



The Domain of Entrepreneurship Education: Key Issues

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Abstract. The present paper provides a conceptual framework to approach the domain of entrepreneurship education. First we offer a state of the art of the academic debate on entrepreneurship education. Then we identify and discuss key issues in entrepreneurship education research. We conclude giving insights into the relationships between key research issues and tracing further research avenues to foster the development of effective entrepreneurship education.

Keywords: entrepreneurship, entrepreneurship education, learning, research.

1. Introduction

The last decade has witnessed the powerful emergence of entrepreneurship research worldwide (Kuratko, 2003). There seems to be widespread recognition that entrepreneurship is the engine driving the economy and society of most nations (Brock and Evans, 1989; Acs, 1992; Carree and Thurik, 2002). Although entrepreneurship is not a new concept, it has gained increasing interest and research attention over the past 15 years: today entrepreneurship is considered the essential lever to cope with the new competitive landscape (Hitt and Reed, 2000). This has emerged for a number of reasons, such as the fact that entrepreneurship is perceived as bringing benefits at both the macro level of economic development (Birch, 1979) and also at the micro level of personal satisfaction and achievement (Anderson, Kirkwood and Jack, 1998).

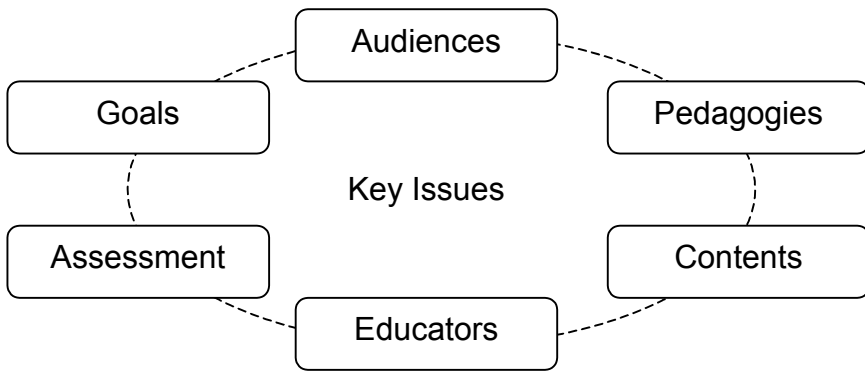
Parallel to the evolution of the field of entrepreneurship we can note an increasing interest in the development of educational programs to encourage and foster entrepreneurship (Solomon et al., 2002). Recent studies (Finkle and Deeds, 2001) show that the demand for entrepreneurship faculty has increased remarkably during the last decade. Moreover, the spread of the 'enterprise culture'

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(Keats and Abercrombie, 1991; Gibb, 1987; 1993) has brought about academic interest in supporting this new emphasis, calling for much research to be carried out into what makes an entrepreneur and how these characteristics may best be imparted. An international debate on entrepreneurship education has flourished, focusing on several issues which constitute the domain of entrepreneurship education.

This paper aims at identifying key issues in the domain of entrepreneurship education², critically reviewing them and proposing a comprehensive framework for understanding the relations among such issues.

Figure 1: Key Issues in the Domain of Entrepreneurship Education



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2. The contents of this paper are based on an extensive literature review, carried out referring to books and research reports on entrepreneurship, the conference proceedings of the main entrepreneurship conferences (*BKEREC*, *RENT*, *IntEnt*, *USASBE*, *ECSB* and *ICSB*) and articles/papers included in the major management journals and all entrepreneurship journals (*Entrepreneurship Theory and Practice*, the *International Small Business Journal*, the *Journal of Business Venturing*, *Entrepreneurship and Regional Development*, the *Journal of Small Business and Entrepreneurship*, the *Journal of Small Business Management*, the *Academy of Management Learning and Education*, the *International Journal of Entrepreneurship Education*, the *Journal of Educational Psychology*, *Research in Higher Education*, *Educational and Psychological Measurement*, the *Journal of Education for Business*). The search for literature on entrepreneurship education has been conducted according to the following methods: a) a snow-ball technique applied to citations included in previous literature review and in thorough pieces of work on entrepreneurship education; b) a search for contributions (on the shelf and within databases) published up to 2004 with titles containing the selected key-words (*entrepreneurship* or *entrepreneur*, combined with *education*, *training*, *learning*, *course*, *teaching* and *curriculum*); c) help and suggestions of senior colleagues, experienced in the study of entrepreneurship related topics. Not all the publications considered for this literature review are included in the reference list, which contains only the publications referred to in the article and those believed to be the most interesting references for further studies.

The paper is structured as follows. First, we provide the readers definitions of entrepreneurship and entrepreneurship education. Next, we introduce reasons for assuming that entrepreneurship can be taught, not as a discipline but as a set of skills, knowledge and attitudes. Then, the domain of entrepreneurship education is explored through an analysis of the research literature. The aftermath of the paper focuses on the identification and discussion of key issues in the domain of entrepreneurship education: the variety of audiences and objectives, the contents of entrepreneurship courses, the methods to be adopted, the role of the educator and the importance of evaluating entrepreneurship education (Figure 1). We conclude proposing a conceptual framework to understand the relations among the reviewed key issues in the domain of entrepreneurship education and we indicate further research paths along this direction.

2. Entrepreneurship and Entrepreneurship Education Defined

Comparisons in the field of entrepreneurship education are complicated, over and above a low generalizability in research findings, also by the differences in objectives and meanings associated with the words used to describe educational programs and initiatives. Both in literature and practice there is sometimes confusion between the terms ‘entrepreneurship’, ‘enterprise’ and ‘small business’ (Alberti, 1999).

Since the field of entrepreneurship has not yet reached maturity, ‘entrepreneurship’ is a wide label under which a broad array of research efforts are housed (Shane and Venkataraman, 2000). Many attempts have been made recently to better define the concept of entrepreneurship and its domain of research (Sharma and Chrisman, 1999; Shane and Venkataraman, 2000; Gartner, 2001; Davidsson, 2003). Following the most accepted view, in this paper we define ‘entrepreneurship’ as the process through which opportunities to create future goods and services are discovered, evaluated and exploited (Shane and Venkataraman, 2000). Differently from other definitions, the one of Shane and Venkataraman (2000) has a clear focus on the concept of opportunity, not on individuals, carving out a domain that has a manageable size and relatively clear boundaries (Davidsson, 2003). At the same time, this definition does not restrict entrepreneurship to the emergence of new organizations (Gartner, 1993), thus including corporate entrepreneurship within the domain of entrepreneurship research.³ As a consequence, the adoption of the definition proposed by Shane and Venkataraman (2000) does not restrict the domain of entrepreneurship education just to the teaching of contents related to the start-up of new businesses, but it broadens education audiences and objectives (see sections 6.1 and 6.2). On the basis of such a definition of entrepreneurship, entrepreneurship education is

3. See Davidsson (2003) for an extensive discussion on defining ‘entrepreneurship’.

not called solely to support the start-up of new companies, but also an organizational culture oriented to the discovery and exploitation of entrepreneurial opportunities. Further, the definition of Shane and Venkataraman (2000) builds on a view of entrepreneurship where prior knowledge in the process of opportunity recognition and exploitation has a central role (Shane, 2000). Consequently, education achieves a central stage in developing and maintaining entrepreneurial knowledge.

