

Educating potential entrepreneurs under the perspective of Europe 2020 plan

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Abstract

Entrepreneurship has been a key element of the Europe 2020 strategic plan for the European integration. Entrepreneurship 2020 Action Plan is the relevant agenda of the EU Enterprise and Industry directorate. In this article, we firstly present, in brief, the evolution of entrepreneurship as a field of research and its relevant education. The emergence of entrepreneurship education in Europe for the last ten years is connected with the development of the knowledge spillover theory in Economics. The early European perspective about fostering the entrepreneurial mindset is discussed. Then, we summarize key-points for the European entrepreneurship education under the perspectives of Europe 2020 strategic plan. We proceed with the current status of European entrepreneurship education relevant to adopted pedagogies, motives and evaluation. In the last parts of the article we address problems that arise towards effective fostering of entrepreneurial mindsets and we finally propose directions that can be adopted by educational policies in order to enhance the provision of entrepreneurial courses in various learning settings. The present conceptual approach is based on educational theory capable to accommodate the objectives of the Europe 2020 strategic plan and the profound discussion on entrepreneurship education methods and outcomes.

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1 Introduction

The systematic study of entrepreneurship has been initiated in the first third of the 20th century due to the seminal works of Knight (1921) and Schumpeter (1934). Knight describes the entrepreneur as the one who is tolerant to the endogenous uncertainty of the market while Schumpeter conceives the entrepreneur as the one who innovates. For a long period, entrepreneurship had been attributed to the traits and the characteristics of the entrepreneur through successful but also idiosyncratic case studies and exemplars. Schumpeter probably focused on innovation due to the great technology breakthroughs at his age. In the economics context, Solow (1957) was the first to recognize technology as an external determinant of economic development. Nonetheless, innovation production and adoption had been blur in econometric studies till the end of 60s while most of relevant studies and conceptions were referring to the linear innovation model (Godin, 2006). The full consideration of the role of innovation in the economic development was made by Romer (1986) who introduced the notion of endogenous growth. Due to Romer's contribution, the paradigm changed in western economies from the industrial to the knowledge-driven one in late 70s. After the concept of knowledge-driven economies, much of economics research was transferred to the economics of technology, innovation, intellectual property, and unavoidably, to the innovator and the entrepreneur. As a result, small medium enterprises (SMEs) attracted notable attention due to their capacity to innovate, especially the knowledge-intensive microenterprises.

The new role of knowledge-intensive microenterprises in the economy was revealed by Audretsch and colleagues through the knowledge spillover theory in early 2000s. Firstly, Audretsch and Feldman (1996; 2004) revealed by means of economic geography that knowledge-intensive microenterprises and SMEs formulate innovation clusters around certain "sources of knowledge". Initially in US (Audretsch and Feldman, 1996) and then in Europe (Koski, Rouvinen, and Ylä-Anttila, 2002) innovation clusters, measured and mapped by the number of patents they create, were found to be "anisotropic", gathered in places where top universities and research centers exist. East and west coasts in US, London and the broader Cambridge-Oxford region in UK, North Rhine Westphalia and Bavaria in Germany, Paris region in France, Milan – Torino region in North Italia are indicative examples for the appearance of innovation clusters. These studies conclude that the innovation clusters operate as a "filter" that determines how much of the produced knowledge will be transformed and exploited as innovation in the market. Based on the emergence of the innovation clusters, Audretsch, Keilbach and Lehmann (2005) developed and suggested the theory of knowledge spillover using econometric modeling. The "knowledge filter" in that theory, that determines the conversion of knowledge into innovation, depends on the degree that the human potential is entrepreneurial. Regional effects of innovation and

entrepreneurship in Greece, under the perspective of knowledge spillover theory, have been examined by Liargovas and Repousis (2013). The authors found that the effect of entrepreneurship capital on growth is stronger compared to the effect of knowledge capital. Hence, they proposed structural reforms for Greece in order to widen the current knowledge filter as to increase the impact of knowledge investments on economic growth.

