



# Entrepreneurial Leadership: What Is It and How Should It Be Taught?

**Muhammad Azam Roomi<sup>1</sup>**

*University of Bedfordshire Business School*

**Pegram Harrison**

*Saïd Business School, University of Oxford*

**Abstract.** We offer a comprehensive review of the literature relating to entrepreneurial leadership, noting that there are diverse understandings of the concept and little exploration of how best to teach it. We next present empirical data from a survey of teaching practices at 51 HEIs in the UK that indicate little explicit teaching of entrepreneurial leadership. Drawing on this literature and data, we make recommendations for the design of teaching materials that emphasise the relevance of leadership in entrepreneurship education and of entrepreneurship in leadership education.

**Keywords:** entrepreneurial leadership teaching, entrepreneurship education, leadership education.

## 1. Introduction and Aims

This paper seeks to strengthen the connection between research and teaching in two fields that are well-established in themselves, but not often studied together: entrepreneurship and leadership. Although some studies use the phrase “entrepreneurial leadership”, few truly define the concept. Here we attempt a comprehensive review of these uses in order to offer a relatively stable definition. To reinforce the conclusions of that review, we gather and report our own empirical data from a survey of 51 higher education institutions in the UK. Our ultimate aim is to contribute a set of practical recommendations for the teaching of entrepreneurial leadership.

Throughout, we explore two research questions: what is entrepreneurial leadership? and how should it be taught? In focusing on teaching, we also ask how leaders learn to be entrepreneurial, and how entrepreneurs learn leadership. We are not seeking to test the validity of the answers to these questions, but rather to gather data about teaching practices and to make well-informed suggestions for educators.

---

1. The authors would like to express their thanks to the two anonymous reviewers without whom this paper could not have been finished. We are most grateful for their advice, extensive knowledge and patience—and for the considerable amount of time they have spent offering such detailed insights and useful suggestions. Many thanks.

According to one widely cited definition, general entrepreneurship is the pursuit of opportunity beyond the resources one currently controls (Stevenson and Gumpert, 1985). General leadership, by another widely cited definition, consists of strategic vision coupled with the ability to influence and motivate others through the systems, processes and culture of an organisation (Kotter, 1990). We take “entrepreneurial leadership” to be a fusion of these two constructs: having and communicating the vision to engage teams to identify, develop and take advantage of opportunity in order to gain competitive advantage.

In what follows, we develop the notion that entrepreneurial leadership involves running an organisation through a variety of means—through relationships and culture, for example, in addition to command and control. This requires understanding how to handle and deal with the risk, uncertainty and ambiguity that face all entrepreneurial organisations—and, arguably, all organisations in an increasingly risky, uncertain and ambiguous world. Entrepreneurial leadership education should, therefore, aim to provide students with a mind-set that encourages and teaches them to lead in an entrepreneurial way. We will explore the reasons why such teaching should employ diverse, socially interactive, reflective and experiential methods to motivate entrepreneurial leadership learning.

## **2. Literature Review**

The following section reviews various strands of literature with increasing focus. We start at the fairly general level of literature on entrepreneurship education, highlighting in particular the place of leadership within it. Next we turn specifically to the literature on entrepreneurial leadership, and explore four types of source that treat this topic from different angles. Finally we look squarely at the literature on entrepreneurial leadership education; although it is sparse and divergent, we find in it the key insights that govern the later sections of the paper presenting empirical data collection and practical recommendations for the design of teaching materials.

### **2.1. Literature on Entrepreneurship Education and the Role of Leadership within It**

Research on entrepreneurship education has developed considerably in recent years (Galloway and Kelly, 2009; Gibb, 1993; Hannon, 2006; Hannon, Scott, Sursani, and Millman, 2006; Hartshorn and Hannon, 2005; Heinonen and Poikkijoki, 2006; Johnson, Craig, and Hildebrand, 2006; Kuratko, 2005; Wilson, Kickul, and Marlino, 2007). However, very little of it directly considers or investigates entrepreneurial leadership. Four surveys of the literature on

entrepreneurship education have highlighted problems in the field and suggest that improvement might come through paying more attention to leadership.

Matlay (2005a) critiques the validity, comparability and generalizability of work on entrepreneurial education. He points out limits in the extant studies and notes that the progress of entrepreneurship education is hard to assess because there is a great variety in key definitions: that of entrepreneurship itself, of the nature of entrepreneurial knowledge and skills, of the nature of entrepreneurial learning, and of the evaluation of entrepreneurial capacity. We aim to address these criticisms with a conceptualisation of entrepreneurial leadership education that defines a position on each of these points.

McKeown et al. (2006) survey three areas across graduate entrepreneurship education: type, content, and delivery methods. We propose a similar inventory of entrepreneurial leadership education, looking at 1) the number, level and structure of programmes to determine which (if any) offer systematic exposure to leadership issues within an entrepreneurial context; 2) the content of such programmes in terms of topics presented and developed; and 3) the delivery methods in terms of teaching strategies, methods, and technologies.