When it comes to education and training, the terms ‘entrepreneurship education’ or ‘training for entrepreneurship’ are widely used expressions often intended to take on a generic meaning (Curran and Stanworth, 1989). A study undertaken by Durham University Business School in 1989 noticed that the term entrepreneurship education was (and is) commonly used in Canada and USA, but it is rarely used in UK and only occasionally in Europe. In the UK the field is labeled ‘enterprise education’ and it is primarily focused on the development of personal attributes (DUBS, 1989); it is linked substantially with the development of an enterprise culture within which the entrepreneurs will flourish (Gibb, 1987).

Until the 1980s much confusion was made between the terms ‘entrepreneurship education’ and ‘small business education’, mainly because of an overlap between the two respective fields of research (Watson, 2001). This situation still remains, despite the fact that many small business education topics have very little to do with encouraging entrepreneurship. Actually small business education was first established in the 1940s (Sexton and Bowman, 1984), to deal with the managing and operating of small established companies. On the other hand, entrepreneurship education courses first appeared in the 1960s, focusing on the activities involved in originating and developing new and growing ventures. A clear distinction can be made between ‘entrepreneurship’ and ‘small business’. “Small business can vary widely from simple forms of self-employment...to the management of a high technology company on a scale which, relative to others in a particular sector, is small. It must not be forgotten that while all entrepreneurs are self-employed, not all self-employed persons are entrepreneurs” (Garavan and O’Cinneide, 1994; p.4).

In this paper entrepreneurship education is considered as the structured formal conveyance of entrepreneurial competencies (Fiet, 2001a; Gibb, 2002), which in turn refer to the concepts, skills and mental awareness used by individuals during the process of starting and developing their growth-oriented ventures. Moreover, entrepreneurial learning refers to the active and cognitive processes individuals employ as they acquire, retain and use entrepreneurial competencies (Young, 1997).

3. Can Entrepreneurship Be Taught?

The debate originates from the assumption that entrepreneurship can be taught: Peter Drucker – recognized as one of the leading management thinkers of our time – stated that entrepreneurship “is not magic, is not mysterious, and it has nothing to do with genes. It is a discipline. And, like any discipline, it can be learned” (Drucker, 1985)⁴. Drucker’s ideas are shared by many: a UK survey by the Small Business Research Trust (1998) indicated that only 13% of the survey sample believed that entrepreneurial skills could not be acquired by a process of learning. In fact, there is a widespread idea that entrepreneurship education would generate more and better entrepreneurs than there have been in the past (Ronstadt, 1985) and that education would increase the chances of obtaining entrepreneurial success (Kirby, 2002).

Nevertheless, very few studies have shown proof of the positive impact of entrepreneurship education on the development of entrepreneurial skills and values (McMullan, Chrisman and Vesper, 2001). One example is given by Hansemark (1998), who measured the level of Need for Achievement and Internal Locus of Control, the two main personal characteristics of entrepreneurs, before and after an entrepreneurship course. A statistically significant increase in these two features thanks to the participation in entrepreneurship programs was found. Peterman and Kennedy (2003) found that attendance at an entrepreneurship program has positive effects on both the desirability and the feasibility of starting a business; changes in perceptions are related to the effectiveness of prior working experience and of entrepreneurship programs. Even more recently, Detienne and Chandler (2004) proved that individuals can learn in class the processes of opportunity identification and improve both the number of ideas generated and the innovativeness of those ideas. Further, Henry, Hill and Leitch (2004) found that a wide range of outcomes may emanate from specific entrepreneurship training programs: the access to valuable business networks, the acquisition of relevant knowledge and skills, an increase in the propensity to set up a business and in the confidence in their own enterprise capability.

Storey (1994) underlined that there has been very little empirical proof of the positive impact of education on entrepreneurship and entrepreneurial success. For researchers it has been difficult to identify a clear effect of training and education on small firm performance, either at start-up or at some other stage in their development. Empirical support for these considerations was recently given by Hindle and Cutting (2002) in the context of Australian pharmacists. Serious questions about the role that education plays in the development of entrepreneurship are raised by Coy and Shipley (2004), since they found that

4. For an extensive examination of whether entrepreneurship can be taught, refer to Hood and Young (1993) and Vesper (1982).

useful knowledge for entrepreneurs seems to mostly come from experience and social networks rather than from classrooms.

A first reason for explaining these negative results can be found in the fact that entrepreneurs and entrepreneurship education have often short-run goals (e.g. positive and growing cash flow), although entrepreneurship is a long-run phenomenon (Schumpeter, 1934). The positive effects of entrepreneurship education are then searched in a too short-run for being grasped. The reason for these results may lie in the poor quality and quantity of training provided, often not adequate for needs. Recently Birch (as reported in Aronsson, 2004) has argued that despite entrepreneurial skills are teachable, schools are not teaching them. They are teaching how to work for entrepreneurs, not how to be entrepreneurs.

Despite these critical voices, we tend to side with Brockhaus (1994) in stating that teaching someone to be an entrepreneur is like teaching someone to be an artist. We cannot make a person another Van Gogh, but he can be taught about colors and composition, and his artistic skills can be improved. Similarly, we cannot make a person another Branson, but the skills and creativity needed for being a successful entrepreneur could nevertheless be anyway enhanced by entrepreneurship education.

4. The Phenomenon of Entrepreneurship Education

Entrepreneurship education was pioneered by Shigeru Fijii, who started teaching in this field in 1938 at Kobe University (Japan). In USA instead, the first entrepreneurship course was introduced by Myles Mace at Harvard Business School in 1947 (Katz, 2003). Only half a century later this phenomenon gained a more universal recognition (Dana, 1992). It is, in fact, a relatively young and emerging discipline, that is entering its adolescence at colleges and universities, at least in the US. The past 20 years have witnessed an enormous growth in the number of small business management and entrepreneurship courses at different educational institutions. A great number of programs broadly termed as enterprise or entrepreneurship education have been carried out in schools and higher educational institutions throughout the world.