The knowledge-driven paradigm in economy and the corresponding role for innovating SMEs and entrepreneurs, has triggered the emergence of entrepreneurship education: firstly in US (Katz, 2003; Kuratko, 2005; Solomon, 2007), subsequently in Europe (e.g., European Commission, 2006a,b; 2013a) and gradually worldwide. Bibliometric results from the SCOPUS bibliographic database easily verify the rapid expansion of entrepreneurship research and the emergence of entrepreneurship education (Figure 1).

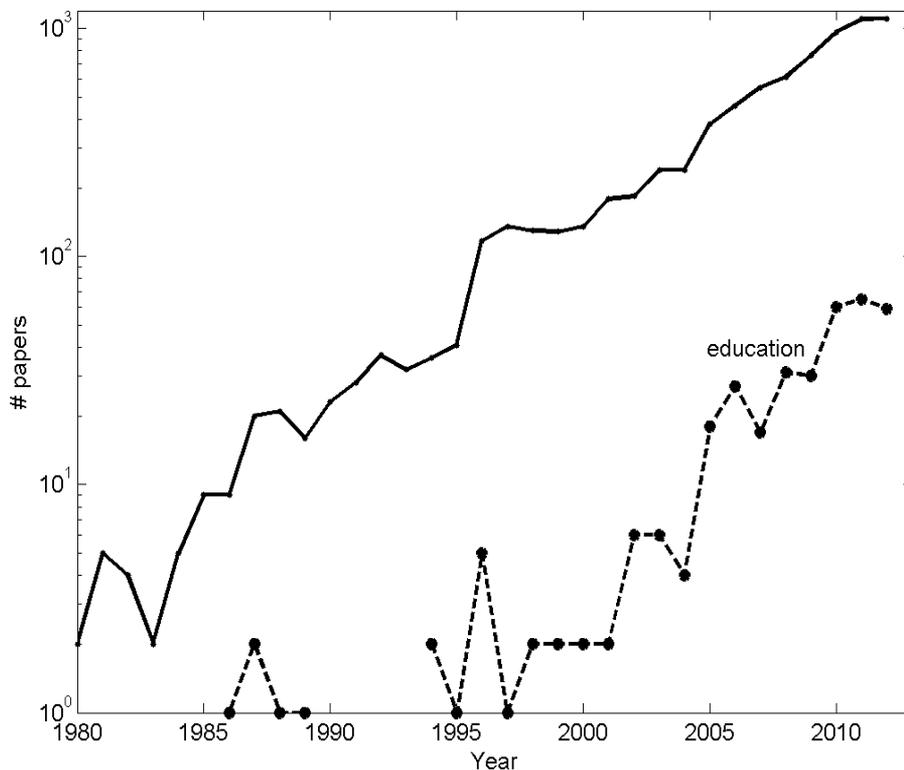


Figure 1: Number of articles per year under the keyword “entrepreneurship” in SCOPUS database. Articles of “entrepreneurship education” are also shown (dashed curve). Adapted from Kakouris and Georgiadis (2016).

Research relevant to entrepreneurship education shows that it has evolved as a field but also exhibits certain weaknesses (e.g., Fayolle, 2013). Fragmentation in content and methods is a typical element observed in entrepreneurial courses as well as a lack of robust teaching models. Besides, there is an ongoing discussion about the educational outcomes of entrepreneurship education compared with the “motivational” ones and the entrepreneurial intention promoted by educational and governmental agencies. As the simple “fostering of the entrepreneurial mindset” objective has evolved for more than ten years, the long-term consequences of the entrepreneurship education gain attention in order to feedback the initial educational policies that prioritized it years before. The aim of the present article is to concentrate on the European education area and to address how entrepreneurship is conceived and has been incorporated in the strategic Europe 2020 plan. The research question for the present work is: how the Europe 2020 plan schedules the promotion of entrepreneurship education in Europe and what is still missing from this agenda? In the rest of the article, we briefly present the emergence of entrepreneurship education in Europe, we focus on the current Europe 2020 strategic plan and we discuss convergences but also divergences of everyday teaching from its objectives. The present critique aims to provide qualitative suggestions about the present and the future of the European entrepreneurship education under the European integration plans.

