative pedagogies, the Spanish Minister of Education, Culture and Sport, Sir Iñigo Méndez de Vigo and Montojo, complimented publically the ECO project, especially because sMOOCs enticed educators to become e-teachers, among other objectives (Madrid, October 2015).[7]

Beyond satisfaction questionnaires, such examples illustrate the intercreative capacities of participants, their willingness to share and to improve society around them, making them into active citizens via digital affordances. The project pushes this collective intelligence even further as in its last phase (year 3), ECO offers participants the option to design their own courses within the OPENMOOC platform. This means that they get to reach the e-teacher category alongside other participants. This implies collaborative work and a social construction of knowledge assumed by all, the ultimate test in intercreativity as it were.

9.5 Interculturality as a Support and Lever to Intercreativity

In ECO, collective intelligence is also intelligence distributed across countries and cultures. ECO is based on the hypothesis that in sMOOCs, interculturality meets intercreativity. Being creative in partnership with people outside one's culture and area of expertise builds community and understanding across cultures. It may also bring transformative changes when cultures come into contact.

9.5.1 Defining a Complex Process

Interculturality can be defined as the process of exchanges between cultures in contact (Devereux 1972; King 1997; Demorgon 1996; Ladmiral and Lipiansky 1991). This contact implies a construction of culture as "nested" levels of interactions: national cultures in contact per se (e.g. language, politics), then institutions (e.g. school systems, teaching styles, educational designs) and finally professional cultures (e.g. engineers, managers, designers, teacher/users) (Demorgon 1999,

[6] https://hub5.ecolearning.eu/course/diy-do-it-yourself.

[7] http://portal.uned.es/portal/page?_pageid=93,52324354&_dad=portal&_schema=PORTAL).

2003). These interactions are complex and include cross-, inter-, intra- and transcultural characteristics (Morin 1987; Frau-Meigs 2006).

In this context, cognition, emotions and socialization contribute to new communities of practice and interpretation (Fish 1980) that emerge during the process of interculturality. According to Merlin (2001), cultures are "cognitive networks" that ensure the transmission of values, attitudes and institutions as nested constructs. They are part of the socialization process (Simmel 1999), and more specifically, of the social learning that takes place through use, practice and the management of emotions under the observation of others. Emotions are related to empathy, which allows all actors to understand others' emotions and to justify choices on the basis of cultural and professional values (Damasio 1994; Decety and Ickes 2009; LeDoux 1996; Livet 2002).

When considering Marco's (2010) domains for intercreativity, some of them overlap with interculturality as a socialization process that takes in emotions, values and attitudes. Among the most important: "Decision Support" as the more intercultural people are, the more likely they are to solve problems unexpectedly; Loss of "Control" as the mix of professional and national cultures can modify hierarchical structures and facilitate outsourcing and crowdsourcing; "Diversity versus in-depth expertise" as the more diverse a community, the more likely it is to generate original ideas; "Policing" since the intercultural situation tends to transform stereotypes and generate positive behaviours as people learn about each others' cultures and clarify positions and misunderstandings.

It is the encounter between these different layers and domains that produces the intercultural situation. All professional actors interact with each other, bringing with them their national, institutional and professional cultures. The intercultural setting aims to foster transcultural communication (horizontal, shared, across nations and institutions and practices). It also intends to facilitate decision, loss of control, and foster diversity and (self-) policing, while the awareness of others becomes an asset in the participatory process. In ECO project, this transcultural encounter aims at a shared European MOOC culture that goes further beyond the usual goals of other existing MOOC platforms. This lead to the original idea of creating a reflexive MOOC, the sMOOC *Step by Step*, in order to have an observable intercultural and intercreative situation that can be used as a template for other sMOOCs.

9.5.2 *Interculturality Applied to a Practical Experience: The sMOOC "Step by Step"*

The design of the *sMOOC Step by Step* tests the process of interculturality in relation to intercreativity: it brings together six national cultures, twelve institutions and three major professional cultures (manager, user, computer engineer), for a total of around 30 permanent staff. These professionals have several profiles, including teachers, pedagogical engineers, facilitators, learners and community managers.

Additionally, several disciplines come into play, such as management, education, communication and computer engineering.