Matlay and Carey (2007) have conducted a 10-year longitudinal project on UK entrepreneurship education generally; (a similar, much earlier study by Fleming (1996) took place in Ireland). Although their research features in-depth qualitative data, from 40 universities, on the development and implementation of entrepreneurship education, it nonetheless has no focus on entrepreneurial leadership. A strong conclusion to this work, however, is that actual *and perceived* barriers to effective treatment of leadership in entrepreneurship education must be overcome. We propose that a more focused understanding of the barriers perceived by potential and early-stage entrepreneurs in attaining their goals will greatly enhance the state of both entrepreneurship and leadership education and practice.

Finally, building on the work of Hannon et al. (2006), Hannon and the National Council for Graduate Entrepreneurship (2007) have conducted a comprehensive census of 131 HEIs looking at weaknesses in UK entrepreneurship education. The survey's findings point to a number of factors that will bear investigation in the context of entrepreneurial leadership: 1) a high variability across the country in conceptualising entrepreneurship and leadership; 2) similar variability in programme design; 3) a lack of understanding of the impact of investment on educational outcomes; 4) some indicative correlation between enterprise and leadership education and entrepreneurial leadership propensity (if not activity); and 5) the proposition that growth in activity will require growth in curricula, pedagogic innovation, teacher capability, and institutional resource support.

Other sources on entrepreneurship education touch on the integral role of leadership in entrepreneurship but do not develop the notion in detail (Chell, Karata-Özkan, and Nicolopoulou, 2007; Jack and Anderson, 1999; Klapper, 2004;

Matlay, 2005a; McKeown et al., 2006; Muzychenko and Zalan, 2008; Smith, Collins, and Hannon, 2006). Chell et al. particularly state that non-profit and social enterprise teams “need to be entrepreneurially led” (2007, p. 149); however, though they make specific educational recommendations about other things, they do not elaborate on how the particular competency of entrepreneurial leadership is to be developed. Similarly, Muzychenko et al. (2008) highlight the importance of a global mindset in the leadership of international new ventures, but do not explore means of teaching the leadership components of this set of competencies.

Additionally, there is a concern to establish clear methodologies for studying entrepreneurship education (Cox, Mueller, and Moss, 2002; Gorman, Hanlon, and W, 1997; Matlay, 2005b, 2006), but this precludes more developed enquiry into the role of leadership. Work on entrepreneurship education from other countries, even that fairly recently from the US, makes little or no mention of leadership (Chen, Li, Kong, and Xu, 2006; Fayolle, Gailly, and Lassas-Clerc, 2006; Katz, 2003; Solomon, 2007; Streeter, Jaquette, and Hovis, 2002).

## 2.2. Literature on Entrepreneurial Leadership

The literature on entrepreneurial leadership is diffuse, probably because of the definitional challenge of the construct itself. The approaches can be grouped into several categories, those that: 1) examine the intersection of entrepreneurship and leadership, 2) take a psychological approach, 3) emphasise the context within which leadership is required, and 4) attempt a more holistic overview of the construct without really defining it. In all approaches, and significantly for this inquiry, the sources pay little or no attention to how entrepreneurial leadership is developed or taught.

### 2.2.1. The Intersection of Entrepreneurship and Leadership

Some sources look at entrepreneurship and at leadership as separate constructs, and then identify areas of “conceptual overlap”. Cogliser and Brigham (2004) elaborate this overlap in schematic detail and point to four specific areas that are most relevant to both: vision, influence (on both followers and a larger constituency), leadership of innovative/creative people, and planning. These might suggest a basic working definition of entrepreneurial leadership, but in fact the main concern of the article is to steer entrepreneurship research away from some of the pitfalls experienced by leadership research, so it makes little effort to define the actual idea of “entrepreneurial leadership” as it might be constituted by these four elements. Fernald et al. (2005) take a similar approach, examining the separate literatures of entrepreneurship and leadership, from which they derive a set of similar “characteristics” common to both leaders and entrepreneurs: vision,

problem-solving, decision-making, risk-taking, and strategic initiatives. However, the study offers little explanation for the significance of these characteristics. The limitation of such an “intersection” approach is that it is largely descriptive, not analytical or explanatory. It demonstrates only *that* there are aspects in common between entrepreneurs and leaders, but not *why*. In addition, it does not suggest how to build on those common characteristics, other than to suggest that observing their commonality might lead to further research and eventually to the development of a model with potentially predictive value.