2 Emergence of entrepreneurship education in Europe

The aforementioned knowledge-driven economy model “inflames” the Swedish paradox, now referred as European paradox (e.g., European Commission, 1995; Dosi, Llerena and Labini, 2006), which states that: “European countries fail to translate scientific advances into marketable innovations”. Hence, public investments in academic research and R&D are not observed to contribute the countries’ Gross Domestic Products (GDPs). A possible resolution of the paradox comes from the knowledge spillover theory (Audretsch et al., 2005) provided that the human potential and the rest intervening entities are adequately entrepreneurial. Therefore, entrepreneurship education emerged naturally to foster the entrepreneurial mindset especially the innovative one. Most of relevant courses were developed in the higher education level giving rise to graduate entrepreneurship.

Just a year after the full articulation of knowledge spillover theory by means of econometric analyses, a European Commission conference in Oslo (European Commission, 2006a), known as the Oslo Agenda for Entrepreneurship Education in Europe, highlighted six basic actions for “fostering entrepreneurial mindsets through education and learning” (Table 1).

Table 1: Suggested actions of the Oslo Agenda (European Commission, 2006a).

Action	Notes
A Framework for policy development	Political support, integration with Lisbon monitoring process, European-wide framework, launch of national strategies, steering groups, promotion at regional level, development within the Bologna process
B Support to educational establishments	Integration with the existing curriculum, inclusion in primary schools, curricular reforms, practice-based pedagogical tools, pilot projects in schools, ensure sustained funding, public funds for entrepreneurship centers, common European and national platforms, research to assess the impact
C Support to teachers and educators	Specific training to teachers, innovative methods for teachers' training, incentives for teachers, mobility of educators across Europe
D Entrepreneurship activities in schools and in higher education	Embed elements of entrepreneurial behavior, raise awareness, book dissemination, innovative pedagogies, test the entrepreneurial competencies, association with real businesses, support spontaneous initiatives, engage alumni, support disadvantaged groups, integrate across different subjects, invite entrepreneurs in classrooms, production of European case studies, increase the academic esteem of entrepreneurship, encourage business ideas, embed evaluation
E Building links and opening education to the outside world	Creation of learning communities, involvement of private partners, donations from businesses, research on employers' engagement, development of pedagogical abilities of entrepreneurs, "entrepreneurial schools" label, "summer job" development, entrepreneurship centers at a local level
F Communication activities	Awareness campaigns, celebrate activities, awards establishments

The Oslo Agenda presumed that educational policies would prioritize entrepreneurship education in both higher and secondary education levels, teachers would be supported through trainers' training and that the new type of

education would be linked and communicated to the local communities. It also supposed that different entities, i.e., EU, states, local authorities, schools and businesses, would collaborate toward common goals. The guidelines for attaining the target were very rich, multidimensional and instructive (Table 1). In the same year and in the context of lifelong learning, the Commission (European Commission, 2006b) included entrepreneurship among the eight key-competencies for lifelong learning (Table 2).

Table 2: Key-competencies for lifelong learning (European Commission, 2006b).

Competency	
1	Communication in the mother tongue
2	Communication in foreign languages
3	Mathematical competence and basic competences in science and technology
4	Digital competence
5	Learning to learn
6	Social and civic competences
7	Sense of initiative and entrepreneurship;
8	Cultural awareness and expression

From the previous description, it is apparent that a year after the knowledge spillover theory the European Commission developed and promoted a horizontal plan for entrepreneurship education in all levels of European education. The commission also indicated, in its grey literature, that this type of education is new and needs governmental support, innovative teaching methods to attain significant impact on trainees and continuous research and assessment. It also clarified that entrepreneurship education should be promoted interdisciplinary and outside typical Business Schools that were already providing entrepreneurial courses through their curricula. From the educational point of view, the entrepreneurial mindset (McGrath and MacMillan, 2000) had to penetrate all disciplines, from the modern and technical ones to the more traditional and basic.

