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# Designing an online entrepreneurship course for Higher Education: preliminary issues and challenges

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## Abstract

Despite the long standing tradition of higher education institutions in developing and delivering high quality education, the task of incorporating and diffusing an 'entrepreneurial spirit' in the conventional higher education paradigm is rather demanding. Reflecting upon our experience of developing an open online entrepreneurship course for students in a Greek HEI, in this paper we illustrate how entrepreneurial education challenges conventional didactic and pedagogical understandings and we showcase different ways in which ICT (and its relevant tools) may be best exploited in order to accommodate for the distinctive requirements of entrepreneurial education.

**Keywords:** entrepreneurial education, open courses, ICT tools for education, pedagogy

## Introduction

Almost two decades ago, Gibb and Cotton (1998) described entrepreneurship as a good solution to our increasingly complex and uncertain global economic system. With the global financial crisis of 2007-2008, its effect and the resulting fragile economic climate of the last decade, entrepreneurship receives perhaps even greater share under the global spotlight. Through time, authors have identified several reasons to argue for a view of entrepreneurial education as both relevant and important in all individual, organizational and societal levels (for an overview see Lackeus, 2015, p. 18). Particularly for graduate students, entrepreneurship is perceived as an effective way to facilitate the transition from studies to salaried work or self-employment (Matlay and Carey, 2007). It is thus not surprising that along with the promises of entrepreneurship comes a pressure for HEIs to become key actors "in the landscape of global economic relationships and transactions" (European Commission, 2009, p. 6) and to advance supporting structures for their students and graduates, which places them "in the middle of 'transformative changes' both at the conceptual (new models of education, advancement of theories of social learning) and technological levels (eLearning, mobile devices, learning networks)" (Welsh and Dragusin, 2013, p. 51). The significant curricular and pedagogical challenges introduced by these transformative changes, as well as "the evolution from negligible to massive interest in entrepreneurship" (The George Washington University Center for Entrepreneurial Excellence, 2014, p. 7) are of a particular interest for instructors in higher education, who are required to flesh out these changes in their everyday practice; a rather difficult task since entrepreneurial learning and teaching is very much in its early stages of development.

While entrepreneurship and entrepreneurial education is in the forefront of discussions about growth and economic development (Wong et al., 2005), the extent to which higher education institutions (and particularly those in Europe) are fulfilling their role through the provision of relevant courses and support, has not yet reached its full potential. Sources of

resistance might, to some extent, be found in the ideological spheres where entrepreneurial education is being criticized both as imposing a threat to the 'bureaucratic control' culture of the academe (Gibb, 2002) and as a propagation tool contributing to the proliferation of capitalism and the promotion of neoliberal agendas (Komulainen et al., 2011; Korhonen et al., 2012). In more practical terms, however, key aspects that seem to impede its development and adoption in higher education also revolve around the difficulty in contextualizing the very ideas of 'entrepreneurship' and 'entrepreneurial education', as well as identifying viable pedagogical paths that can accommodate entrepreneurial learning and teaching. The unresolved – to this day – debate around the extent to which entrepreneurship may be taught and thus learned (Henry et al., 2005), serves perhaps as a good example of the complexities situated in the heart of entrepreneurial education.

Developing an entrepreneurial course for higher education is not a straightforward task; put in Morris's (2014) words, "entrepreneurship educators operate within a largely blank canvas and unwritten script" (p. xviii). In this paper, we reflect upon our experience in the early stages of developing an open online entrepreneurship course for students in a Greek HEL. Ultimately, we offer four key features which we argue are of great importance when attempting to apply an online pedagogical approach in entrepreneurial learning.

### **Didactics and pedagogy in entrepreneurial education**

We may draw a distinction between didactics and pedagogy; didactics are thought to be related with the objectives (why), target group (who) and content of a particular course or programme of study (what), whereas pedagogy refers to the accompanying delivery method(s) and tools (how) (Blenker et al., 2006; Kyrö, 2006), with subparts actually informing one another. Through a literature review, it quickly becomes evident that conventional didactics and pedagogical approaches in higher education appear somewhat incompatible with a more constructivist entrepreneurial approach that has been evolving lately. In particular, the differences appear so fundamentally different that one may even speak of a "paradigmatic shift", placing entrepreneurial inspired education (its didactics and pedagogy) away from the more conventional understandings of education in HEL.