There are three main sources of demand for entrepreneurship education (Jack and Anderson, 1999): governments, students and business-world. The first source is governmental, driven by the shift towards a post-Fordist economy. Through education, governments aim at developing an entrepreneurial culture oriented to job creation: as Storey (1994), Timmons (1994) and Roure (1997) point out, most of the new jobs arise from entrepreneurial small firms rather than from large corporations. Some governments recognized that bad economy performances can be explained by deficiencies in sustaining enterprise creation, as it happened in France (Klapper, 2004). The second source of demand is that of students. Young

(1997) suggests that there are two sets of reasons why students may want to study entrepreneurship: first, they may want to start up their own business; second, they may wish to acquire knowledge which will be helpful in their careers in larger organizations. The third source is the business-world itself, both large and small firms. On one hand, there seems to be a general shortage of managerial skills in SMEs (Jack and Anderson, 1999). On the other hand, within large companies there is a need for managers who are oriented to the development of new business initiatives to ensure a continuous renewal (Gibb, 1996).

The academic world is called to meet the expectations of these three groups of stakeholders (Mitra and Matlay, 2000). Many colleges and universities in the US now offer courses on entrepreneurship (Vesper and Gartner, 2001) and in some cases these lead to majors or degrees in entrepreneurship, both at an undergraduate or graduate level. These US schools grew in number from 16 in 1971 to 370 in 1993, to more than 400 in 1995 (Vesper and Gartner, 1997) and the trend is continuing (Ede et al., 1998). In 2001, Vesper and Gartner reported that 504 US schools were offering courses in entrepreneurship. Chairs on entrepreneurship have been growing remarkably since the 1960s: Katz reports more than 277 tenure positions. After a slow start in the 1960s, they are doubling on average every four years (Katz, 2003).

Of course, the development of entrepreneurship education is not exclusively a US phenomenon. The total number of universities offering courses in entrepreneurship seems to be higher than 1600 worldwide (Katz, 2003).⁵

Interest in entrepreneurship education in Europe is relatively new but is emerging rapidly (Dana, 1992). European governments are recognizing entrepreneurship as a resource to be cultivated. This is true not only in the developed west, but also in the post-communist east (Dana, 2005).

Business schools in Asia have already launched programs in entrepreneurship as well as new journals and scientific publications addressing entrepreneurship issues (Dana, 2001). Although the huge growth of Chinese and Indian entrepreneurship, entrepreneurship education in Asia remains a relatively new practice compared to US and Europe (Li, Zhang and Matlay, 2003).

In the rest of the world the increase of courses for developing entrepreneurship is witnessed by several conference papers on single countries, but the phenomenon is still largely untracked. A collection of contributions, with a particular concern to developing countries, has been recently edited by McIntyre and Alon (2005). The strong need for developing entrepreneurship education for economic development is stressed and best practices are illustrated.

5. Listing all the courses in entrepreneurship all over the world would be a mission impossible, since they are offered in too many institutions and at different levels. For instance, even if we consider only the doctoral level of education in entrepreneurship, we can perceive this enormous spread in educational program in entrepreneurship. Katz (2003) reports that around 50 universities in North America and Europe have a program or one or more doctoral level students in entrepreneurship and related fields, even if only twelve of them have a formal organized program in entrepreneurship.

Differently from the context of developed countries, the major source of training and education is still governmental or quasi-governmental, as Brockhaus already underlined in 1991.

New course design and educational innovations have even preceded the development of a scientific theoretical framework (Fiet, 2001a). In the last few years, research in entrepreneurship has begun to look at the education issue more deeply but still in a very fragmented way. Building on these premises that depict entrepreneurship education as a very young phenomenon, one should not expect there to be hundreds of research studies reported on the development of knowledge in entrepreneurship education. As in the field of business education, the growing entrepreneurship education discipline was developed around concepts such as the effectiveness of different teaching techniques, the appropriateness of course content, the selection and usefulness of concepts, the differences between countries and so on. On the whole, research findings seem limited in generalizability. Only studies dealing with the learning processes via different teaching methods or the teaching in a particular content area are contributing to the construction of the body of knowledge in this field. Moreover, the growing interest in entrepreneurship education is witnessed by the vast array of publications in books, journals, proceedings and annual research reviews. Many journals⁶ have considered this topic widely and even a specific journal – *The International Journal of Entrepreneurship Education* – was founded in 2002⁷. Recent editions of general conferences dedicated to entrepreneurship and related fields, such as the *Babson Kauffman Entrepreneurship Research Conference (BKERC)*, the *ICSB World Conference*, the *USASBE Conference*, the *ECSB Conference*, the *RENT Conference*, etc. have included the topic of entrepreneurship education, and specific conferences on the topic have also been organized (for instance, *E³ – Entrepreneurship/Economics/Education Conference*, held at Widener University in March 1988 or *IntEnt – Internationalizing Entrepreneurship Education and Training Conference*, started in 1992).

5. Research on Entrepreneurship Education

There has been an increasing interest in the development of education programs to enhance entrepreneurship and to diffuse its main topics. Nevertheless, a need

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6. *Entrepreneurship Theory and Practice*, the *International Small Business Journal*, the *Journal of Business Venturing*, *Entrepreneurship and Regional Development*, the *Journal of Small Business and Entrepreneurship*, the *Journal of Small Business Management*, the *Academy of Management Learning and Education*, the *Journal of Educational Psychology*, *Research in Higher Education*, *Educational and Psychological Measurement*, the *Journal of Education for Business*.
 7. The first journal dedicated to the topic – *Journal of Entrepreneurship Education* – was founded in 1998, but its publication stopped after the first issue.

for more research on entrepreneurship education can also be seen. During the last two decades it has evolved in ways that are typical and appropriate for a new research field: “observations are made and reported and case situations are studied...Course designs and educational innovations have preceded the development of a scientific theoretical framework” (Block and Stumpf, 1992; p.17). Some studies have presented reviews of the literature: Dainow (1986) conducted a survey of the entrepreneurship education literature for a ten year period, from 1974 to 1984, in order to assess the state of the art. He identified “a need for more systematic collection and analysis of data, and more varied methodologies to build a stronger empirical base” (Dainow, 1986; p.18). Block and Stumpf (1992) made a review of entrepreneurship education research, pinpointing objectives, methods, contents and future paths. Brockhaus, in 1994, developed a research agenda on open questions for entrepreneurship education. Gorman and Hanlon (1997) conducted a survey of the literature from 1985 to 1994, assessing the progress that was made over that period and offering input for future research.

There seems to have been a significant increase in the empirical research, according to Gorman and Hanlon (1997). One of the first relevant empirical studies was conducted in 1987 by Zeithaml and Rice: they contended that education in entrepreneurship covered the entire scope of business administration and suggested a shift towards more specific contents. Another high quality research was carried out by Robinson and Haynes in 1991, to find the weaknesses in the entrepreneurship education system: of primary concern was the lack of depth of most programs, due to weak theoretical bases upon which to build pedagogical models and methods. Solomon, Duffy and Tarabishy (2002) conducted one of the most comprehensive empirical analyses on entrepreneurial education ever: they witnessed the extraordinary growth of the field, underlining the need to spot the opportunity offered by the new technologies. Katz (2003) published the most relevant picture of the current state of entrepreneurship education, tracing the evolution of the field with in-depth searching. In line with Stevenson (2000), Katz celebrates entrepreneurship as a field of research and teaching. Entrepreneurship is presented as a field reaching maturity, which is questionable (Kuratko, 2003), with problems such as the publication glut, the challenge of legitimization, the lack of a sufficient number of PhD programs and tenure positions.