As a consequence of the European Commission guidelines, an increasing number of academic institutes started offering entrepreneurship programs. After two years of implementation, the European Commission mapped the ongoing provision of entrepreneurial courses through a survey in more than 600 higher education institutes across Europe (European Commission, 2008). That survey found that entrepreneurial courses were primarily based on traditional lectures supplemented

by case studies and practitioners' visits in classes. The offered courses also incorporated innovative teaching methods as 'project teams' in a significant percentage (58% answered "often" and 35% "sometimes"). In a more recent one based on projects and in-depth interviews⁴ (European Commission, 2015), and after ten years of implementation, the research committee finds that:

"The prevailing impression that emerged from the evidence collected is that entrepreneurship education works. Students participating in entrepreneurship education are more likely to start their own business and their companies tend to be more innovative and more successful than those led by persons without entrepreneurship education backgrounds. Entrepreneurship education alumni are at lower risk of being unemployed, and are more often in steady employment. Compared to their peers, they have better jobs and make more money." (European Commission, 2015, p. 7)

The latter survey aimed to map the impact of the European entrepreneurship education; however, it uses a broad definition of impact as "*change observed as a direct consequence of an educational activity, on the level of the individual, the institution, the economy, and society*". It is also difficult to observe and postulate causality between education and change.

The knowledge spillover theory also revealed the central role of universities in economy as sources of knowledge. Regions that host high level and active universities, or research institutes, possess an increased opportunity to thrive. The increasing importance of academic entrepreneurship in economy led to the modern conception of the entrepreneurial university (e.g., Clark, 2001; Gibb and Hannon, 2006). A university is considered entrepreneurial when it exhibits a diversified funding base (Clark, 2001), i.e. it possesses more revenue streams beyond the governmental funding. These "other" revenue streams may due to its research outcomes or other services that the university develops. The difficulty to transform traditional universities into entrepreneurial ones lies on the fact that the entrepreneurial spirit has not to be occasional but to penetrate the whole structure and the scope of the organization. Hence, entrepreneurship education is thought crucial toward personal and organizational transformations. Probably, the need to develop entrepreneurial universities underlies many of the guidelines of the Oslo Agenda (Table 1). And therefore, the entrepreneurship that the Oslo Agenda implies is the innovative one despite it is not explicitly stated in the document. This is in agreement with the Lisbon strategy in which the Schumpeterian view of innovation had been a major target.

⁴ There is a lack of Greek data in the report.

3 The European 2020 plan for entrepreneurship

Europe 2020 is a strategic plan for Europe, which was originated in 2010 with a ten-year horizon that followed the Lisbon strategy (2000-2010). It concerns five main targets where innovation is one of them. There are also various flagship initiatives that correspond to the five main targets. “Innovation Union” is the relevant flag under which innovation actions are supported by the European Commission (<http://ec.europa.eu/research/innovation-union/>).

First of all, there are recent European studies that aim to waive the European paradox based on the knowledge spillover theory and the rise of entrepreneurship education. For instance (Figure 2), investments in research are shown to have positive impact on GDP after a few years. Hence, innovation remains in the center of attention in the Europe 2020 strategic plan.