A conventional education paradigm in the question "who to teach" would most probably direct to a standalone programme for students, whereas, entrepreneurial education literature urges for the integration of entrepreneurial education across programmes in the curriculum (Wilson, 2008). Interconnected to this is the idea that higher entrepreneurship education should extend beyond disciplinary boundaries (transcend the economics or business management disciplines). Entrepreneurial education also calls for the expansion of the notion of the provider ("by whom" should entrepreneurial learning be taught) so as to include other relevant practitioners (e.g. entrepreneurs and school alumni), thus facilitating also the need to strengthen connections between academia, business and society as a whole (Lackeus, 2015; Wilson, 2008). The role of teacher, thus, opens up to other individuals outside academia (other practitioners and ex-students, even current students themselves). The necessity of the teacher is also contested; Barr and Tagg (1995), for example, advocate a paradigm shift from teaching (instruction) to learning, where learning environments and activities are "learner-centered and learner-controlled" to the point that they can even be "teacherless" (p. 21). Under this approach, the teacher is mainly situated in the designing of the learning environment and activities, while students are "active constructor and discoverer of their own knowledge", responsible for their own learning without the need to be present or participate in every structured learning activity (Barr and Tagg, 1995, p. 21-22). Such constructivist approach of learning and the downplaying of teacher as a mere

facilitator, following Socrates' maieutic conception of teaching has, nonetheless, already received some criticism. Recently, for example, Biesta (2013) urged for a re-appropriation of the contribution and role of teachers in the learning process, distinguishing between "learning from" (teacher as resource) and "being taught by" (teacher as a teacher), and an understanding of teaching as a 'gift' to the students.

For the essential didactic question of content (what to teach), we can observe the infusion of an approach nested in knowledge theories with a more practical, process-oriented one. Entrepreneurial knowledge, skills and attitudes are not only thought as qualitatively different from managerial ones (for an extensive list of differences see The George Washington University Center for Entrepreneurial Excellence Report, 2014); they also require different approaches. In a nutshell, they require an educational material that serves the developing of all relevant technical, business management and personal skills (Hisrich and Peters, 1998), advances entrepreneurial and creative thinking (Shepherd and Douglas, 1996), contains information about the present so that learning is not directed towards the past (Gibb, 1987) and aims towards the creation of an artifact that creates value for others (Lackeus, 2015) - either financial, cultural or social. Finally, concerning questions of time and space (when and where), entrepreneurial education is preferably applied for an extended period of time (Lackeus, 2015) and requires to be location and time flexible (Gibb, 1987), meaning that physical presence at a lecture theatre might not be the only way to go about it (blended, online, *in situ* and on-the-job training are some approaches to be considered).

On the question of pedagogy (i.e. the how), perhaps the most distinctive feature that shapes entrepreneurial education and differentiates it from more conventional practices of learning are the aspects of experiential and action learning (including methods such as internships and consulting). Applying a constructivist view in learning, the student in entrepreneurial education is not there to passively acquire information but to experience a deep and complex learning process or else a 'transformation' (Lichtenstein and Lyons, 2001, p. 8). The learning environment should be designed in ways that facilitates a student-centred learning through experience in a logic of, for example, trial and error (Boussouara and Deakins, 1999). Entrepreneurial education advocates the superiority of a learning-by-doing approach which is nicely illustrated in an ancient Chinese proverb: "Tell me and I will forget. Show me and I will remember. Involve me and I will understand." (Lichtenstein and Lyons, 2001, p. 10). It should be remembered though, that theoretical content is still important since students are expected to develop also the cognitive skills necessary to make better entrepreneurial decisions (Fiet, 2001).

Having provided an overview of entrepreneurial education and its accompanying didactical and pedagogical implications for Higher education, it is now time to focus on a single pedagogical method (i.e. online learning) and offer some suggestions on the various ways in which ICT can facilitate and support entrepreneurial education.

### The online dimension in entrepreneurial education

Our scope was to design an online open course to educate students of HEIs, as prospective young entrepreneurs, in e-business. This could be translated in two interconnected learning objectives for students: to learn how to become an entrepreneur and to understand how digital technologies could boost their newly created micro-enterprise, their startup.