A large number of contributions are papers reporting on single educational experiences. Obviously, results of such a research on entrepreneurship education are limited in their generalizability to the emerging field (Alberti, 1999). Thus, we might argue that research on entrepreneurship education is sparse and still at an exploratory stage. While the field of entrepreneurship education is really expanding, much of the research seems fragmented and mostly descriptive. This is probably due to the fact that most of the research questions are germane to a specific program or course (Sexton and Kasarda, 1991). Moreover, there is a lack

of accepted and shared paradigms, models and theories of entrepreneurship education (Sexton and Bowman, 1984; Hills, 1988; McMullan and Long, 1983; Vesper, 1982).

From a methodological perspective, the vast majority of studies in entrepreneurship education use cross-sectional survey designs and measure key variables without building on existing indexes. Research designs even with basic controls represent an exception rather than the rule. Few of the studies present developed hypotheses and even fewer build on theory to elaborate their hypotheses (Gorman and Hanlon, 1997). Descriptions of the research sample frequently appear sketchy and pose a serious barrier to generalization and replication.

Findings from research indicate a wide consensus on the fact that entrepreneurship can be taught to some extent and, that there also seems to be preliminary evidence that entrepreneurship can be positively influenced by educational programs both at the individual and the societal level. Less agreement is found in contents and methods of teaching, in educators' profiles, as well as in the evaluation of teaching activities. Key issues of the domain of entrepreneurship education will be a central concern of the next section.

6. Key Issues in The Domain of Entrepreneurship Education

6.1. Objectives of Entrepreneurship Education

In general terms, entrepreneurship education aims at building the so-called entrepreneurial competencies, which are meant to be a combination of different skills, knowledge and attitudes (Fiet, 2001a).

More specifically, entrepreneurship education programs present different objectives. These may be specific and immediately measurable objectives (such as student knowledge) as well as more general and complex ones (such as entrepreneurial success or career satisfaction).

The most commonly cited objectives of entrepreneurship education (Curran and Stanworth, 1989; Block and Stumpf, 1992; Garavan and O'Cinneide, 1994) are:

- To acquire knowledge germane to entrepreneurship. This objective refers to the learning of knowledge, concepts and techniques about some specific area or discipline, related to the field of entrepreneurship. We refer, for instance, to contents such as 'alternative ways of identifying business opportunities'; 'frameworks for identifying resources and constraints'; 'the nature of start-up ventures', etc.

- To acquire skills in the use of techniques, in the analysis of business situations and in the synthesis of action plans. This objective aims at promoting skills of analysis and synthesis in the use of knowledge about accounting, finance, marketing and general management in a holistic way. For instance, the development of a business plan for a new venture requires the integration of functional skills and competencies into a single framework.
- To identify and stimulate entrepreneurial drive, talent and skill. This objective aims at increasing individuals' awareness of new venture career possibilities and supporting them in the development of awareness about their entrepreneurial interests, capabilities and potential.
- To undo the risk-adverse bias of many analytical techniques. A fourth aim of some entrepreneurship education programs has been to undo the bias for analysis and to find analytically right solutions. This means education on how to manage risk, reducing the bias for risk-aversion. As proved by Stewart, Watson, Carland and Carland (1999) it is the risk-taking propensity the main feature that really distinguishes entrepreneurs from non-entrepreneurs. These objectives move away from traditional business education that has a bias towards quantitative analyses and an emphasis on postponing action until all the necessary data are available.
- To develop empathy and support for the unique aspects of entrepreneurship. This objective refers to the wish/need of some individuals to understand and learn concepts related to entrepreneurship with no intent for their direct application. The value of such an objective is similar to individuals taking courses in any field outside of their major area of study (Block and Stumpf, 1992).
- To revise attitudes towards change. This objective aims at educating people on how to encourage their subordinates to innovate. This means that more emotional learning, rather than cognitive learning, is needed.
- To encourage new start-ups and other entrepreneurial ventures. This aims at a direct stimulus in fostering new ventures, self-employment and entrepreneurial oriented careers. Such an objective usually refers to community and university programs for 'wannabe' entrepreneurs (Garavan and O'Cinneide, 1994).

- To stimulate the ‘affective socialization element’. This objective refers to the inculcation of attitudes, values, psychological mindsets and strategies necessary for taking on the entrepreneurial role. The occupational socialization process (Curran and Stanworth, 1989) of the ‘wannabe’ entrepreneurs should be a reflection on the peculiar demands this role exerts on people. This implies a deeper learning attention on properly preparing ‘wannabe’ entrepreneurs for the severe psychological demands of their future role.

The analysis of the objectives of entrepreneurship programs introduces a deeper examination of the different audiences for entrepreneurship education, since the identification of the various educational objectives depends upon the needs of the different audiences. For instance, people who have or would like to have an entrepreneurial role will present objectives for their education that focus on acquiring knowledge germane to entrepreneurship and/or acquiring the related entrepreneurial skills and techniques. On the opposite, people who solely have an entrepreneurial spirit or an intellectual interest in entrepreneurship would have different learning objectives, focusing on skill development, attitude changes, entrepreneurship empathy development, etc.

6.2. Audiences for Entrepreneurship Education

Traditionally, entrepreneurship education was addressed to small business owners and managers, even though there are big differences between the two concepts. Apparently, entrepreneurship education is demanded by people who wish to start new businesses either independently or in a corporate framework. This results in a broader focus than the earlier one on small business management. Nowadays entrepreneurship is taught to very heterogeneous audiences: from those with little formal education to PhDs, from people living in highly developed countries to those operating in the third world (Brockhaus, 2001).

Block and Stumpf (1992; p.19) suggest that “if the definition of entrepreneurship used is the pursuit of opportunity without regard to currently available resources⁸...the audience...for entrepreneurship education broadens considerably beyond potential new business starters”. In this way, many categories could be included in the potential audience for entrepreneurship education programs: the self-employed; small business starters; starters of high-growth firms; business acquirers and ‘deal makers’; those who manage entrepreneurs in organizations; leaders and top managers; SME advisors, consultants and supporters; undergraduate and graduate students of business administration and other disciplines, etc.

8. This definition has been introduced by Stevenson and Jarrillo in 1990 and it is consistent with the one adopted in this paper (Shane and Venkataraman, 2000).

Such segmentation is meaningful because individuals interested in entrepreneurship education tend to have different learning needs and might be in more than one of these audience categories at different points in time, changing their own characteristics (Ghosh and Bloch, 1994). Building on the typology identified by Block and Stumpf (1992), we shall consider the possible audiences of entrepreneurship education.