This amount of interaction fosters a climate of intense exchanges that feed intercreativity. The actors share a repertoire of online e-strategies such as gamification, content aggregation, sampling, multimedia creation and diffusion (text-image-sound), sharing of resources, networking, transmedia navigation and communication and peer-to-peer coordination (Jenkins 2009; Frau-Meigs 2011).

The overall design has been devised by a single team representing all ten of ECO facilitator teams or "hubs". The French and Spanish coordinators supervised the entire process and ensured continuity and quality (see Fig. 9.3 sMOOC *Step by Step*: interculturality within the teaching team). The sessions and units were created with the best practices from every hub being shared and modified (after iteration 1 of all the other sMOOCs in the project), which added intercreativity to interculturality.

The seven sessions in the sMOOC have each been created by two hubs working closely together and mixing languages and cultures (German/Spanish, French/Spanish, Italian/French, Portuguese/Spanish, French/Portuguese, English/French and English/Spanish). Since English is the lingua franca across hubs and teams, the English partner was entrusted with the task of supervising the quality of the English used in the sessions. This was very important as each country translated from the English into its own language (see Table 9.1 "Intercultural teams: Hubs by sessions").

In terms of interculturality, the cognitive interplay of emotions, actions and decisions has elicited collective representations and has brought together the

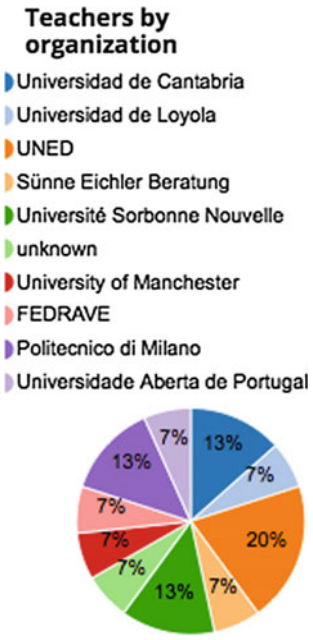

Fig. 9.3 sMOOC *Step by Step*: interculturality within the teaching team (institutional and professional cultures)

Table 9.1 Step-by-step intercultural teams: Hubs by sessions by tasks

	Institution / Session	UniCAN	UoMan	SE	Ferdave	Sorbonne	Loyola	UNED	UAB	POLIMI
Supervision	All					■		■		
Global pedagogical design	All	■			■	■		■		■
Pedagogical design / session	1					■		■		
	2					■				■
	3	■		■						
	4							■	■	
	5						■	■		
	6				■	■				
	7				■	■		■		
English quality control	All		■					■		
Translation and facilitation in each language	English		■							
	Spanish	■					■	■		
	French					■				
	German			■						
	Portuguese				■				■	
	Italian									■

NB The grey zones are zones of interaction between national teams

community of practice of the sMOOC *Step by* Step. The repertoire of e-strategies provided by the technological functionalities also made it possible to enlarge the community of practice and extend it to participants, especially over time and space with the three iterations. This process has given rise to situations of co-training and cooperation, in some cases, and to situations of resistance in others (Morley 1983).

9.5.3 Cooperation and Resistance

In terms of co-training and cooperation, the bicultural teams came up with a constructive compromise. Through cognition and empathy, the online space moved towards a transcultural laboratory experience with intense "focus" activity. Focus is a cognitive notion that accounts for both the control and policing dimensions of intercreative interculturality. The teams intervened in each other's tasks: "interventional focus" defines the fact that the action of others impacts decisions by participants back in their own language. Loss of control and diversity is manifested in "accidental or serendipitous focus" when the actions of others in previous and parallel sMOOCs have an impact on *Step by Step*. Peer-to-peer coordination in particular was used often and led to constructive concentration.

Co-training and cooperation were facilitated by leveraging all the devices of transmedia connectivity in order to share resources and coordinate actions (e.g. the ECO project platform, microblogging tools, file sharing tools, videoconferencing tools). The traditional borders of cultural time and space were recombined: spaces for leisure were used for work (e.g. WhatsApp for professional exchanges; the e-learning platform Alf for project management), working time was not aligned on office opening hours but on project needs (e.g. Sunday messages sent on the platform).

