

THE NEXT GENERATION OF ENTREPRENEURS.

Which theoretical basis for entrepreneurial training?

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THE PURPOSE OF THE PAPER

This paper deals with the entrepreneurship education, which is a research field that recently has attracted a growing attention from scholars (Matlay, 2014). The purpose of this work is to draw a picture of the theoretical mainstreams of entrepreneurship education in order to: (1) elucidate the theoretical core-themes driving the research on entrepreneurship education; (2) draw whether, and in which ways, the theoretical patterns have changed over the last 21 years by focusing our analysis on three different time frames. The first goal allows us to understand the scientific patterns grounding the entrepreneurship education research, while the second goal adds information on how entrepreneurship theoretical core-themes have evolved before and after the increasing of the scientific interest recorded after 2000 (Martin et al., 2013; Wang and Chugh, 2014).

THEORETICAL BACKGROUND AND RESEARCH GAP

The topic of entrepreneurship education is an important concern for policy makers, who have targeted the teaching of entrepreneurship as a key strategy enabling the economic competitiveness of countries. In Europe, the Council has indicated the enhancement of creativity, innovation, and entrepreneurship as its fourth strategic objective, by making available financial measures to sustain this goal. In US, the Harvard Business School has been the first university that introduced an entrepreneurial course (Vesper and Gartner, 1997). This endeavour was a response to the collapsing military economy in the aftermath of World War II. By 1970 the number of universities offering entrepreneurial courses increased (Katz, 2003). Nowadays, a proliferation of entrepreneurship training and education practices can be observed all around the world (Solomon, 2007).

An important consequence of the increasing attention for this topic is that a lot of expectations arise with respect to the potential impact of teaching entrepreneurship for the whole society. This implies that many challenging theoretical questions deserve to be addressed, and this requires for researchers a special effort for developing a better understand of the entrepreneurship theories and training methods driving their research.

A great number of entrepreneurship education literature reviews have been published (e.g., Gibb, 2002; Rideout and Gray, 2013), and, to date, two meta-analyses were carried out with the aim of overviewing the effect of entrepreneurship education on entrepreneurial intentions (Bae et al., 2014), entrepreneurial perception and behavior (Martin et al., 2013). Extant literature reviews (Byrne et al., 2013; Pittaway and Cope, 2007) revealed a scarcity of empirical works in some areas, and a fragmentation among contributions, which are

developed, in general, without contamination deriving from adult and management learning, higher education and labor market policy. Recent works (e.g. Wang and Chugh, 2014) have also highlighted that the field expanded mostly in the last ten years, in fact most contributions have been published after 2007. Some of these results have pointed out that the field is lacking in theoretically well-grounded research, and that a critical approach is also lacking (Byrne et al., 2013; Fayolle and Liñán, 2013). As a consequence, some scholars have reported the need of regularly introspecting the discipline to improve scholars' awareness about main research streams, theories and methods on which research has been basing (Fayolle, 2013).

In this vein, our proposal intends to contribute to the existing literature by furnishing new insights about the theoretical foundation of entrepreneurship education.

SELECTED APPROACH AND METHOD

Method of analysis

Co-citation technique was adopted to attain our goals. Co-citation analysis is an advanced bibliometric tool providing to understand growth and structure of a knowledge domain, by relying on the ways scholars have targeted and connected previous works one another (Small and Griffith, 1974). From a practical point of view a co-citation occurs when papers A and B are both cited by a paper C. The more often papers A and B are cited together, the stronger the relationship between them becomes. These connections, based on citing behavior, serve as a measurement unit by which estimating the extent to which a set of works belongs to the same school according to the scholars' citation behavior. In this way, theoretical mainstreams can be highlighted (Di Guardo and Harrigan, 2012). Once co-citations have been recorded, we performed a set of multivariate analyses to highlight emerging factors (Factor Analysis), proximities and distances among these factors (Multidimensional scaling) over the time series below discussed (Acedo et al., 2006).

Data and unit of analysis selection

To ensure the quality of the co-citation analysis, five steps were followed: (1) selecting the unit of analysis; (2) retrieving co-citation frequencies; (3) compiling the raw co-citation matrix; (4) conducting multivariate analysis; and (5) interpreting findings (White and McCain, 1998; Zhao and Strotmann, 2014).