- Entrepreneurs. The most common target group for entrepreneurship education is generally composed by active entrepreneurs who perceive a need for management or entrepreneurial training. In particular, according to Vesper (1980), several kinds of entrepreneurs can be identified: a) independent, high potential business starters (innovator or inventor); b) new business starters within corporations (intrapreneurs); c) self-employed people, including professionals (physicians, lawyers, accountants); d) acquirers and operators; e) deal makers and brokers; f) turnaround specialists. They could have dissimilar backgrounds and intentions for their future businesses. There are, of course, aspects of entrepreneurship that can be generalized across professions, such as, for examples, contents and learning styles for acquiring knowledge. At the same time, it is also likely that the knowledge and skill requirements for each kind of entrepreneur will be different to some extent.
- Managers. Line or senior managers may want to foster an entrepreneurial spirit, focused on identification and exploitation of opportunities, in the people they manage. The main learning objectives for these managers include the acquisition of knowledge which will develop their ability to foster innovation, minimize barriers to innovation, train people for entrepreneurial activities and undo risk-averse bias (Block and Stumpf, 1992). There is also empirical evidence of the interest of large companies in financing master programs in entrepreneurship for having entrepreneurial employees (Mohan-Neill, 2001).
- Entrepreneurial sympathizers. These individuals wish to support entrepreneurship within society. They are not actively involved in entrepreneurial activities, even though they can be influential with their interests, views and actions. Their learning needs on entrepreneurship education include the development of empathy, support, greater understanding and elaboration of change mechanisms (Block and Stumpf, 1992).

- Scholars. They are individuals who wish to explore entrepreneurship on an intellectual level. Their purpose is not to be entrepreneurs, but to acquire knowledge about the peculiarities of entrepreneurship, without having in mind a direct application to their career. This category typically includes students at undergraduate, graduate and post-graduate level (Block and Stumpf, 1992). Others may recognize the need for entrepreneurship in society and attend a program so as to better understand this discipline.
- People willing to develop their entrepreneurial spirit. These are individuals who wish to kindle an entrepreneurial spirit within themselves. They show an attitude towards experiencing new situations enhancing change and being open and flexible about new ideas. Their learning objectives and needs might include the identification and stimulation of entrepreneurial talent and skill, the development of empathy and support for entrepreneurship. In the age of globalization and complexity, all kinds of people need to be more entrepreneurial, including doctors, bankers, actors and musicians, priests etc. (Gibb, 2002).

Although scholars recognize the wide variety of audiences for entrepreneurship education, most reports indicate that entrepreneurship programs focus upon business students and the issue of company start-up (i.e. European Commission, 2000). Educators are then called to make the public at large aware of the fact that entrepreneurship education has a broader audience than conventionally thought. This would contribute to the development of the field. If entrepreneurship is presented as the key to economic development, the field would benefit from more political support in order to structure more and better education programs. A way to implement such a diffusion of entrepreneurship education to the public at large might be conveniently realized through the intervention of a coordinating institution (e.g. AOM Entrepreneurship Division), in charge of being the inceptor and the coordinator of a cascade process of popularization.

This broader range of audiences for entrepreneurship education implies the need to clearly understand the identities, characteristics and learning demands of the diverse target groups. We believe that entrepreneurship is more than building up a company, and that differences in audiences' needs should be carefully taken into account for effective education. As Hill et al. (2003) recently underlined "as academic educators we must not only listen to our customers, but we must act on what we hear from them". Practically, each educating institution might introduce market analysis techniques to better understand local market needs and properly target different audiences with specific educational programs.

6.3. Contents of Entrepreneurship Courses

The discovery and exploitation of entrepreneurial opportunities rely upon the individual's knowledge stock (Shane, 2000; Shane and Venkataraman, 2000). According to Vesper (1998) there are four kinds of knowledge useful to entrepreneurs:

- business general knowledge: it applies to business in general, both new and established firms;
- venture general knowledge: it is distinct from business general knowledge but fairly general to ventures;
- opportunity specific knowledge: it is the knowledge about the existence of an un-served market and/or about the resources needed for venturing in it;
- venture-specific knowledge: it is the knowledge on how to produce a particular product or service.

The last two are generally the most important ones for entrepreneurial success, but business schools normally offer courses that foster the first two categories of knowledge. Hundreds of programs in entrepreneurship have been introduced around the world (Brockhaus, 2001); however, it is widely recognized that most of them educate 'about' entrepreneurship and enterprise rather than educating 'for' entrepreneurship (Kirby, 2002; Gibb, 2002). Only rarely do they focus on developing in their students the skills, attributes and behavior of the successful entrepreneur. This situation is comprehensively described in a survey carried out by Interman in 1991 on more than 200 courses and is also witnessed by the content of any textbook on entrepreneurship. For instance, in the highly acclaimed *Portable MBA in Entrepreneurship* – the most adopted one in the field – Bygrave (1994) teaches students about the entrepreneurial process, opportunity recognition, entry strategies, market opportunities and marketing, creating a successful business plan, financial projections, venture capital, debt and other forms of financing, external assistance for start-ups and small business, legal and tax issues, intellectual property, franchising, harvesting, entrepreneurship economics.

There is also little uniformity in program offerings, and this is commonly considered related to the fact that entrepreneurship is an emerging field (Solomon et al., 2002). According to Sexton and Bowman (1984) this backwardness in entrepreneurship education research might be due also to the fact that many of the entrepreneurship teachers are adjuncts (an academic word for practitioners). "Too many different courses show a chaotic and undisciplined discipline", Menzies

(2003) stated recently. We believe that this divergence will decrease as soon as the field reaches its maturity.

Changes in the contents of courses have been suggested by Kuratko (2003): more attention needs to be paid to the development of entrepreneurial skills, attributes and behaviors. According to Rae (1997) the skills traditionally taught in business schools are essential but not sufficient to make a successful entrepreneur: he therefore suggested the adoption of modules specifically designed to develop skills related to communication, creativity, critical thinking, leadership, negotiation, problem-solving, social networking and time management.

Revisions in course contents are also suggested under another perspective: as Fiet (2001a) underlines, the only way to effectively teach entrepreneurship is to strongly rely on theory. Siding with Khun (1970), Fiet stresses how there is nothing more practical than theory: “we don’t know any other way to help students anticipate the future, unless we counsel them to rely on luck or intuition. The limitation of luck and intuition is that we do not know how to teach either of them” (Fiet, 2001a; p.1). Theory must be taught to aspiring entrepreneurs because nothing is more practical than understanding the consequences of committing resources to launch a venture. On the basis of a survey, Fiet (2001b) notes the divergence in topics within entrepreneurship courses, and attributes it to the lack of a comprehensive theory of entrepreneurship. He therefore proposes some building blocks useful for its construction and suggests for the time being teaching entrepreneurship on a contingency basis using what is known.