Interculturality was achieved by the transfer of practices and good experiences in English first, giving sMOOC *Step by Step* a uniform feel, and then providing a context-based adaptation. This was particularly visible in the activities (tasks, quizzes, peer-to-peer evaluation) and in facilitation of the sMOOC (live events, forum, groups, internal and external social networks), contributing to the "interventional focus". Actors from outside the ECO project even joined into help and contribute with their experience (for example, the Sapiens MOOC team from Sorbonne Paris Cité; one expert from the MOOC "Introduction à la cartographie des *processus* métiers"). Conversely, contributors from the *Step by Step* project helped in other sMOOCs outside ECO (for example, the sMOOC ECFOLI, MOOC OEI), contributing to the "serendipitous focus".

Interculturality was also enhanced by sharing new techniques. This was evolutional and iterative and shows that time creates trust and confidence and improves participants' adaptation in the intercultural context. Innovation occurred across cultures when good ideas from one country were adopted by others. This was particularly evident in the use of teasers and promotional videos, and led countries that were less image-driven to adopt various forms of visual representations and even change the way they worked (taking stop motion animations from the MOOC DIY EMI and using it for the *Step by Step* teaser, etc.).

In terms of situations where resistance was encountered, the teams experienced a number of limitations. In some cases, the efforts made to reach a compromise hampered criticism and policing: being extra careful and tolerant meant that some proposals were accepted even though there was a sense of diminished quality. In fact, diversity was sometimes favoured over quality, especially since the perception of quality varies across cultures and cannot be objectively enforced by one partner over the others. The focus activity was not without risk and required some management to tackle lack of comprehension (criteria for evaluation, weighting grades, quizzes); notional proximity could also be misleading (units, nuggets, levels, paths, instructions). Diverse management cultures from different countries also created some discomfort and unease until issues were clarified and verbalized. Consequently, regular weekly meetings were held and leaders of some tasks allocated more time to tutoring, mentoring and moderating (see Fig. 9.4: *Step by Step* Teachers and Facilitators team).

Some countries appear to lack a culture of participation and there is a tendency to fear interventional observation. Some teams tended to wait for instructions and requests for resources and material, whereas others took the initiative without waiting to be asked. This indicates that there may be a need for intercultural participation training. As for interventional observation, there is a fear of judgment

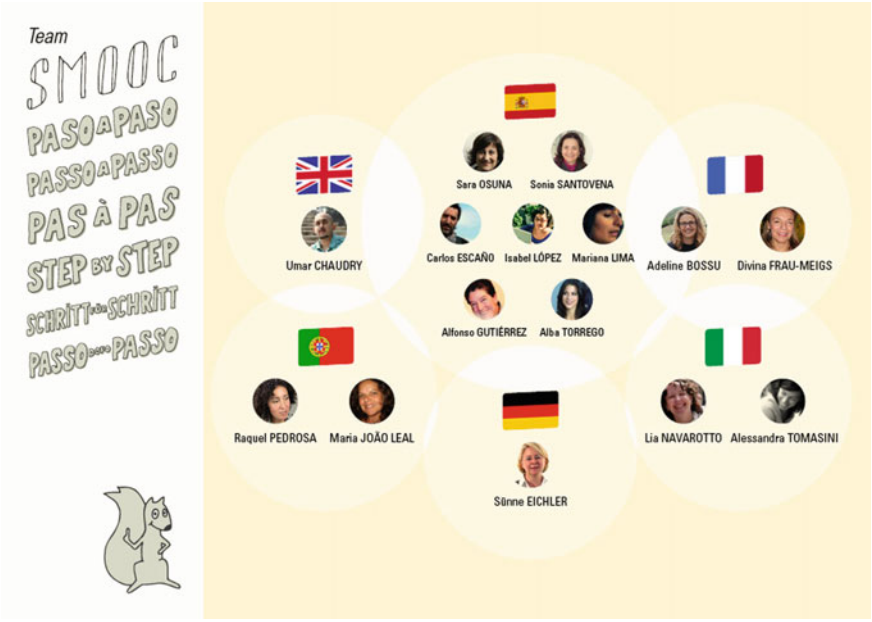

Fig. 9.4 sMOOC *Step by Step teachers and* facilitators team (one meeting/week)

and committing mistakes in spite of the trial-and-error culture of MOOCs. In addition, the substantial presence of partners from Spain rendered the creative and participatory process somewhat asymmetric, not because of ill will, but due to sheer numbers. This was mitigated by alliances across platforms and teams and by increased communication efforts from all. Nonetheless, linguistic proximity diminished the integration potential of some partners from other linguistic spheres, indicating the need for intercultural management.