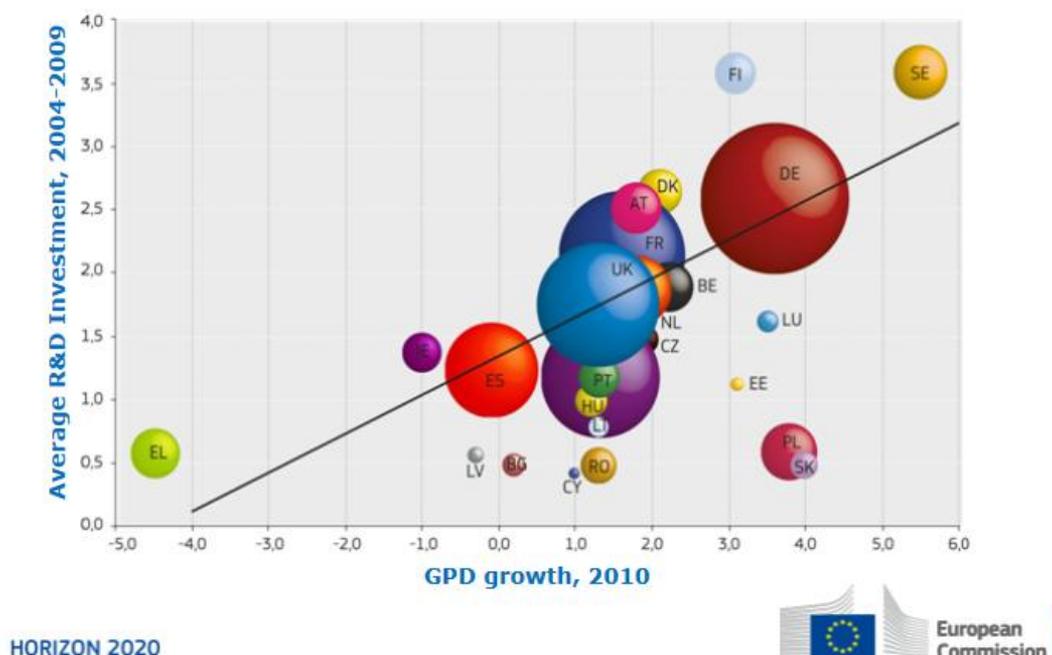


Figure 2: GDP growth in 2010 versus R&D investment in 2004-2009 for European countries. Adapted from de la Torre (2013).

The major difference in education perspectives between the Lisbon strategy and the Europe 2020 one concerns an explicit shift of attention on learning outcomes. In a European report, entitled ‘Rethinking Education’, it is clearly stated that “rethinking education calls for a fundamental shift in education, with more focus

on 'learning outcomes'" (European Commission, 2012). The European perspective for entrepreneurship through Europe 2020 strategy has been articulated in a report entitled 'Entrepreneurship 2020 Action Plan' (European Commission, 2013a). This document targets on: entrepreneurial education, removal bureaucratic barriers for entrepreneurs and reigniting the culture of entrepreneurship in Europe.

The purpose of educationally support entrepreneurship is threefold: (a) fostering the entrepreneurial mindset, (b) increase the number of entrepreneurs in Europe and (c) social inclusion and cohesion. Although the first one was bold in the early European reports (European Commission, 2006a,b) the other two were explicitly stated in Europe 2020 documents. Nonetheless, they are sound consequences of the first one for those who are aware of the role of SMEs in economy and society. Even from the initial implementation of entrepreneurship courses, the entrepreneurial intention is reported and studied as an outcome of entrepreneurship education. The Theory of Planned Behavior (Ajzen, 1991) has been widely adopted to reveal the formation of entrepreneurial intention of students who participated to entrepreneurial programs. In this way, the effect of education on nascent entrepreneurship can be addressed (e.g., Kakouris, 2016).

The increase of entrepreneurs can be expected as a result of increased entrepreneurial intention, however, it cannot be directly measured since there is delay between considering to start a business and founding a new firm that needs longitudinal surveys to be confirmed. Despite of the lack of robust research to connect entrepreneurial intention and behavior, in 'Entrepreneurship 2020 Action Plan' it has been adopted that: *"Investing in entrepreneurship education is one of the highest return investments Europe can make"* (European Commission, 2013a, p. 5). The report adopts findings from social entrepreneurship programs in US to claim that: *"Surveys suggest that between 15% and 20% of students who participate in a mini-company program in secondary school will later start their own company, a figure that is about three to five times that for the general population"* (European Commission, 2013a, pp. 5-6). In sum, the European entrepreneurship education is thought a means to increase the number of entrepreneurs in Europe.

