DESIGNING HIGHER EDUCATION DIGITAL COURSE TO BOOST ENTREPRENEURSHIP COMPETENCIES

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Abstract
This paper main goal is to make a literature review about entrepreneurship competencies with the goal to design a digital course for young undergraduates in order to boost their entrepreneurial capacity.

The Spark project is addressing this issue by identifying the entrepreneurial competencies that the young undergraduates need to create their own business and contributing for boost their own employability possibilities.

Based on the competencies identified on a literature review and complemented with focus group with students and entrepreneurs and an online questionnaire the research team will designed the curricula for 8 modules of one online entrepreneurship course which will involve 60 students from 4 European countries.

The digital course will be based on methodologies and tool allowing students to become familiar, mainly through practice and simulations, with basic concepts of entrepreneurship and business management.

This paper presents the main requirements for the digital course taking into account usability, pedagogy, the entrepreneurship competencies and skills expressed by literature and by the data collection process.

Keywords: digital courses, entrepreneurship, competencies, young graduates.

1 INTRODUCTION
This paper presents the designing process of an entrepreneurship course four undergraduate students and young entrepreneurs for project Strengthening Entrepreneurial Spark which is funded by Erasmus+ and have as partners ATO – Chamber of Commerce of Ankara, Turkey (project leader); Institute of Entrepreneurship Development, Greece; Universidade Europeia, Portugal; Florence University, Italy; IBIMET, Italy; Ankara Yildirim Beyazit University, Turkey. A special feature of the course is that the students will need to use the project-based learning methodology in each module of the course in order to develop the competencies which were identified in the literature review and in the focus group with the students and were the base of the questionnaire, which has the goal to confirm the competencies identified.

At this moment only will be possible to present the data from the focus group, because the research is ongoing and the data from the questionnaire is not yet available. However, in this paper it will be possible to identify the trends for the entrepreneurship competencies and the first proposal for the entrepreneurship course.

The paper begins with a literature review on the background and previous research and a presentation of the future design of the course structure. The paper then presents the methodology and the data collection trough the focus groups with the students and with the young entrepreneurs. The results are discussed according to the two stages of the designing the focus group and also the course proposal. Finally, general conclusions are drawn.

2 LITERATURE REVIEW
“Entrepreneurship is a dynamic process of vision, change, and creation. It requires an application of energy and passion towards the creation and implementation of new ideas and creative solutions. Essential ingredients include the willingness to take calculated risks - in terms of time, equity, or career; the ability to formulate an effective venture team; the creative skill to marshal needed resources; and fundamental skill of building solid business plan; and finally, the vision to recognize opportunity where others see chaos, contradiction, and confusion.” [1, p.30]
The literature review shows that several theories and discussions exist according to the entrepreneur profile, leading to the question of whether entrepreneurs are born or made. This often leads to the doubt if entrepreneurship can be taught as a course [2].

[3] defined entrepreneurship education as: transfer of knowledge about how, by whom and with what effects opportunities to create future goods and services are discovered, evaluated and exploited, and divided. He defends that from a basic logic perspective there isn’t a reason for entrepreneurship not being taught.

On a real context and business are dominated by SME, the (small entrepreneur) takes the initiative towards to start a business due to necessity, only very rarely for intentionality. In Indonesia, this type of entrepreneurs is coined ‘necessity-driven or survival entrepreneurs. They are lack of big dream, clear vision, and future plan in growing their businesses further. Furthermore, the necessity-driven entrepreneurs have usually limited access to resources, technologies, and knowledge to develop their creativity and innovation capabilities in order to produce high added values [4]. The authors also commented the presence of creative and innovative entrepreneurs more educated, formally and informally, eager to acquire new knowledge, and more capabilities and access to resources, technologies, and networks to grow their business further. They called them “opportunity-driven” entrepreneurs but represent less than 0.2% of population.