9.5.4 Towards Open Interculturality

Overall interculturality was an added value as evidenced by the exchanges in the forums (see Figs. 9.5 and 9.6: *Step by Step* Intercultural Forum examples), the wealth of collaborative artefacts (see Fig. 9.7: Padlet Session 1 and Fig. 9.8: collaborative glossary) valorising the deliverables[8] and the results in the satisfaction questionnaires (see Figs. 9.9, 9.10 and 9.11: *Step by Step* satisfaction questionnaire).

[8]See examples for the padlet available at http://fr.padlet.com/wall/s44b1zun5tju); for the glossary examples are available at https://annuel.framapad.org/p/Glossaire.

Fig. 9.5 Intercultural forum: mix of languages, exchange of advice between various categories of participants

The forum provided opportunities for decision support; it fostered crowdsourcing and social collaboration; it balanced diversity with in-depth expertise; it mixed and remixed resources and languages in an open and intercreative manner.

These collaborative "spaces" and tasks allowed creativity and production by participants themselves. They provided recognition of their differences and complementarities to build a unique and original artefact. This product will also become a reference and resource for their knowledge and projects and will be offered to the new participant e-teachers willing to design their own courses during the last phase of ECO project.

The satisfaction questionnaire shows that the intercultural exchanges have not been an issue in terms of creativity. On the contrary the participants are overwhelming satisfied with the sMOOC *Step by Step* and the way it affords interaction and buttresses creativity.[9]

The intercultural process led to the creation of a new culture, a new vocabulary, new methods of production and new ways to create resources and deal with learners. Sharing a common culture led to tolerance for foreign behaviours, values and designs, in a form of (self-)policing. The sMOOC *Step by Step* actually acted as

[9]Since the first session, a new sMOOC has been created in ECO «working in multidisciplinary teams» offered by POLIMI, www.ecolearning.eu.

Fig. 9.6 Intercultural forum: circulation between resources and languages

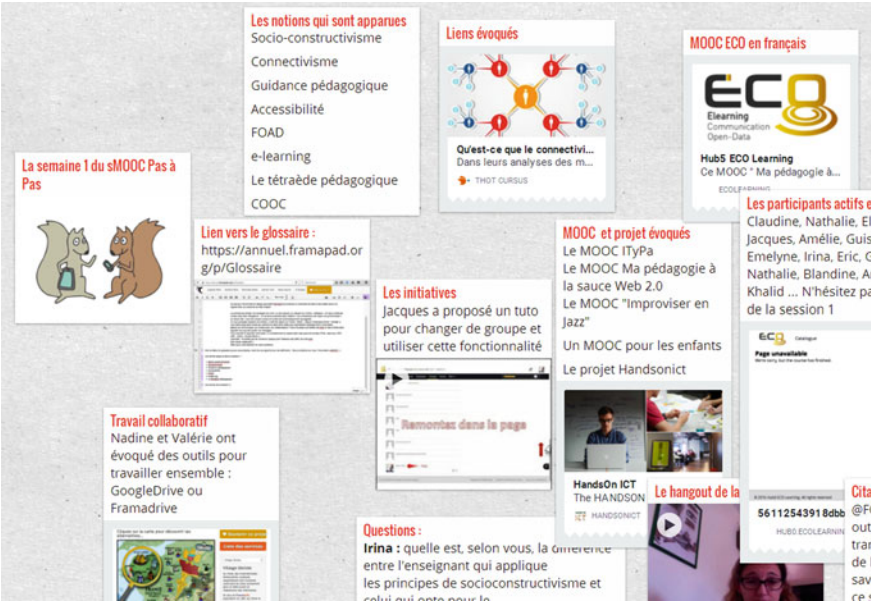

Fig. 9.7 sMOOC *Step by Step* (iteration 2): Padlet co-created with the proposals of participants (http://fr.padlet.com/wall/s44b1zun5tju)

a new space, as a kind of fab lab or an online makerspace: it focused attention on intercultural competences such as collaboration, training oneself as one trains others (feedback and feedforward) and reflexivity. The added value of this new space contributed to making the other languages visible and accessible, favouring intercomprehension (Capucho 2008). Additionally, this experience in intercreativity enabled participants to be creative back in their own culture, modifying other MOOCs in their hubs, introducing new resources and new media, etc.