Our analysis considers 21 years of knowledge production covering the time period 1994-2014. The ISI-Web was chose as database. By relying on previous works on entrepreneurship education (Bécharde and Grégoire, 2005), the selection of our unit of analysis

was carried out through a set of 19 keywords that represents the topic strictly. Then, 1.335 articles were selected. The major number of articles were marked with the following keywords: entrepreneur* education (N=659); student* entrepreneur* (N=163); entrepreneur* learning (N=120); business training (N=103). *Ad hoc* criteria was applied to retrieve frequency co-citations (White and McCain, 1998). For papers issued from 1994–2009, 30 citations were necessary to be included in the unit of analysis. For articles published after 2009, criterion stipulated at least 20 citations. A further criterion, which provided the omission of articles with more than 66% of zero co-citations, produced our unit of analysis which is composed of 36 articles.

This set of articles represents the most targeted contributions by scholars within the field of entrepreneurship education. They also have an acceptable threshold of co-citations allowing multivariate analysis to be performed. To analyze timespan, three time frames were considered: a) 1991-1997; b) 1998-2004; c) 2005-2014. The publications of each timespan have been analyzed by considering the all citing behavior. A set of multidimensional scaling (MDS) was computed, by allowing us to map distances and proximities among contributions and to define core-themes boundaries for each time threshold.

FINDINGS

Descriptive results

A first issue worthing to be discussed is that very few contributions have attracted scholars' attention, causing our unit of analysis to be particularly small. However, it should be stressed that this unit of analysis covers the 50% of the total citations received by the 1.335 articles selected through our set of keywords (Di Stefano et al., 2012). Publications increased after 2006, having two peaks, one in 2011 and the other one in 2013, each of them with more the 200 contributions. Citations, by following a similar trend of the one observed for publications, increased particularly after 2010. This confirms the fact that the field is relatively young.

Table 1 shows the journals where the 36 articles have been published. Most of them (53%) have appeared in the Journal of Business Venturing (31%) and in the Journal Entrepreneurship Theory and Practice (22%).

Table 1. Publishing journals for entrepreneurship education

| Journals | <i>N</i> | % | % |
|--|----------|------|------|
| Journal of Business Venturing | 11 | 30.6 | 30.6 |
| Entrepreneurship Theory and Practice | 8 | 22.2 | 52.8 |
| Academy of Management Learning & Education | 5 | 13.9 | 66.7 |
| Journal of Small Business Management | 4 | 11.1 | 77.8 |

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|---|--------------|-----------|--------------|
| Management Learning | 2 | 5.6 | 83.3 |
| Academy of Management Perspectives | 1 | 2.8 | 86.1 |
| European Economic Review | 1 | 2.8 | 88.9 |
| International Journal of Management Reviews | 1 | 2.8 | 91.7 |
| International Small Business Journal | 1 | 2.8 | 94.4 |
| Journal of Economic Behavior & Organization | 1 | 2.8 | 97.2 |
| Journal of Management | 1 | 2.8 | 100.0 |
| | <i>total</i> | <i>36</i> | <i>100.0</i> |

Theoretical core-themes driving the research on entrepreneurship education

As regards the first goal of our proposal, the factor analysis causes four factors to emerge. Each factor encloses papers that have addressed the topic of entrepreneurship education by having a particular issue that was disclosed through the content analysis. They are listed below: (1) *Entrepreneurship education trends and Teaching approaches for entrepreneurship education*, with a focus on contents and methods to deliver entrepreneurship courses (e.g. De Tienne and Chandler, 2004); (2) *Entrepreneurial intentions and implications for entrepreneurship education*, with a focus on understanding the antecedents of the entrepreneurial intentions (Krueger, 2000); (3) *Entrepreneurial learning*, which theorizes how entrepreneurs learn from experience (Cope, 2005); (4) *Effectiveness of entrepreneurship education*, with a focus on understanding the impact on entrepreneurship education on students' attitudes and behavior (e.g. von Graevenitz et al., 2010).

Timespan analysis

The multidimensional scaling results concerning timespan analysis are reported in Figs. 1, 2 and 3. Fig.1 refers to the articles published in the first period (1991-1997) and shows that only five articles are composing the theoretical background of entrepreneurship education.

These articles appear to be distant and apparently not connected one another. This is confirmed by the review of their contents, which has shown these articles to be orientated to develop four different topics: *entrepreneurial intentions* (Crant, 1996); *proposition of a framework for classifying entrepreneurial education outcomes* (Hood and Young, 1993); *exploration of the entrepreneurship education trends* (Vesper and Gartner, 1997); and *analysis of effectiveness of entrepreneurship education* (Gartner and Vesper, 1994; Robinson and Sexton, 1994). In light of the results obtained for the other two timespan, it is worth anticipating that these articles constitute the theoretical roots of the today pictures.