[5] conducted a research on action-based – learning by doing –entrepreneurship education programs in Sweden universities which are increasing. Five Swedish universities’ action-based entrepreneurship programs were reviewed. Founding’s suggests that the regional context and networks are very important as the programs depends from regional actors (organizations and individuals), in financial terms and practical support, for example pro-bono mentoring or advice from experienced entrepreneurs. They emphasize the relevance of these actors as they contribute with relevant up-to-date real-life experience, can play a role-model, enlarge students network through their own networks and move students’ entrepreneurial projects forward. Considering the costs involved of these programs the authors alerts that they cannot rely on voluntary resources and it is necessary public and private funding’s to support the programs. In their research, they found two categories of programs: courses integrated in degrees’ curricula where students must participate, and others which are programs outside the curricula and not giving a formal university degree which are not attractive neither for student focus in academic titles, neither for students without entrepreneurship intention.

[6] made an investigation focus in the change of an EMBA curriculum design. Coursework included initial overview session so students gain understanding of the technology assessment process and the necessary components to complete a feasibility analysis or business plan and two intermediate checkpoints sessions (one third, and two thirds) to determine progress on the projects and map out future expectations. Students work in groups of 4-5 students, under the supervision of the faculty and in cooperation with stakeholders, and EMBA coursework assists in assessing market, financial, production, and other business-related issues. Coursework curriculum includes traditional business subjects such as accounting, marketing and finance, and foreseen a straight relationship between students and teachers. The 18 months’ course have a final assessment, a professionally drafted technology and business assessment accompanied by a formal presentation to all interested parties. The expected outcomes from the EMBA course are: a real world application project for the students; a unique skill set developed through the process with direct application to other entrepreneurial start up opportunities; assessment of Arkansas-based technologies; potential for commercialization of those technologies; Collaborative development amongst institutions and academic disciplines; and, actual product/service commercialization [6].

The Bandung Institute of Technology (ITB) through its School of Business and Management (SBM) took the initiative to develop graduate entrepreneurs MBA courses, focuses in creativity and culture, aiming to (2) push students to the farthest and facilitate them in realizing and experiencing their businesses, (3) exposing students with the richness of Indonesian cultures and creative treasures, and (4) develop students’ mindset of creativity, design thinking, and innovation [4]. As described by the authors, the course design and development process involved benchmarking visits to schools and institutions related to business, creative, cultural, and entrepreneurship education. The process also comprehended literature review and cooperation and collaboration with institutions and third parties, to acquire experiences and capabilities needed in designing and delivering the program. The main goal of the program is to change students’ mindset and develop attitudes toward entrepreneurship such as perseverance, optimism, internal locus of control, self-confidence, positive thinking, sense of urgency, and creativity. From the Benchmarking process, [4] took insights the entrepreneurial program curriculum namely, the need to follow the business/venture cycle, starting from preparation,
opportunity identification, business modelling and planning, initiation, start-ups/new venture, growing, and maturity. The methodological approach for curricula design includes lecturing, exercises, and learning by doing activities focusing in students’ business and managerial knowledge and skills needed to create, run, and develop a business including personal skills, such as life planning and self-management. MBA-CCE involved mixed methods including mentoring by real entrepreneurs as interaction between students and entrepreneurs reveals to be extremely important to students’ effectiveness in the learning process. Students enrolling the MBA-CCE must submit an initial business plan and should connect course materials and entrepreneurial activities/practices. This approach represents a challenge to student’s attitudes but also for lecturers/instructors. The program curriculum covers typical MBA-core courses: Marketing, Operations, Leadership and People Management, Finance, and Business Strategy. Creative-core courses are Design Thinking, Art, Design and Culture, The Contextual Nature of Creativity, creative-core courses; and entrepreneurship-core courses: Entrepreneurial Modelling, Business Initiation, New Venture Management, and Business Growth Management.