A brief review in the adoption of digital technologies in higher education indicates continuous developments from late '80s to nowadays. Efforts in learning with technology, i.e. e-learning, which started with the establishment of campus learning management systems and a "professor-centric" approach, are now evolving to e-learning 2.0, which

adopts mainly “student-centric” methods (Bates, 2010). The same time, the open educational resources (OER) movement made educational material available to anyone for free (Atkins et al., 2007). Teaching became intertwined with technology and can now be viewed as gradients within three broad categories (Siemens & Tittenberger, 2009): 1) *augmented* (technology extends the physical classroom), 2) *blended* (technology partly replaces in-classroom teaching having one part of the course face-to-face and another part online) 3) *online* (technology entirely replaces face-to-face classrooms). Massive Open Online Courses (MOOCs), which have attracted the attention of higher education worldwide lately, refer to the scalability of open and online education: designed for large numbers of participants, are open to everyone without entry qualifications, and offer a complete course experience online for free (HOME, 2015). Online courses can be supervised or self-paced, where instruction proceeds based on learner response.

However, provisions for online entrepreneurial education do not seem analogous. Even though a significant number of European higher education institutions are involved in some forms of e-learning, training in entrepreneurial skills it’s rather low. According to a study conducted by the European University Association (EUA) at the end of 2013 (Gaebel et al., 2014), with a self-selected sample representing one third of EUA’s institutional membership (n=249), most of the surveyed institutions use blended learning (91%), integrating e-learning into conventional teaching. While a relatively high percentage of institutions indicate that they offer online learning courses (82%), only half of them use e-learning for entrepreneurial education (5% across entire institution, 40% in some faculties or by individual teachers).

Similar findings are reported at a USA survey for entrepreneurship education in 2014 (n=206). As stated in this survey, despite the fact that the use of technology has been on the rise in terms of the use of social media (49%) and web-based assignments (62%), the number of universities indicating that they used online courses within their entrepreneurship program was low (27%), compared to the rise in online course offerings in general business programs (The George Washington University Center for Entrepreneurial Excellence, 2014). Even worse results are found in the case of Greece. A quick search of the keyword “entrepreneurship” in opencourses.gr (an online aggregator of metadata describing open courses developed by Greek HEIs), identified only 46 out of 3446 courses (1.33%).

Which are the characteristics of an entrepreneurial course that imply specific challenges for its online provision? Based on previous work (Lackeus, 2015, p. 16) and our results about the entrepreneurial paradigm in education (presented in the previous section), supported by a focus group analysis (Tsekouras et al., 2016), the four broad design requirements that an online entrepreneurial course should fulfill are: a) *Action* (the creation of artifacts and engagement with experiential learning), b) *Value creation* (artifacts with a value for others), c) *Team-work* (working in teams), and d) *Interaction with the outside real world* (synergies with external communities).

How can these requirements be supported by e-learning technologies and online tools? A literature review of online entrepreneurial education activities in higher education recorded the following uses of e-learning technologies:

- MOOC platforms (Al-Atab & DeBoer, 2014; Welsh & Dragusin, 2013)
- Serious games (Bellotti et al., 2012; Romero, 2013)
- Virtual worlds, such as Second Life (SL) (Hardin et al., 2013; Mennecke et al., 2008)
- Social technologies such as wikis (Weeks & Seymour, 2009)
- Digital storytelling (Klamma et al., 2006)

**Table 1. Literature review of online entrepreneurial activities related to key features of entrepreneurial education**

	Scope	E-learning technology	Full online /blended	Action	Value creation	Team-work	Interconnection with outside real world
<b>Al-Atab &amp; DeBoer, 2014</b>	Entrepreneurship education	MOOC OpenLearning .com.	Full online with supervision	Group project, brain rewiring exercise, assignments	Develop a business idea	Forums, Karma Points, badges	-
<b>Hardin et al., 2013</b>	Entrepreneurship education	Second Life (SL)	-	Students sell and purchase goods and services in SL	Project for building a business in SL	Work in teams in SL	Existing SL entrepreneurs exploit project results
<b>Romero, M. 2013</b>	Entrepreneurship education	MOOC LORE Serious Games	-	Games played	Game simulation of a	Discussion forums	-
<b>Welsh &amp; Dragusin, 2013</b>	Present MOOCs for entrepreneurship education	MOOC platforms: coursera, edx, udacity	Full online	Quizzes, Week assignments Capstone project	Business canvas model, Business plan	Discussion forums, Peer grading, Study groups	Case studies of business stories, Entrepreneurs as educators or TAs
<b>Bellotti et al. 2012</b>	Entrepreneurship education	Serious Games	Blended, f2f and distance activities	“Playoff” competition Homework games	-	Play in teams, game debriefing	Talks by invited entrepreneurs
<b>Weeks &amp; Seymour, 2009</b>	Innovation and entrepreneurship course	Wiki	Blended	Generate knowledge in wiki & assignments	-	-	-
<b>Mennecke et al. 2008</b>	Teach e-commerce in a Masters of Business Administration elective course	Second Life (SL) Streaming lectures	Blended: distance and in studio classroom/ Full online: use SL as a virtual classroom	Scavenger hunt activity in SL	Final report for a local non-profit organization in SL	Team exercises in SL	Real-life problems presented by business leaders and entrepreneurs
<b>Klamma et al., 2006</b>	Virtual Entrepreneurship Lab	Digital storytelling platform	Blended	Student can change the narrative	-	Compare story, discuss it	-