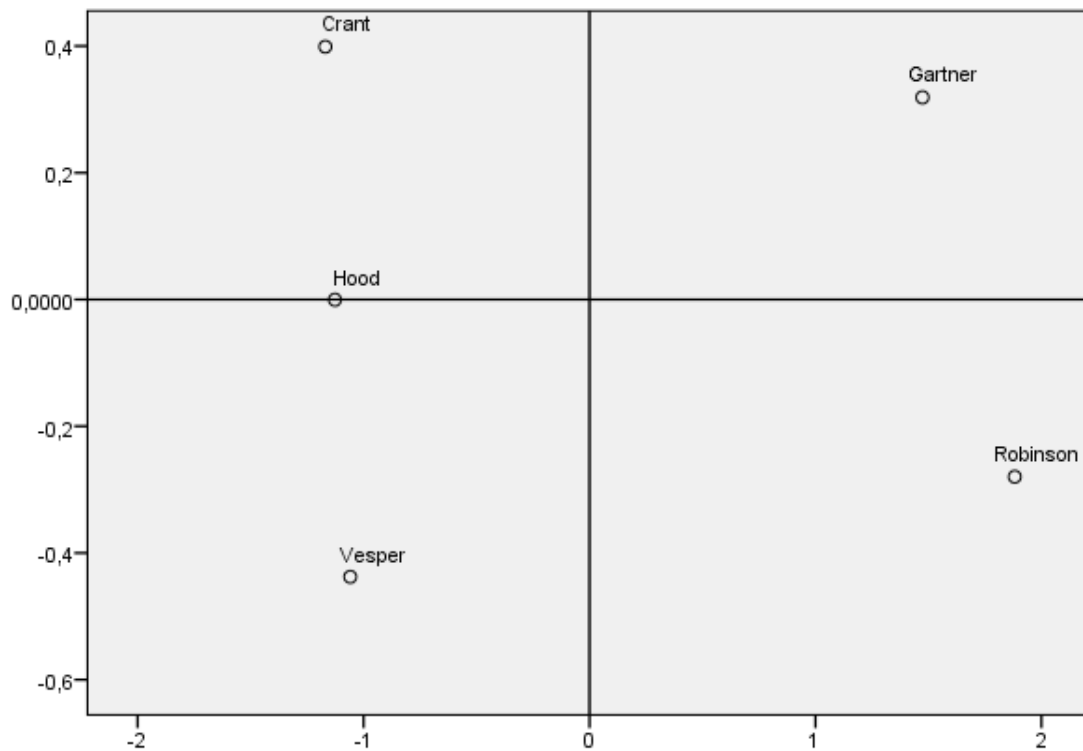


Figure 1. Timespan 1991-1997

As shown in Fig. 2, the 12 articles referred to the second timespan (2001-2007) start composing a three-factors structure dealing with: *new method for teaching entrepreneurship* (Factor 1), *entrepreneurial intentions* (Factor 2), and *approaches and trends of entrepreneurship education* (Factor 3).

In the left upper-side quadrant the Factor 1 (*new method for teaching entrepreneurship*) is located, whose articles furnish several theoretical foundation concerning the need of adopting new methods and procedures to deliver entrepreneurship education within universities and doctoral studies on entrepreneurship. In the left down-side quadrant, Factor 2 (*entrepreneurial intentions*) addresses the topic of entrepreneurial intentions as a theoretical base for explaining the entrepreneurial action, which is considered as a vocational act. Entrepreneurial intentions start being considered as a theoretical guide also to evaluate the entrepreneurship courses. In particular, the teaching of entrepreneurship has been supposed to influence students' intention to become entrepreneurs. Accordingly, the entrepreneurial intention is a proxy for the effectiveness of entrepreneurship education. In the right-side quadrant, Factor 3 (*approaches and trends of entrepreneurship education*) encompasses papers investigating how entrepreneurs learn from their experiences in an attempt to explain and represent the mechanisms and dynamics surrounding entrepreneurs' change and proposes new training approaches to deliver entrepreneurship education, based on emotional resilience facing failure and creativity.