[7] defined Lean start up (LS) as a methodology focusing on agile testing and learning cycle to validate hypotheses in the business idea. This methodology is on the base of the success of United States enterprises. They conducted two case studies (projects Erasmus+: ICT Entrepreneur and SCIENT), which final aim was to develop pilot training tests, in the European countries of the consortiums, developed within the Lean Startup approach. Both programs aimed to develop/test a complete pre-accelerator program that could be offered in universities, research and entrepreneurship centres, accelerators and incubators, across Europe, once the project is completed. Programs design involved several phases. 1. Make a diagnosis aiming to evaluate the national entrepreneurship ecosystem and the relevance of the existing entrepreneurship courses in each country of the consortium; 2. An intensive search for the courses/seminars/lessons related with entrepreneurship education was carried out and several organizations were selected to be visited and interviewed. Data collected helped in gaps identification, as well as strengths and weaknesses in the current EE. That analysis helped to identify specific entrepreneurial training needs for both programs. Finally, a questionnaire was applied to the students (instruments included skills, motivations, support from the HEI, barriers, difficulties and sociodemographic traits as variables). Data collected was analysed. Two different programs, with different modules sorted out from the research: SCIENT training – it is a 40 hours training program to give a framework on how to transform a business idea into a business plan; ICT Entrepreneur training – is a 50 hours training program for ICT students/graduates helping them to create new professional paths. Results evidence that is possible and interesting to integrate the LS approach in the design of entrepreneurship training courses, making it possible to define the relevant subjects for the entrepreneurship programs for the target population: entrepreneurial culture, communication and negotiation techniques, finances, basic management tools, logistics for manufacture/delivery of product, setting prices, selling products, internationalization, business models, marketing and market research, and soft skills in general. To complement the theoretical training, the program curricula also includes job shadowing, working in interdisciplinary teams under the guidance of academics, managers, investors and entrepreneurs, having thus the opportunity to understand business needs and how their research can be applied in real business settings. Internships and visits to companies, as well as the presence of guest speakers in the training sessions, and mentoring and coaching activities [7]. The main conclusions of [7] study were, based on evidence, that Lean Startup approach, integrating the “build-measure-learn” approach is suitable for the development of Entrepreneurship Education Programs (EEP), not only for HEI, as also for other EEP stakeholders. Moreover, LS approach reduces constraints by helping new start-ups launching products the market wants, faster and less expensive than traditional methods and with less risk although, in author opinion, business model stands as a key issue for new ventures creation.

3 METHODOLOGY

This research was based on a literature survey and two focus group: one focus group with 8 Portuguese students and other focus group with 8 Portuguese entrepreneurs, in order to identify the students’ competencies needs, obstacles and strategies to overcome the obstacles.

Moreover, this focus groups have been conducted as part of the Erasmus + Project entitled “Strengthening Entrepreneurial Spark” and the aim was to gather information about: gaps in entrepreneurial skills and characteristics to promote entrepreneurship among young people; issues faced by youths in their entrepreneurship endeavours; how promoting youth entrepreneurship.
All the focus groups were recorded and it was made a content analysis of the discourse of the participants.

The participants were eight Portuguese entrepreneurs: five males and three females, and they were aged between 35 and 48 years. According to the students, there were eight Portuguese students: seven males and one female, and they were aged between 18 and 25 years. Concerning their course of study, there were two students of design, three students of management one student of law, one student of sports management and one student of Computer Engineering, to attend different years of degree (1st – n= 2; 2nd – n = 5; 3rd n=1).

4 RESULTS

The literature survey help us to identify the main question for the focus group and also the competencies and the characteristics which emerged in several studies carried out on this issue, as showed in table 1:

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Literature Review</th>
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</thead>
<tbody>
<tr>
<td>Entrepreneurial skills</td>
<td>(Athayde, 2009; Birdthistle, Costin, &amp; Hynes, 2016; Boyles, 2012; Chell &amp; Athayde, 2009; Galloway, Anderson, Brown, &amp; Wilson, 2005; Geldhof et al., 2014; Liñán, 2008; OECD, 2012; Oosterbeek, van Praag, &amp; Ijsselstein, 2010)</td>
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<tr>
<td>Entrepreneurial characteristics</td>
<td>(Birdthistle, Costin, &amp; Hynes, 2016; Boyles, 2012; Chell &amp; Athayde, 2009; Geldhof et al., 2014; OECD, 2012; Oosterbeek, van Praag, &amp; Ijsselstein, 2010; Rasheed &amp; Rasheed, 2003)</td>
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<tr>
<td>Possible Obstacles</td>
<td>(OECD, 2012; Robertson, Collins, Medeira, &amp; Slater, 2003)</td>
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<tr>
<td>Methods to promote entrepreneurial activity</td>
<td>(De Faoite, Johnston, &amp; van der Sijde, 2003; Edwards &amp; Muir, 2005; Fuchs, Werner, &amp; Wallau, 2008)</td>
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<tr>
<td>Activities to promote entrepreneurial spirit</td>
<td>(De Faoite, Johnston, &amp; van der Sijde, 2003; Edwards &amp; Muir, 2005; Fuchs, Werner, &amp; Wallau, 2008)</td>
</tr>
<tr>
<td>Different stages of the entrepreneurial start-up process</td>
<td>(De Faoite, Johnston, &amp; van der Sijde, 2003; Edwards &amp; Muir, 2005; Fuchs, Werner, &amp; Wallau, 2008; OECD, 2012)</td>
</tr>
</tbody>
</table>