We argue that entrepreneurship education should balance the conveyance of theories with the development of skills and attitudes, and it should also balance the provision of general and specific knowledge. This implies that contents should be designed in a careful way, starting from the identification of the best practices and combining contents of different nature in the adequate mix. We share with Honig (2004) the proposal for a new entrepreneurship education which could provide not only analytical tools but also the experiential opportunity to combine problems and solutions dynamically with the environment. In order to reach these balances, we advocate again the intervention of a coordinating institution, which could offer concrete guidelines to single educating institutions on the base of best practices.

6.4. Learning Processes and Pedagogies

Very little is still known about effective teaching techniques for entrepreneurship educators (Brockhaus, 2001) and research and knowledge about how to teach entrepreneurship remains relatively underdeveloped, despite the growing demand for more entrepreneurial-oriented graduates (Kirby, 2002).

Most of the learning activities engaged in by people with an entrepreneurial role⁹ are in the self-directed mode (Young, 1997). According to this learning mode, entrepreneurs are primarily engaged in the acquisition of competencies that takes place in very different settings, such as the office, the ‘field’, at home or in the classroom. Of course, this does not imply that entrepreneurs learn alone, but they often learn on their own. Occasionally, in fact, they also are engaged in formal structured entrepreneurship education programs. As far as this source of entrepreneurial learning is concerned, some authors (Solomon et al., 1998; Shepherd and Douglas, 1997) have tried to discuss the most appropriate pedagogies for transferring entrepreneurial skills and knowledge.

Ahlarah (1989) conducted a survey, finding that the most widely used pedagogical combination for entrepreneurship education was composed of lectures and case studies, but, as Gibb (1993) suggested, this education system emphasized a set of values and abilities which were inimical to an entrepreneurial spirit. Davies and Gibb (1991) have gone further on this and have suggested that using traditional education methods to develop entrepreneurs could be interpreted as teaching ‘to drive using the rear mirror’. In this respect, we believe that conventional pedagogy should be balanced with more advanced techniques, so that entrepreneurs can develop both vertical and lateral thinking in problem solving (Kirby, 2002): the former is objective, analytical, logical and resulting in one or a limited number of solutions; the latter is creative, imaginative, emotional and resulting in multiple solutions (De Bono, 1970).

Findings of a number of research projects, including those of Sexton and Bowman (1984) and Stewart, Watson, Carland and Carland (1999), show that individuals with an entrepreneurial intention exhibit psychological and cognitive traits which are different from those of other people.¹⁰ Such a set of properties allow them to identify those new means-ends relationships that are at the heart of the entrepreneurial process (Shane and Venkataraman, 2000). More precisely, these cognitive properties are at the bases of the so-called ‘effectual reasoning’. This way of thinking consists in imagining possible new ends using a given set of means. It is considered as the ‘causal reasoning’, that consist in selecting among given means to achieve pre-determined goals (Sarasvathy, 2001).

On the basis of the above-mentioned theoretical advances, traditional methods of teaching entrepreneurship are beginning to give way to new methods that come out of an increased understanding of entrepreneurship. “entrepreneurship students can be depicted as independent individuals who dislike restraint, restriction, and routine. They are capable of original thought, especially under conditions of ambiguity and uncertainty. Many of them need to develop better communication skills and to become more aware of how others perceive their behavior” (Sexton and Bowman-Upton, 1987; p.38). Building on

9. In this section, we are referring primarily to entrepreneurs, ‘wannabe’ entrepreneurs and managers, since their learning processes present specific features.

10. See Van der Kuip and Verheul (2004) for a comprehensive review.

this, the authors conclude that courses should be more unstructured and especially pose problems which require innovative solutions under conditions of risk and ambiguity (Sexton and Bowman-Upton, 1987). This expresses a learning approach addressed towards a mere entrepreneurial focus, as opposed to a business school focus, together with a greater emphasis on its utilization in practice, rather than on the context of learning itself. Gibb (1993) suggests that entrepreneurship education should cope in new ways with the real world, through, for example, learning by doing, encouraging the use of feelings, attitudes and values alongside information, helping to develop more independence from external sources of information, using multi-disciplinary resources, helping to develop emotional responses when dealing with conflict situations and so on.

“Thus, the major challenge of entrepreneurship in relation to education and training is the appropriateness of curricula and training programs for preparation for learning in the outside world” (Garavan and O’Cinneide, 1994; p.9). Therefore the pedagogical methods which are best suited to an entrepreneurial learning style tend towards active experimentation complemented by both concrete experience and abstract conceptualization (Randolph and Posner, 1979). The volume of research in entrepreneurship education, especially suggesting active and hands-on pedagogies now seems comprehensive and inclusive of a long list of researchers (Young, 1997). Sexton and Bowman (1984, 1987) were significant contributors to the early research on entrepreneurship education pedagogical techniques. McMullan and Long (1987), and more recently Carland and Carland (2001), stressed the importance of including in entrepreneurship education programs hands-on experience, real world projects and learning-by-doing situations. Stumpf et al. (1991) suggested the introduction of behavioral simulations while Gibb (1993) underlined the relevance of experiencing close to reality situations. Hood and Young (1994) listed 45 specific pedagogical techniques, suggested by successful entrepreneurs, which could be applied to entrepreneurship education programs.

Solomon et al. (2002) recognize that many US courses now include business planning competitions (often resulting in business start-ups), internship periods, consultation with entrepreneurs, computer and behavioral simulations. All this is complicated by the fact that most entrepreneurship education programs are frequently of very short duration (Curran and Stanworth, 1989), although a few of them do extend over longer periods. “On the face of it, the length of such programs...seems absurd when set against the knowledge and complexities of the multi-functional task of entrepreneurship” (Garavan and O’Cinneide, 1994; p.6). Faced with this general tendency towards the development of non traditional teaching techniques, Fiet (2001a) underlines the need not to forget the relevance of deductive learning. In some cases the reengineering of courses has led to a situation where we ‘throw the baby out with the bath water’: “we become irrelevant as teachers when we fail to apply theory as a tool to answer student questions” (p.101). He advocates for a combination of deductive and inductive

learning: a course consisting in only theory would be an “arid wasteland where only the most intellectually curious students would succeed” (p.106); a course consisting in only practical applications provides teachers with no basis for assisting students to act on the basis of their choices (Fiet, 2001a). According to Fiet (2001b), if theoretical lessons are considered boring by students, then the teacher should improve its way of being surprising (e.g. delegating learning activities to the choice of students) and show the relevance of theory for practical actions.

How to balance deductive and inductive learning? In this case we argue that a common arena – a scholarly journal or an international conference – should promote conversations on appropriate pedagogies for effective learning and act as a sounding board for research results.

6.5. Entrepreneurship Educators’ Profiles

The debates on the contents of entrepreneurship education and its pedagogies are strictly related to the debate on who should teach entrepreneurship. Several entrepreneurship educators still come from other fields in business studies or are adjuncts, who are not interested in research on entrepreneurship *per se*, but who are mainly concerned with consulting and practicing entrepreneurship (Katz, 2003).

