

## Game Based Learning MOOC. Promoting Entrepreneurship Education

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Promoting entrepreneurship could help society overcome the crisis. At the same time, MOOCs could allow a large number of participants to enrol in entrepreneurship education. This case study introduces the Introduction to Entrepreneurship MOOC, which takes advantage of Game Based Learning for developing entrepreneurship through an active based methodology in a MOOC open to anyone, anywhere.

### 1. Introduction

The raise of unemployment in Europe is specially affecting young adults (Hellevik, & Settersten, 2012). In the latest generations, European citizens have shown a higher preference for a salaried position (Rodríguez, González-Sánchez, & Ríos Sastre, 2012) than North American or Asian citizens. This preference is implicit in the culture and the educational system that has prepared the European citizens towards a salaried position, but which has failed to develop an orientation and a preference towards entrepreneurship. A higher entrepreneurship orientation is needed to cope with the global market of the 21st Century. For this reason, different initiatives at the regional, European and international level have been designed for developing entrepreneurship (Cross Border Virtual Entrepreneurship; European Commission Entrepreneurship 2020 Action Plan; Policy Responses to the Economic Crisis, OECD, 2009). Moreover, entrepreneurship has been started to be integrated in the curriculum of all levels of education from primary school to lifelong learning.

### 2. Current needs of entrepreneurship education

Since there is an agreement on the need of entrepreneurship education for the European citizens, the learning methodologies that have been used for developing the entrepreneurship competencies have been based on lecture-based traditional methodologies. Because entrepreneurship is an innovative and active oriented activity, entrepreneurship education should move towards constructivist, learning-by-doing, active learning and experiential methodologies (Solomon, Duffy, & Tarabishy, 2002), characterised by engaging the students as active agents in the learning process, requiring them to do and reflect upon meaningful learning activities. According to Chickering and Gamson (1987) the students must do more than just listen, and be engaged in solving problems, write, discuss and other active process. Game Based Learning (GBL) is one of the active learning methodologies offering an engaging and safe opportunity to develop the entrepreneurship competencies (Popescu, Romero, & Usart, 2012; Wolfe, & Bruton, 1994). Entrepreneurship education could benefit from the use of Serious Games (SG) an "interactive computer-based game software for one or multiple players to be used on any platform and that has been developed with the intention to be more than entertainment" (Ritterfeld, Cody, & Vorderer, 2009, p. 6). SGs offer a safe and active

learning environment allowing to develop the entrepreneurship competencies (Bellotti et al, 2012).

### 3. The MOOC revolution

MOOC has emerged in the 21st century as a response to the Internet potential for distributing knowledge without the close-end basis of a single professor and a limited group of learners in a physical class. MOOCs aim to facilitate the sharing of materials and knowledge among greater groups of (adult) learners, with an expert guide. However, the current methodologies in the most popular MOOCs are based on text-based materials, video-lectures and forum based interactions as shown in Table 1. These features reproduce a lecture-based environment in an online one, and maintain the low level of interaction between the instructor and the participants (when any), and is mostly oriented towards individual automatic-quiz interactions showing no possibilities to develop collaborative learning activities within the participants other than forum-based interactions.

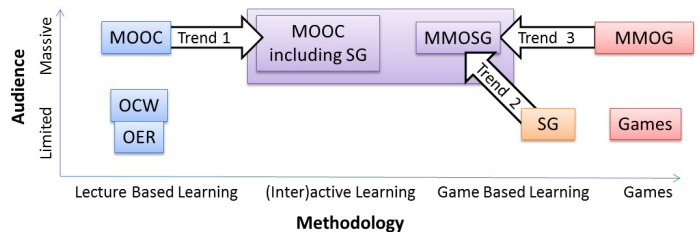
**Table 1.** Current methodologies in the main MOOCs.

	Coursera	Udacity	Edx
Text-based resources	Yes	Yes	Yes
Video-lectures.	Yes	Yes	Yes
Social Interaction	Online forums and study groups	Online forums and study groups	Online forums
Assessment	Quizzes and peer assessment of written responses	Quizzes, problem sets, programming assignments, optional proctored final exams (fee payable).	Quizzes, proctored final exams.

The learning methodologies used in the MOOCs are similar to massified lecture-based universities, with a predominance of text and video lectures, and the use of assessment systems with a high degree of automatization. Social interaction is oriented to promote participation among the students, with very little or no involvement of the teacher. The MOOC model ensure that a massive number of participants could enrol in the course, but does not ensure the pupil/teacher ratio, one of the indicators of education quality (UNESCO, 2006).