Table 1 represents a review of how the four key features of entrepreneurial learning are implemented in existing online entrepreneurial courses. Literature did not include the necessary details for an in-depth analysis, nevertheless, we could conclude that in the majority of these online courses, students appear active participants of the education process, working in teams for the accomplishment of projects that are valuable to the outside community. An increase in learner's engagement for entrepreneurship can also be observed when moving to more sophisticated e-learning environments; for example, Hardin et al. (2013) discuss about students creating virtual businesses in Second Life.

From the above it could be argued that e-learning technologies can accommodate for the distinctive didactic and pedagogical needs of online entrepreneurial education, needs that appear to be shaped by the four key features identified earlier i.e. action, value creation, team-work and interaction with the outside real world. Finding ICT substitutes and digital tools for the support of these features is a complex task that requires shifting of the educational paradigm. The answers to questions "for whom?, what?, how?, by whom?, when?" together with the assessment and evaluation process are interrelating until the final instructional design of the online course. Table 2 offers some pedagogical guidelines to be taken into consideration while designing an online entrepreneurial course. We believe that our proposal could operate as a framework to guide the online dimension of entrepreneurial education, in order to raise the value of online entrepreneurial courses for both educators and learners in HEI.

**Table 2. Proposal for the design of an online entrepreneurial course**

<b>Action</b>	Form assignments, problems, projects, experiments, laboratory exercises using digital and online tools asking students to create artifacts. Activities should utilise real-world entrepreneurial problems and data. Tools could range from simple software (e.g. worksheets, blogs, wikis, diaries) to complicate utilities (e.g. serious business games and virtual worlds).
<b>Value creation</b>	Express straightforward the need for value creation. Propose innovation. Use digital tools to help students understand the needs of society at large. Use online tools and software to create Business Model Canvas and business plans.
<b>Team-work</b>	Assign team-work and use digital tools to support it: from simple online forums and google groups to social media groups, online brainstorming and specialized groupware utilities.
<b>Interaction with the outside real world</b>	Engage alumni entrepreneurs in course as e-educators, e-TAs and e-mentors. Use existing entrepreneurs' video case studies from success and failures. Entrepreneurs should impose real world problems.

## Conclusions

How HEIs face the challenge of preparing students for the 21st century workspace? How do they educate the entrepreneurial learner, who is not necessarily synonymous to a new entrepreneur? In this paper we argue that entrepreneurial learning implies that HEIs should go through a transition in their educational paradigm, in their pedagogical methods and didactics, from the conventional to an entrepreneurial approach. Based on our experience during the design of an online entrepreneurial course for e-business in a HEI and on an

extensive literature review we are trying to script proposals for this entrepreneurial paradigm: a) a student-centric paradigm which focus on value creation, active and experiential learning, team-work, based on a continuous interaction with the outside real world, b) an educational paradigm that does not address only the cognitive competences of students but aims equivalently to knowledge, skills and attitudes, and c) an approach that tries to cultivate the entrepreneurial learner as a thinker, a doer, a player. The flexible nature of this paradigm facilitates teaching in blended or online classrooms. In order to design an online course for e-business which implements an entrepreneurial paradigm, we investigated e-learning methods and tools. After a corresponding literature review, we concluded with proposals and ideas for the use of ICT technologies in order to address the distinctive features of an online entrepreneurial course.

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