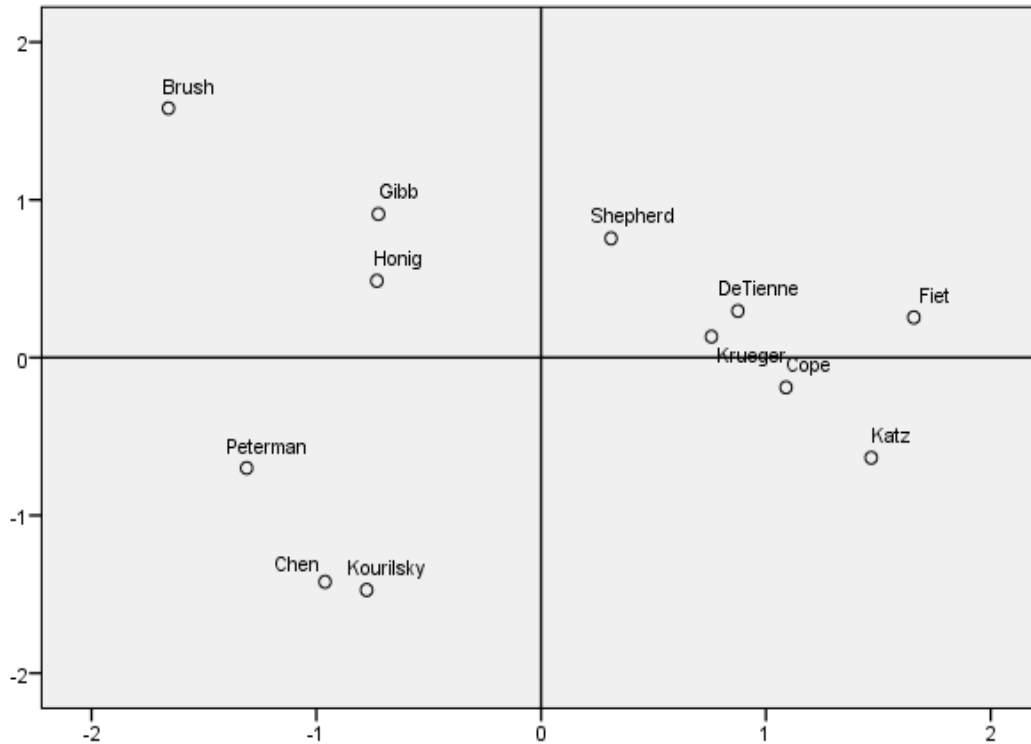


Figure 2. Timespan 1998-2004

The last timespan (2005-2014) is composed of 19 articles, which build a four-factors structure whose core-themes deal with: *Approaches and trends of entrepreneurship education* (Factor 1); *Entrepreneurial intention and training effectiveness* (Factor 2); *Entrepreneurial learning* (Factor 3); *Entrepreneurial Cognition* (Factor 4) (Fig. 3).

In respect of the second time frame, the last one introduces two new factors focusing on learning processes, each addressing the entrepreneurial developmental dynamics with a cognitive lens. In particular Factor 3 (*Entrepreneurial learning*), which is located in the left quadrant according to the MDS solution (Fig. 3), proposes a theoretical base of entrepreneurial learning (Cope, 2005) that emphasizes cognitive processes to explain how entrepreneurs make decisions (Holcomb et al., 2009), how they succeed (Ravasi and Turati, 2005) and how they discover opportunities (Politis, 2005). Factor 4 (*Entrepreneurial Cognition*), which is represented by only one contribution (Baron, 2006), focuses on entrepreneurship as an opportunity recognition and tries to explain those cognitive mechanisms surrounding recognition.