The support of entrepreneurship in Europe is thought to illustrate an inclusive character. Not only privileged citizens but also women, seniors, migrants and unemployed young people are welcome to become entrepreneurs. Women were included as a separate group because females become entrepreneurs in lower rates than males and "female entrepreneurship" has been considered to exhibit specific characteristics. However, studies on entrepreneurship education have indicated that "gender gaps" vanish for those who participate entrepreneurial courses. Furthermore, the increase of entrepreneurs, and consequently SMEs, contributes the employment rates as many unemployed people will become employees in these new enterprises. The contribution of SMEs in employability and social

cohesion is well-known in labor economics since the majority of employees work in this type of enterprises. In sum, when the support of entrepreneurship is inclusive it contributes the social cohesion.

The three previous perspectives of ‘Entrepreneurship 2020 Action Plan’ are easily reflected in its chapters (Table 3). Chapters 1 and 2 concern entrepreneurship education and learning with explicit target to increase the number of entrepreneurs in Europe, chapter 3 provides the framework to support entrepreneurs, section 4.1 focuses on motivational cases to inspire entrepreneurship to people, while section 4.2. clearly refers to the inclusive character of supporting entrepreneurs in Europe. In the conclusions chapter, references to the ongoing economic crisis are provided and the role of entrepreneurship to overcome the crisis is discussed. There is also a clear ascertainment that “*a radical change of the European culture towards new notions about entrepreneurship is needed*” (European Commission, 2013a, p. 27).

Table 3: Chapters of ‘Entrepreneurship 2020 Action Plan’ (European Commission, 2013a).

1. Our Challenge – More entrepreneurs for Europe	4. Action Pillar 3 – Role models and reaching out to specific groups 4.1. New perceptions: entrepreneurs as role models 4.2. New horizons: reaching out to women, seniors, migrants, the unemployed, young people 4.2.1. Women 4.2.2. Seniors 4.2.3. Migrant entrepreneurs 4.2.4. Unemployed, in particular young people
2. Action Pillar 1 – Entrepreneurial education and training to support growth and business creation 2.1. New foundations: increasing the prevalence and quality of entrepreneurial learning 2.2. ...and new frontiers: higher education for entrepreneurship	5. Conclusions

3. Action Pillar 2 – Create an Environment where Entrepreneurs can Flourish and Grow	Annex of European Commission where key actions
3.1. Better access to finance	
3.2. Supporting new businesses in crucial phases of their lifecycle and help them grow	
3.3. Unleashing new business opportunities in the digital age	
3.4. Easier business transfers	
3.5. Turning failure into success: second chances for honest bankrupts	
3.6. Regulatory burden: clearer and simpler rules	

Table 4: Key-actions of ‘Entrepreneurship 2020 Action Plan’ for education and training (European Commission, 2013a).

Action	Period
Develop a pan-European entrepreneurial learning initiative bringing to gather and make available existing European and national expertise for impact analysis, knowledge, development of methodologies and peer mentoring between practitioners from Member States.	2013-2015
Establishing, jointly with the OECD, a guidance framework to encourage the development of entrepreneurial schools and VET institutions.	2013-2014
Disseminate the entrepreneurial university guidance framework; facilitate exchange between universities interested in applying the framework; gradually promote it to the EU Higher Education Institutions;	2012 - 2013
Endorse successful mechanisms of university-driven business creation (spin-offs etc.) and university-business ecosystems supporting such creations	

The role of entrepreneurship education in ‘Entrepreneurship 2020 Action Plan’ predominantly concerns chapter 2 (i.e., the action pillar 1) and subsequently

chapter 1 and section 4.2. The “radical change in entrepreneurial cultures”, referred in the conclusions, is also a subject of education. The explicit key-actions for education and training, provided in the annex, are shown in Table 4. Notably, entrepreneurial schools and universities as well as connection with vocational education and training (VET) are clearly mentioned. The relevant pedagogy is thought practical-experiential that cultivates entrepreneurial skills. The ‘Entrepreneurship 2020 Action Plan’ calls for “higher education for entrepreneurship” that demands successful cooperation of EU with the member states.