Fig. 9.8 sMOOC *Step by Step* (iteration 2): The French version of the collaborative glossary (https://annuel.framapad.org/p/Glossaire)

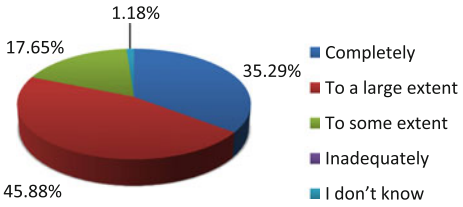

Fig. 9.9 Data collected from Osuna-Acedo (2014–2017): In your opinion, to what extent the course you have chosen promotes participant creativity?

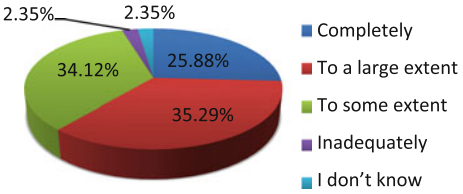

Fig. 9.10 Data collected from Osuna-Acedo (2014–2017): In your opinion, to what extent the course you have chosen promotes interaction with other participants in the course?

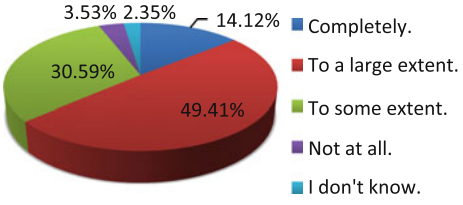

Fig. 9.11 Data collected from Osuna-Acedo (2014–2017): In your opinion, does the course encourage valuable communication and interaction among participants?

The sMOOC *Step by Step* highlights the potential of "open" interculturality; it develops capacities for taking action collectively, and it prepares for "open" minds and "open" behaviours, in situations that are also "open" (i.e. iterative and cross-cultural). This is valid for trainers/teachers as well as for participants (see

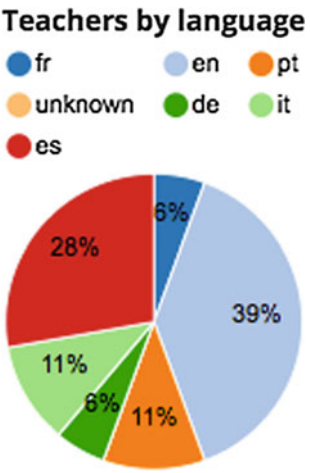

Fig. 9.12 Data collected from Osuna-Acedo (2014–2017): Teachers by language

Figs. 9.12 and 9.13: teachers and participants by language). As such, open interculturality is associated with online well-being and identity formation. With sMOOCs, an additional "lifelong interculturality" dimension can be added that increases access and accessibility, ubiquity and mobility. Moreover, interculturality applied to a practical and context-based experience is connected to intercultural dialogue and diversity.

This open interculturality is cognitive because of the context of exposure and social learning created by the sMOOC. The cognitive dimension implies monitoring the entire environment and being ready to interact (interventional or accidental focus); being conscious of the situation of others and internalizing this (empathy); being able to change roles and to find playful solutions (tolerance to error); being distant in relation to oneself with new roles, unknown situations (decentering

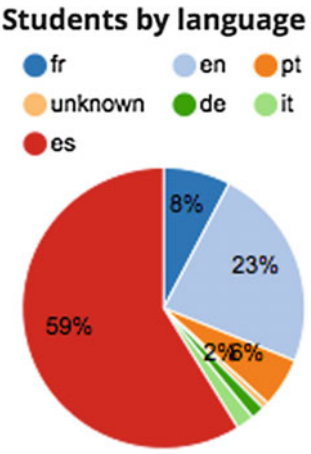

Fig. 9.13 Data collected from Osuna-Acedo (2014–2017): Participants by language

process); being capable of tolerating differences in others' values (tolerance to ambiguity); and being aware of one's own observation activity (presence to self and identity construction) (Frau-Meigs 2011).

9.6 Conclusions

This research and this experiment around the sMOOC *Step by Step* and the other 16 pilot sMOOCs of the ECO project confirms the hypothesis that intercreativity and interculturality are key factors in removing barriers to education.

The main findings for intercreativity confirm that giving priority to creativity and interactivity in the sMOOC model enables course participants to assemble knowledge in technosocial communities, in which communications are horizontal and multidirectional in a non-hierarchical transmedia context.