### 4. The confluence of MOOCs and MMOGs

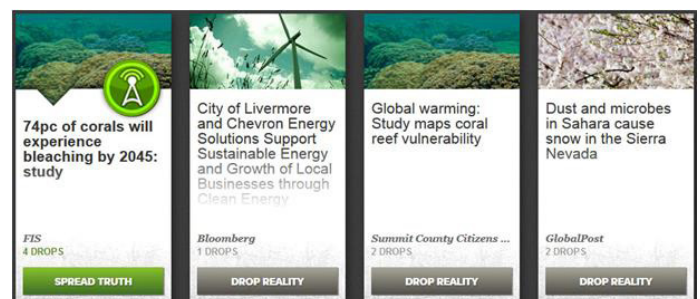
Although the main MOOC systems uses methodologies mostly passive and not much innovative, we can observe a confluence between MOOCs and Massive Multi-player Online Games (MMOG). MMOG is a popular game genre that is capable of supporting massive number of players in a “persistent social and material worlds, loosely structured by openended (fantasy) narratives” (Steinkuehler, 2004, p.521). The popularity of the MMOG, their engaging gameplay and their social interaction opportunities has been started to be exploited for educational purposes, promoting, on the one hand, the use of the existing MMOG such Everquest and Second Life in educational settings (Delwiche, 2006), and on the other hand, the emergence of new MMOGs designed for educational purposes, that we can call Massive Multi-player Online Serious Games (MMOSG).



**Figure 1.** Confluence of MOOCs and MMOGs.

From two different perspectives, MOOCs and MMOGs, there is a confluence that could be observed by the *gamification* of the MOOCs (trend 1 in Figure 1) and the *massification* of SG (trend 2 in Figure 1), and the *educational orientation* of the MMOGs (trend 3 in Figure 1).

An example of the MMOSG is the game Reality Drop from former USA vice president Al Gore. This MMOSG aims to counter false information about global climate change by turning discussions into a game.



**Figure 2.** The climate change massive game Reality Drop.

## 5. Design of the MOOC course “Introduction to Entrepreneurship”

The *Introduction to Entrepreneurship* course is designed as a MOOC aiming to help participants identifying their own strengths and challenges as entrepreneurs, and guide them through the development of some basic concepts related to finance and the creation of a Small and Medium Enterprise (SME). The participants of this MOOC are invited to both compete and collaborate (Romero et al, 2012) with their teammates in the SGs included in the course (*MetaVals* and *HotShot*). The virtual environment of the MOOC is built in a user-friendly MOOC platform called LORE, which has the aspect of a social network and should allow participants to easily interact through the LORE forums. In addition to the LORE platform a GoogleSite has been designed to facilitate the enrolment process.

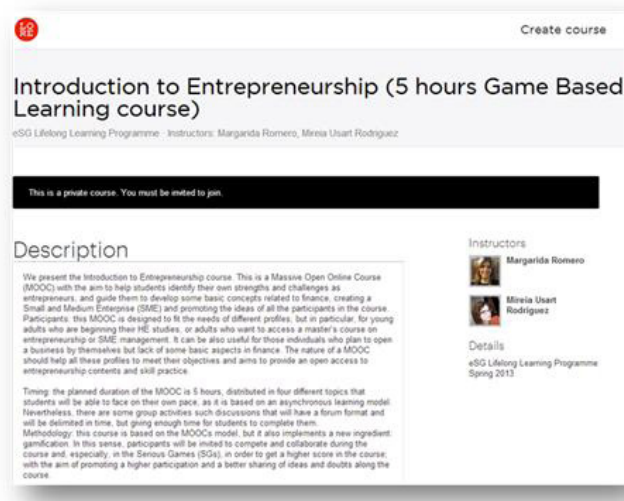


Figure 3. Introduction to Entrepreneurship MOOC in LORE.

### 5.2 Methodology and structure of the MOOC course

The course is structured in 4 different topics, including the participants’ presentation, an individual assessment of the students’ entrepreneurship profile, the introduction to finance and a simulation of running an SME, as shown in Table 2.

Table 2. Introduction to Entrepreneurship MOOC structure and methodology.

Topic	MOOC methodology and SGs
Topic 1. Introducing yourself	Participants in the MOOC will access the virtual classroom and present themselves in the discussion zone.  The aim of this presentation is to have a first glance of the students’ prior knowledge and expectations for the course, and to start sharing experiences.
Topic 2. Your entrepreneur profile	Students are invited to fill two different questionnaires; one on psychological profile and a second related to entrepreneurship competences.  The main aim of this part is to help identifying participants’ entrepreneurship profile from a more objective and scientific standpoint.
Topic 3. Introduction to Finance: Assets and Liabilities	Participants are invited to play <i>MetaVals</i> game. <a href="http://www.metavals.eu">www.metavals.eu</a> against a virtual player.  This topic helps students practicing and reflecting on their basic finance knowledge and collaboration and competition skills.
Topic 4. Running an SME	The last topic of the course is focused on a web-based game that represents a small company. Students have to run the company in order to learn SEM basics.  This part of the course aims to give students the basic tools and concepts of running a SME in a practical manner.

The course has been designed in the context of the FP7 Erasmus Project “Stimulating Entrepreneurship through Serious Games”. The *Introduction to Entrepreneurship* GBL MOOC is accessible to anyone, anywhere, having 5 hours of availability between May and July 2013, and will be available in both English and Catalan.

### 6. Conclusions

The use of a Game Based Learning (GBL) approach in the MOOCs could help to overcome the lecture-based approaches adopted in the main MOOC platforms, where the text, audio and video lectures are combined with automatic quizzes. GBL, and the use of SG, could promote the development of more practical and applied competencies and knowledge such the entrepreneurship competencies. MOOCs integrating SGs could allow the participants learning by doing in a safe environment and respond to the European-scale need of generalizing entrepreneurship education, but also to other 21st century competencies allowing our societies to better cope with the current challenges.

### 7. Acknowledgment

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