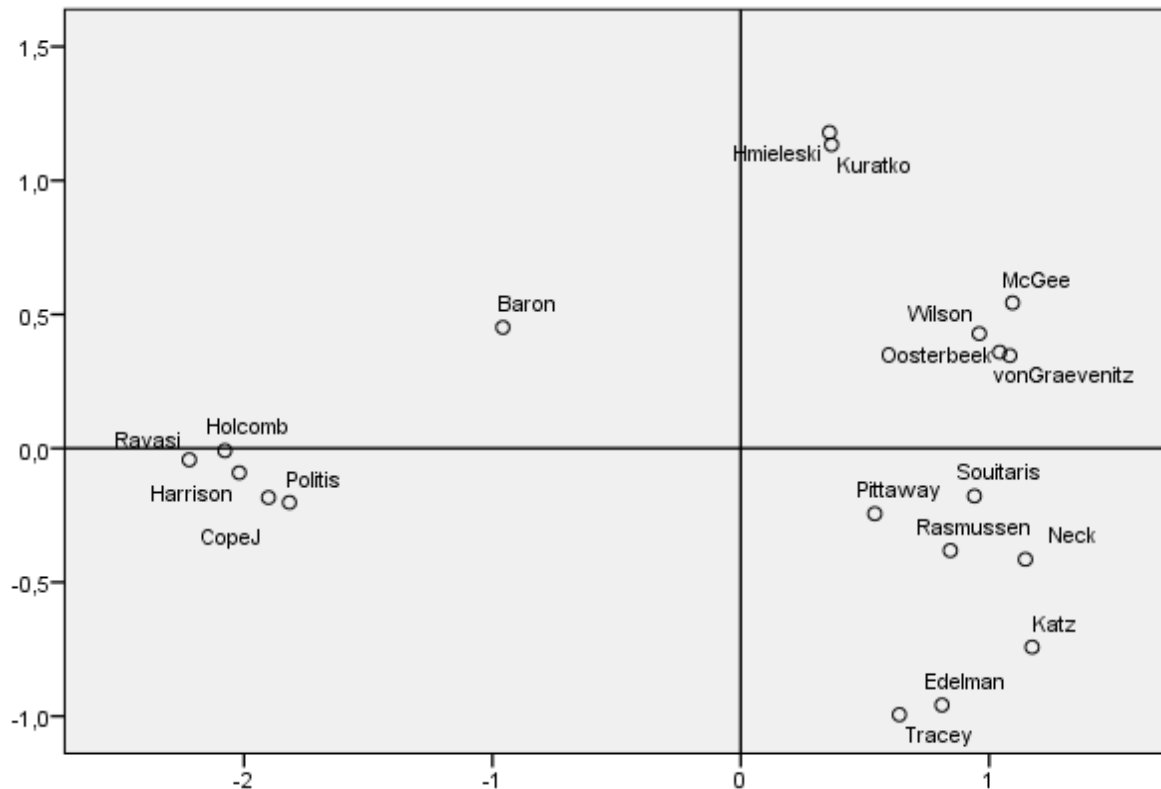


Figure 3. Timespan 2005-2014

MAIN CONTRIBUTION

Overall the study has various strengths. First, it adopts a bibliometric lens to investigate the theoretical foundation of the field by inspecting the prevailing cognitive representations of scholars that have addressed the topic. To our knowledge, this is the first attempt within the field of entrepreneurship education. Second, it offers a description of the theoretical themes composing the collective knowledge structure. This result can be used within the community to generate new reflections and future research directions. In particular, we have showed that four core-themes are composing the knowledge structure of the field, and that the entrepreneurial learning and entrepreneurial cognition are both acting as theoretical sources which nurture the teaching approach factor. Third, the study offers a timespan perspective showing that the most important change in the knowledge structure occurred in the second timespan, with the third period showing an attention for entrepreneurial learning dynamics. Furthermore, the timespan perspective offers a new methodological insight for co-citation by showing the connections among papers for each period of time, as seen by the all citing authors.

The global picture indicates that the field is making an effort to understand the entrepreneurial learning dynamics and seems to be particularly concerned about the real

potential of entrepreneurship education in stimulating an entrepreneurial generation of citizens.

LINKS WITH THE THEME AND THE CONFERENCE.

This proposal fits with the overall theme of the Conference, and in particular with the track *People* and sub-theme “*Managing commitment, empowerment and effort in new organizational forms*” for various reasons.

First, entrepreneurship education is a topic receiving a growing attention from policy makers and scholars. This evokes the general belief of considering the entrepreneurial mindset as a new crucial skill to be developed in order to make people able to cope with the occurring societal changes. Accordingly, this proposal is consistent with the track *People* because it focuses on a topic that aims at understanding how complex skills could be developed by the teaching of entrepreneurship. Second, as shown by the co-citation results, the most recent theoretical trends have focused their attention on studying learning processes and the mechanisms explaining how people learn from failure and generate new knowledge. These issues provide the basis to design entrepreneurial training paths that could stimulate people to develop an entrepreneurial thought. In this vein, this work presents a synthesis that might enable researchers to identify theory gaps and new research directions providing entrepreneurship education to efficiently respond to the requests of our time.

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