The main findings for interculturality confirm that sMOOCs are affordances for situations of co-training and cooperation across nested cultures. Contrary to other online experiences that have attracted passive observers and lurkers, they show an intense "focus" activity that leads either to intervention or to serendipitous diffusion of resources and learning.

sMOOCs function as makerspaces or laboratories that favour socialization and acculturation to new ways of copresence and co-education: they induce the sharing of tool kits, transmedia connectivity, repertoires of e-strategies and intercultural dialogues.

The sMOOC *Step by Step* proved to be a performance in open interculturality with strong cognitive processes at work: interventional or serendipitious focus, empathy, tolerance to error, decentering, tolerance to ambiguity, presence to self and identity construction. An important issue here is to avoid excessive uniformity in the sMOOCs. Each country should have the capacity to adapt their courses to their specific situation through a range of resources, activities and social networks. Learning should explore other spheres by making use of all available tools, and through the interaction of all the individuals involved.

This exploration is key and quite dependent on ensuring cultural diversity via interculturality in the European Unions. As expressed by Frau-Meigs and Kiyindou (2014), "The digital technology is an opportunity for cultural diversity in terms of democratization, creativity and sociability, but it is also a potential risk in terms of economic affordances for the countries who do not control the conditions of access and the financial profits, which de facto re-enforces digital fault lines along existing geo-cultural divides".

The European ECO project is a pioneer in offering open and online education oriented towards a new pedagogy based on sMOOCs. The courses are designed within virtual learning environments to foster intercreativity and interculturality among the participants. The educational process is possible, thanks to the participation, collaboration and exchange of information by all the users, transforming them into active agents and knowledge producers. This new pedagogical model

enables the creation and development of a collective intelligence, which is characteristic of technosocial communities, and produces knowledge from the co-creation of all the participants.

The advancement of societies is possible through the education of individuals in a participatory manner. It is therefore both a priority and a duty for governments to invest more in open education and offer quality pedagogy adapted to current needs that also extract the maximum possible performance from individuals and from the available resources.

National education systems cannot afford to ignore this networked phenomenon, and must take a step forward to incorporate it into their pedagogical models. The teaching–learning process must be geared towards open and online education that satisfies the current demands of society, while breaking away from the transmissive models anchored in the last century. Interculturality becomes an asset in the European Community at large, as globalization increases the need to understand cultures in contact and gives additional value to intercomprehension. Intercreativity and interculturality are two key factors to integrate for the successful education of citizens, in a scalable and sustainable way.

Acknowledgments We would like to thank the European Commission for believing in our project, and all our partners in the ECO project for their teamwork in seeking to build another way of educating, and other ways of building knowledge consistent with the demands of today's society.

Special thanks go to all the participants in the ECO project, who form a learning community in which different cultures and languages coexist, and who are engaged in this important collective work of intercreative teaching and learning practices. The ECO project is empowering many people who are becoming co-authors of the culture of their time through the educommunicative environments in which they interact.

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Master in Social Networks and Entrepreneurship
Master in International Journalism

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Adeline Bossu has a double M.A. in "International Management and e-Learning" (AIGEME), and a degree in "Logistics and Information Systems Management". She is currently a doctoral student at MICA (U. Bordeaux 3) and a research assistant on the ECO project, in charge of implementation and deployment of 16 MOOCs and leading instructor on the transversal sMOOC, Step by Step. Her research interests related to MOOCs focus on (i) the behaviour of the actors involved in relation to pedagogy and design, and (ii) the process of interculturality as it evolves between countries and among professionals from different cultures.

Raquel Pedrosa has a licentiate degree in "New Technologies of Communication" and a postgraduate degree in "e-Learning—Techniques and Contexts". Her experience encompasses more than 12 years working on multimedia projects and video and audio productions, and more recently on e-learning projects as instructional designer, LMS platforms administration, tutor and as project manager. Over the last 6 years, she has also gained experience as a multimedia and e-learning teacher in formal learning contexts with young and senior learners.

Darco Jansen has been Programme Manager at EADTU, since 2010. He is responsible for developing themes for EADTU(-members) on online education, MOOCs and OERs, employability and social innovation. Darco's fields of expertise include e-learning, open innovation, educational business development, continuous education, non-/informal learning and workplace learning. He worked for over 20 years at the Open Universiteit of the Netherlands. Currently, Darco is the coordinator of the first pan-European MOOC initiative OpenupEd and coordinator of several European MOOC projects.

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