We identified the dimension’s Entrepreneurial skills; Entrepreneurial characteristics; Possible Obstacles; Methods to promote entrepreneurial activity; Activities to promote entrepreneurial spirit; and Different stages of the entrepreneurial start-up process.

Using this dimensions, we created the focus group questions and the results are as followed in table 2:

<table>
<thead>
<tr>
<th>Entrepreneurial skills for young entrepreneurs:</th>
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<tbody>
<tr>
<td>- Communication</td>
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<td>- Work Method/Organization</td>
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<td>- Vision / capability to be predictive</td>
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<tr>
<td>- Ability to manage and raise money</td>
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<td>- Personal and business branding</td>
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<td>- Networking abilities</td>
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<td>- Creative and strategic thinking</td>
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<td>- People management</td>
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</table>
- Basic financial skills
- Project management

Entrepreneurial individual characteristics for young entrepreneurs:
- Innovative / Critical Thinking
- Hard worker / self-motivated
- Leadership
- Team spirit
- Commitment to the goals
- Organized
- Confident
- Flexible to changes

Main obstacles that young entrepreneurs face in their entrepreneurship endeavors:
- Raising capital for implementing the business
- Overcoming bureaucratic obstacles about the creation of a company
- Risks of creating and managing a business
- Time management
- Lack of experience
- Scare knowledges about the markets
- Recognition of their capabilities by the stakeholders

Most useful actions to promote successful entrepreneurship in young entrepreneurs:
- Training on business management and costs efficiency
- Knowledge about the credit instruments (banking, investors, crowdsourcing, and others)
- Self-training on market contexts (Internet specific search, Moocs trainings, University courses)
- Creating a business with a multidisciplinary team with legal regulations competencies
- Internships and projects participation to gain professional experience and important competencies to create and manage a business

Most useful training activities for helping young entrepreneurs to develop their business idea:
- Specialized courses
- Workshops, seminars and conferences
- E-learning courses about issues related to creating and managing a business, with simulation tools
- Case Studies of success and failure
- Projects (university projects, consultancy projects, research projects)
- Contests
- Networking moments/spaces

The three main competencies/factors about an entrepreneur:
- Planning, networking, communication;
- Multiple competencies, self-motivation, confidence;
- Planning, networking, communication;
- Networking, persistent, communication;
- Hard-worker, financial access, communication;
- Networking, communication, Innovative;
Leadership, networking, communication
- Credit access, self-confidence, communication;

5 ENTREPRENEURSHIP COURSE DESIGNING

The relevant subjects identified for the entrepreneurship course were entrepreneurial culture, creativity (identifying or creating the business opportunity), finances, management tools, marketing and selling products, internationalization, business models, and soft skills as leadership and teams management and communication and negotiation techniques. To complement the theoretical training, the program will include working with mentors in interdisciplinary teams under the guidance of academics and entrepreneurs. In the final phase of the course the participants who creates the best business plans in each country will be awarded with an Internships during one month in one of the other countries of the partnership of the project.

Project based-learning will be one of the main methodology used during the course, which will have a duration of 4 month and games and simulators will be part of the eight modules, since we consider that will allow students to have the experience and will increase their self-confidence in the learning process.

6 CONCLUSION

Many students enter higher education conditioned by their previous educational experiences to be passive recipients of what they are taught. Making space for students to take control of and responsibility for their learning can greatly enhance their ability to learn from experience [22].

The purposeful for this paper was to present the main requirements for the design of an entrepreneurship digital course considering usability, pedagogy, the entrepreneurship skills expressed by literature and by the data collection process, to provide to the students a unique, oriented experiential learning experience with future implications for their employability.

Comparing the traditional training or education process to an eLearning course sustained in open access contents and sources it allows benefits regarding reduction of training logistics costs and risks for the institutions as well for the students, giving them autonomy and independence in their learning process.

REFERENCES


5183