There is a common idea on the need to keep on developing a tenure-track faculty in entrepreneurship, not only because it would be a fruitful way to legitimate the field (Meyer, 2001), but also because only academic teachers could meet the challenge of teaching the right contents. On one hand, adjuncts cannot be as effective as academics in teaching theory-based contents, since they are more familiar with practice rather than theory (Fiet, 2001a); on the other hand, the teaching of the above suggested non traditional contents requires a pedagogical sensitivity that only experienced academics can have.

On the opposite, some scholars criticize the capabilities of academics with regard to entrepreneurship education: for instance, Laukkanen (1997) and Johannisson (1991) argue that business schools and universities are sterile environment for entrepreneurship, since their emphasis upon analytical problem solving and risk adverse approaches and their focus upon large and medium-sized firms.

We believe that both positions in the debate are reasonable. Such a trade-off of being either academics or adjuncts might be solved appointing academics with past entrepreneurial experiences or vice-versa adjuncts with advanced academic education.

Regardless the two above illustrated perspectives, we believe that the instructor (either academic or not) must become a learning process facilitator, able to use role-playing, management simulations, structured exercises or hands-

on projects. Ducheneaut (2001) has recently stressed the need for the behavioral and experience acquisition of knowledge, confirming the need for a shift in the role of the teacher, from instructor to tutor. Thus, educating the educator represents a real challenge for the entrepreneurship field, implying more research efforts about the appropriate competencies of those to be recruited as teachers (Gibb, 2002).

6.6. The Assessment of Entrepreneurship Education

Still little attention has been dedicated to how to measure the overall effectiveness of entrepreneurship education programs towards individuals and society (McMullan and Gillin, 2001). The main problems related to the assessment of entrepreneurship education may lie in measuring output from the entrepreneurial education process. Although it seems difficult to determine causality, some output measures (such as changes in entrepreneurial values, in orientation towards entrepreneurial careers, in personal assessment of entrepreneurial skills and so on) could also be examined (Wickham, 1989). The methods for assessing the results of entrepreneurship education are not well defined neither are any standardized means for measuring the results generally accepted. The lack of generally accepted measures is due to the heterogeneity of a number of factors characterizing entrepreneurship education, such as:

- Target groups. As stated before, entrepreneurship education can be addressed to various target groups (entrepreneurs, managers, entrepreneurial sympathizers, people with entrepreneurial spirit, scholars) and it is likely that each of them would require different assessment measures in order to evaluate the outcome of their different educational processes and objectives.
- University/school vs. entrepreneurship education/training focus. “The emphasis of many business schools is on understanding, feedback, critical judgment, analysis of large amounts of information, making assumptions about behaviors in order to develop models, and seeking correct answers, largely in classroom settings with information from authoritative sources and with evaluation by written assessments. In contrast, the entrepreneur with limited resources is operating with gut feeling, trying to understand the filters through which information passes, recognizing the hidden agendas in terms of other people’s goals and, because of this, is making decisions on the basis of judgment of the trust and competence of those involved” (Garavan and O’Cinneide, 1994; p.9).

- Objectives of entrepreneurship education. Following from the previous discussion, the variety of educational programs established for different purposes suggests an equal variety in the objective of entrepreneurship education. The target groups represent disparate educational needs, which have had further implications on the evaluation and assessment of the programs. Therefore, for each one of the previously cited objectives of entrepreneurship education some measures might be elaborated for assessing their achievement (Block and Stumpf, 1992; Garavan and O’Cinneide, 1994). Falkäng and Alberti (2000) have made an attempt at it, identifying suitable indicators for evaluating the achievement of the entrepreneurship education goals.
- Levels of analysis. As far as the effectiveness of entrepreneurship education is concerned, it cannot only be limited to knowledge acquirable in the classroom, but it should also look at the stimulation of new ventures/companies, the successful existing enterprises, and the increased ability of entrepreneurs and so on. This introduces the importance of considering different levels of analysis in assessing entrepreneurship education effectiveness: Falkäng and Alberti (2000) have identified three levels of analysis.
 - At a first level, the interest for entrepreneurship education is closely related to the notion of small firm contribution to society. The results of the public programs initiated by the society have the main objective to change the industrial structure, and the results cannot be expected in the short term. The number of new firms, the number of employees, the aggregate turnover and innovation are possible contributions of entrepreneurship education at the economic level.
 - At the firm level, entrepreneurship education may have an impact on one hand on the establishment of the firm itself. On the other hand, entrepreneurship education may contribute positively to the development of the corporate entrepreneurship processes, meaning the processes “whereby an individual or a group of individuals, in association with an existing organization, create a new organization or instigate renewal or innovation within that organization” (Sharma and Chrisman, 1999; p.18).
 - On the individual level of analysis, measures can be defined to include a number of factors assessing self-perceptions and individual developments. Possible contributions of

entrepreneurship education to the individuals are: self-employment and ability to act as independent operator; personal and career satisfaction; knowledge acquisition; skills acquisition; individuation of individual potential; changes in attitudes; growth of personal earnings. A recent investigation has given evidence to the fact that: entrepreneurship graduates are more likely to start new business and become self-employed; they are more satisfied with their jobs; and they have higher annual incomes than other business graduates (Charney and Libecap, 2000).

- Time dimension. The fact that there is little empirical evidence on the successful results of entrepreneurship education is probably not only due to the lack of positive results. The time dimension of initiation of programs and the expected result may be an important explanatory factor. Short-term output of entrepreneurship education might be the level of student satisfaction and their enrolment or the demand for additional courses, etc. Even more difficult is the assessment of longer term effects of entrepreneurship education. Investigations on the number of start-ups, of students who start businesses, of people who buy businesses, of self-employed people, are all reasonable over a period of at least five years (Brockhaus, 1994). Block and Stumpf (1992) indicate that the measure of contribution to society may be analyzed within a time perspective of ten years, as may the assessment of firm performance, personal and career satisfaction. Although the implications of the time dimension are well-known, entrepreneurship education and other public programs intended entrepreneurial venture design assessment tools to incorporate measures that hardly can be accurate within the period of the assessment, and hence, can underestimate the contribution of entrepreneurship education.

In summary, at a very first and elementary degree of assessment of entrepreneurship education, we can find a satisfaction index of participants regarding course content, usefulness and instructor appeals. Even though this seems to be a reasonable measure of satisfaction, this kind of instrument does not state directly whether the participants learned anything. On the contrary, the key question for assessing entrepreneurship education should be: what value is added by a specific course?