4 Discussion

Given the guidelines of the early Oslo Agenda and the ongoing ‘Entrepreneurship 2020 Action Plan’, education is considered a fundamental means for promoting entrepreneurship across Europe. The report refers that: “*A number of member states have successfully introduced national strategies for entrepreneurship education or made entrepreneurial learning a mandatory part of curricula, but more is needed*” (European Commission, 2013a, p. 6). To contrast the European perspectives described in the previous sections with the national strategies for entrepreneurship, let us consider the case of secondary education in Greece. In a European report for ‘Entrepreneurship Education at School in Europe’ (European Commission, 2012b), the case of Greece is presented in pages 48-49:

“Entrepreneurship education is part of the strategy for the 'New School'. Entrepreneurship education is explicitly recognized in ISCED 3 (3rd year) as part of the subject 'Basic Principles of Organization and Business Administration'. The subject is taught for 2 hours per week, throughout the 3rd year of ISCED 3. It is a compulsory subject in the branch of the technological direction (information technology cycle)”.

Obviously, 2 hours per week for a part of Greek pupils (i.e., those of technological direction) does not fulfil the European perspective for “*every pupil to have attended at least one entrepreneurial course before leaving secondary education*”. This may explain why the European Commission “expects more” from the member states.

Beyond policies and co-operations of EU with member states to provide effective entrepreneurial teaching at all levels of education and to develop entrepreneurial ecosystems, the adopted pedagogy for entrepreneurship is thought essential for the impact and the learning outcomes of the entrepreneurial programs. European reports suggest experiential learning as the most appropriate pedagogy for

entrepreneurship instead of lecture-based instructional methods. The previous report (European Commission, 2012b, p. 19) provides specific learning outcomes for secondary entrepreneurship education presented in Table 5. These outcomes are almost the same for the rest levels of education (higher, lifelong, etc.).

Table 5: Key-actions of ‘Entrepreneurship 2020 Action Plan’ for education and training (European Commission, 2013a).

Attitudes	<p><i>Category 1.</i> Self-awareness and self-confidence are the entrepreneurial attitudes which constitute the basis for all other aspects of entrepreneurship. They entail discovering and trusting in one's own abilities which then allow individuals to turn their creative ideas into action. In many countries, these attitudes might be pursued as general education goals.</p> <p><i>Category 2.</i> Taking the initiative and risk taking, critical thinking, creativity and problem solving are also fundamental, but they are also specific attributes of an ‘enterprising self’.</p>
Knowledge	<p><i>Category 1.</i> Knowledge of career opportunities and the world of work are learning outcomes that are not exclusively related to entrepreneurship, but usually form part of students’ general preparation for their future career choices. However, a sound knowledge of the nature of work and different types of work involve an understanding of what it is to be an entrepreneur. This knowledge also allows students to define and prepare their place in the world of work with a well-developed awareness of opportunities and constraints.</p> <p><i>Category 2.</i> Economic and financial literacy including knowledge of concepts and processes that can be applied to entrepreneurship.</p> <p><i>Category 3.</i> Knowledge of business organization and processes is specific knowledge of the environment in which entrepreneurship is often applied.</p>
Skills	<p><i>Category 1.</i> Communication, presentation and planning skills as well as team work are transversal skills essential to entrepreneurs.</p>

Category 2.

Practical exploration of entrepreneurial opportunities includes the various stages of the business set up process, including designing and implementing a business plan.

Drawing upon the previous Greek example, the relevant description reads:

“This subject aims at helping the students develop a sound background that will allow them to comprehend the organization and administration of enterprises and other institutional bodies. Students should learn about:

- (a) the reasons for creating enterprises and other institutional bodies, the elements they consist of, their relations with the environment,
- (b) the main operational functions of enterprises,
- (c) the importance and the content of management as well as the administrative functions, and
- (d) the understanding of the professions that exist in the field of business administration”.