At a second elementary degree of assessment there are tests, examinations and evaluative assignments delivered to participants. Still, this measurement does not grasp the real value entrepreneurship education can generate. Programs in entrepreneurship education generally have the overall objective to bring about some kind of change in the economy, society, firms or even individuals. The expected changes may involve changed attitudes and values towards

entrepreneurial venture or contribute to an actual change in behavior, such as establishing a new venture. Measuring dimensions of change implies also that the point of departure has to be established in addition to the achieved results of entrepreneurship education. Careful evaluation should be done before, during and after the educational process, in order to truly assess the changes due to the pedagogical intervention (Falkäng and Alberti, 2000).

Thus, evaluating the true effectiveness of entrepreneurship education is a complex process, since it can be assessed in various ways. Once again, a general coordinating institution could promote the definition of a clear set of measures to be globally adopted for assessing entrepreneurship education programs.

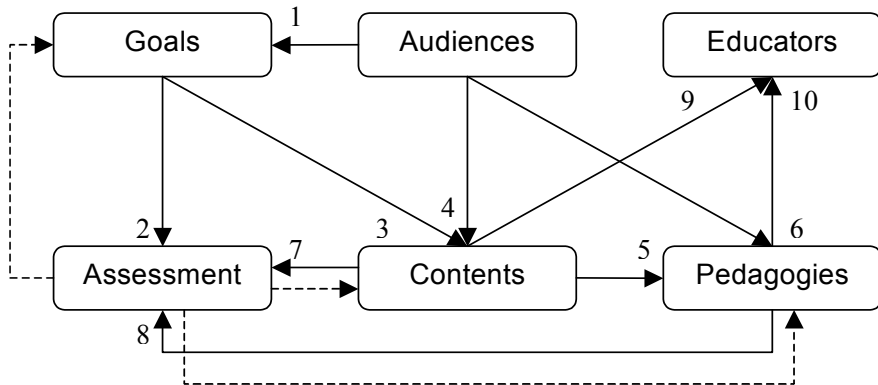
7. Conclusions

In this paper, entrepreneurial education was defined as the structured and formal conveyance of entrepreneurial competencies. We focused on the current status of research for entrepreneurship education and on its main topics. Entrepreneurship is of more interest today than perhaps at any other time, yet there is very little known about entrepreneurship education from a research perspective, calling for debate and research on how to develop entrepreneurship through education.

There are six key issues in debating entrepreneurship education: two could be considered 'closed', since authors share their thoughts and they do not really need a debate on them (audiences and objectives) any longer; whereas four are 'open', because scholars show a low degree of agreement on them (contents, pedagogies, educators and assessment). Given the heterogeneity of audiences for entrepreneurship courses and the complexity that characterizes the educational objectives, this study has reported on the ongoing debate regarding course content and the effectiveness of different teaching methods. In both topics we noticed divergent positions and a need for a better understanding of what and how to teach entrepreneurship. Such divergence is reflected in defining the role and the profile of educators. Even less agreement has been found on the ways to assess education, which can be considered the main weakness of current entrepreneurship education.

In Figure 2 we propose a conceptual framework to approach the domain of entrepreneurship education, underlining the relations among the six key issues discussed above. Educational goals depend on the learning audience (relationship 1) and should be fixed on the basis of their specific learning needs; assessment should be done once goals are fixed (relationship 2); contents should be defined only after goals (relationship 3) and depending on audience (relationship 4); pedagogies should be chosen depending on contents (relationship 5) and audiences (relationship 6); assessment depends on both contents (relationship 7) and pedagogies (relationship 8), as well as the choice of the most suitable educator (relationships 9 and 10).

Figure 2: A Conceptual Framework to Approach the Domain of Entrepreneurship Education



According to this view, *assessment* appears as the most relevant dimension in entrepreneurship education, since it is the issue with the highest number of incoming relationships: it means that it is the issue that is extremely influenced by all the others, and requires a lot of research effort. Moreover, it generates feedback for the re-definition of goals, contents and pedagogies (as represented by the broken line arrows). Thus, the first and most important area for further investigation should lie in the effectiveness of entrepreneurship education, i.e. the extent to which different learning and behavioral objectives are met in training programs. Programs generally have the overall objective to bring about some kind of change in the economy, society, firms and individuals. There is no question that students/participants acceptance and satisfaction is hardly sufficient. More complex and value-oriented assessment tools should be developed and information collected over a long period of time. The challenge is to develop research methodologies to measure entrepreneurship education effectiveness, especially with reference to the dissemination of information, the inculcation of entrepreneurial values, the demand by students for entrepreneurship education, the determination of project feasibility, the preparation of business plans for new ventures, the correlation of entrepreneurial coursework and self-employment, the number of ventures launched, the growth and development of enterprises and so on (Wyckham, 1989).

A second area for further investigation deals with the diversity of the *audiences* for entrepreneurial courses that has important implications for educational design. Audience analysis could be considered as the input dimension in the management of entrepreneurial education, since it is the issue with the highest number of out-going relationships. The challenge is to understand the characteristics of each audience and its educational and learning needs. As Sexton and Bowman-Upton (1988) state, obtaining a precise description of the

characteristics of the audience and its educational needs is crucial to increasing the effectiveness of entrepreneurship education. It can be made more effective by understanding the distinct needs of each segment, identifying their learning needs clearly, and then designing specific pedagogical tools and programs for each segment (Hill et al., 2003). Learning needs are also strongly dependent on the kind of phenomenon that audiences will cope with. In fact, entrepreneurship is not only venture creation, but also entrepreneurial management, and the two phenomena need different educational programs to be sustained. Within the former case, further distinctions are to be done between corporate venturing and independent start-up, and between innovative and imitative venturing, since the phenomena differ systematically (Samuelsson, 2001).

The central activity in entrepreneurship education management is on the other hand the definition of suitable *contents*, given that the issue has the highest number of relationships, both in and out. How to define suitable contents, then? We believe that entrepreneurship education would benefit from the development of entrepreneurship research itself (Fiet, 2001b) and that it is through education that research on entrepreneurship could do a lot for business practice (Davidsson, 2002). The state of entrepreneurship education reflects the growing phase that the research field is going through: since the entrepreneurship research field is still in construction, entrepreneurship education lacks the strong underpinnings it deserves (Bechard and Gregoire, 2002).

The challenge for entrepreneurship educators is still open. They have to meet the rigors of academia while keeping a practice-based focus and entrepreneurial climate in the learning experience environment (Solomon et al., 2002). The effectiveness of entrepreneurship education lays also in the reconciliation of the tension between recognition and promotion (Adcroft, Willis and Dhaliwal, 2004), i.e. the trade-off between descriptive and prescriptive contents. Effective entrepreneurship education can be designed only once an adequate market segmentation is conducted which in turn should be based on a careful analysis of audiences' learning needs. Research on the right competencies to be hold by any educator should be addressed as well. Finally, institutionalized and shared means for assessing entrepreneurship education effectiveness should be developed.

The challenge for entrepreneurship educators appears hard to face: we believe that academic associations, international conferences and scholarly journals might play a role at the global level to gradually legitimate the domain of entrepreneurship education.

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