The adopted pedagogy is also obscure. Obviously, there is high discrepancy between the member state’s learning objectives and the expected ones from EU guidelines (Table 5). The Greek description poorly meets the one of Table 5 and it partly refers to knowledge categories 2 and 3. Therefore, there are local strategies for entrepreneurship education that need to be highly advanced in order to attain the expected impact on youth populations across Europe. This is also met in the conclusions of the previous EU report.

It comes out from Table 5 that entrepreneurship education should be connected with career counseling. Knowledge category 1 clearly refers to career choices of youth populations in connection with entrepreneurial opportunities and profiles. Nonetheless, there is lack in entrepreneurial literature about the connection of entrepreneurship education with career and/or vocational training (Kakouris and Georgiadis, 2016). Furthermore, the action pillar 3 of Table 3 refers to the inclusive character of entrepreneurship education and the transformation of local cultures. This is apparently a subject of lifelong learning but there is also lack in entrepreneurial literature about entrepreneurship education in lifelong learning settings (Kakouris and Georgiadis, 2016). Instead, a rise in entrepreneurial activities in the non-formal or informal settings is observed but without any elaborated pedagogies. Hence, more research on entrepreneurship pedagogies in lifelong learning is needed (Kakouris, 2016).

Finally, there are inherent difficulties in entrepreneurship education worldwide,

most of them summarized by Fayolle (2013). The lack of a standalone, self-consistent theory for entrepreneurship makes the content of entrepreneurship education be fragmented. There is a variety of perspectives and relevant goals for entrepreneurial courses that make difficult to assess the corresponding learning outcomes. Besides, there is a lack of robust teaching models for entrepreneurial courses (Fayolle, 2013). These issues are well-known within the entrepreneurship education scholars' community but more in-depth research is needed to resolve them. At the moment, entrepreneurship education appears productive but with low academic impact that needs further support and connection with policies in order to achieve the well-articulated objectives of the grey literature. Most of the agencies that undertake activities in order to promote entrepreneurial programs have to get insights from Table 5 and emphasize on skill-based, instead of the "common" knowledge-based, instructional methods for entrepreneurship. Critical thinking (attitudes – category 2) is crucial for the promotion of entrepreneurship in lifelong learning and especially to disadvantaged groups of learners (e.g., Kakouris, 2016).

5 Conclusion

In this work we examined the emergence of European entrepreneurship education from 2006 to 2010, and then, under the perspectives of the Europe 2020 plan (2010–2020). The first European guidelines for the systematic provision of entrepreneurship education across Europe appeared just after the manifestation of the knowledge spillover theory in economics. According to knowledge spillover, the rate of conversion of knowledge into innovation depends on the degree that people behave entrepreneurially. Hence, entrepreneurship appears essential for the development in knowledge-driven economies. The first period for promoting entrepreneurship across Europe (2006–2010) aimed to simply foster the entrepreneurial mindset horizontally in all levels of education. Without clearly stated, the promotion of entrepreneurship education implied innovative business start-ups and it was firstly adopted in higher education accommodating the notion of graduate entrepreneurship. This was consistent with the Lisbon strategy (2000–2010) which aimed to facilitate innovation across Europe.

In the Europe 2020 strategic plan, that succeeded the Lisbon strategy, the objectives for entrepreneurship education became more specific about (a) increasing the number of entrepreneurs, (b) support entrepreneurs through effective ecosystems and (c) induce rise in employability and strengthen the social cohesion. Thus, the learning outcomes of entrepreneurship programs have come into focus, and hence, the relevant assessment of entrepreneurship education. The European Commission proposes experiential learning pedagogy and specific objectives for attitudes, knowledge and skills. Despite the different initiatives in

different member states, there are common achievements toward educating potential entrepreneurs across Europe but there are also significant differences, especially at the level of implementation, from state to state. Educational projects need to be more focused on the ‘idiosyncratic’ needs for teaching entrepreneurship effectively and more concerned about the relevant outcomes – especially the attitudes and the skills. On the other hand, entrepreneurship education scholars need to develop more in-depth research in the field in order to overcome its inherent difficulties.

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