### 2.2.2. The Psychological Approach

Defining entrepreneurial leadership in the “elemental” or “characteristic” terms described above is a simple version of what is attempted by much of the literature that takes a psychological approach. Brockhaus (1982) and Nicholson (1998) look at the personality traits found in samples of entrepreneurs with leadership roles: “single-minded, thick-skinned, dominating individuals ... unlike managers” (Nicholson, 1998: 529 & 538). Entrepreneurial leaders are thus defined in opposition to “managerial” leaders, and not in terms of a set of skills that can be learnt or taught. Similar work looks at leadership behaviours in entrepreneurial contexts, specifically distinguishing these from “managerial” contexts; from a strongly psychological perspective Ensley, Hmieleski and Pearce (2006a) and Ensley, Pearce and Hmieleski (2006b) concentrate on inherent traits, not learnt behaviours. On the other hand, Gupta, MacMillan and Surie (2004) look at entrepreneurial leadership not as a collection of traits (i.e. who one is), but as a set of behaviours (i.e. what one does). They suggest that entrepreneurial leaders are those who enact the challenges of communicating a vision and influencing others to help them realise it. They test this working definition against an empirical dataset of leadership effectiveness, deriving reliable and generalizable results, but they do not apply their analysis to the question of how entrepreneurial leadership is learnt or taught.

Antonakis and Autio (2007) specifically identify entrepreneurial leadership as a “neglected area of entrepreneurial research” (p. 189) and state “that entrepreneurship could stand to gain from a closer integration with leadership research” (p. 203). They set out to provide a “process model” that explicitly considers context as a moderator of entrepreneurial leadership behaviours. Though they push beyond the descriptive or diagnostic analyses of many others pursuing a psychological approach, and move towards a basis for understanding the process by which entrepreneurial leadership develops, the model they offer is only “speculative” (p. 203), and has not been tested empirically.

### 2.2.3. The Contextual Approach

Put simply, the contextual approach looks less at inherent aspects of entrepreneurial leadership, and more at factors in an environment that condition or favour a specific mode of leadership that can be called entrepreneurial; this approach is developed in various ways throughout the literature.

Eyal and Kark (2004) advance a rich contextual approach, and come closer to recommending specific tactics for developing entrepreneurial leadership effectiveness, but are concerned with the leadership of schools and not companies. Swiercz and Lydon (2002) situate the notion of entrepreneurial leadership in high-tech firms; their field study identifies a two-phase model in which the leader is an integral part of the organizational transition from start-up to steady-state. The competencies necessary for a founding entrepreneur to lead such growth include being able to evolve his or her leadership style to the changing requirements and complexities of the organization—rather than, as is commonly recommended, relinquishing a leadership role to a professional manager. This fruitful suggestion concludes with the observation that “future coursework can be developed to meet the changing needs of entrepreneurs”—but that work is left to others. Like Swiercz and Lydon, Chen (2007) looks at a high-tech context, and concludes that a leader’s effectiveness is very strongly determined by the ability to interact with a team’s creativity (as measured by patents): “when lead entrepreneurs have higher risk-taking, pro-activeness and innovativeness, they can stimulate their entrepreneurial teams to be more creative during the patent creation process” (p. 246). These authors suggest that raising these behaviours in the leader will tend to be accompanied by elevated creativity in teams, but do not discuss *how* to raise these behaviours.

The role of teams in creating a context for improved entrepreneurial leadership occurs in other sources. Harrison and Leitch (1994) have specifically addressed entrepreneurship and leadership together, and do touch on the design of teaching materials in proposing a team-based approach to learning; they make some general recommendations to the effect that learning in teams helps to develop the skills necessary for leading teams. Henry, Hill and Leitch (2003) also support the notion of team-based learning in the context of entrepreneurship training. We will develop the notion of team-based entrepreneurial leadership learning below, in Sections 5.2. Design Elements for Making Leadership Relevant to Entrepreneurship and 5.3. Design Elements for Making Entrepreneurship Relevant to Leadership.

Along with context, another word used in the literature is “climate”. Cohen (2004) defines entrepreneurial leadership as any leadership that creates a climate of entrepreneurial behaviours: “create the right climate, and you’ll unleash the behaviour that your organization needs to succeed today” (p. 20). In other words, behaviour can be *determinant of* climate, as much as *determined by* context. Moreover, entrepreneurial leaders can exist at the top of an organization, or at any

other level; the ways in which they influence climate will depend upon their position. For Cohen there is therefore little point in prescribing what it takes to be an entrepreneurial leader without first identifying the context. The implication of this for education—which Cohen does not discuss—is that entrepreneurial leadership might be something that is best learned on the job, or at least through experiential methods (cf. Gibb, 1993: 19).

#### 2.2.4. The Holistic Approach

The notions of climate and context connect to a related idea of leadership “style”. Yang (2008) derives an understanding of this from Nahavandi (2002)—although without examining it in any detail—and connects it to the widely used measure of entrepreneurial orientation (Kreiser, Marino, and Weaver, 2002; Morris, Kuratko, and Covin, 2008; Wicklund and Shepherd, 2005). The assumed relevance of “leadership styles” to entrepreneurial orientation is not developed critically, although there are strong statistical controls in the analysis. The conclusion that “transformational” leadership styles are significantly more correlated to business performance than other styles is rigorous if one accepts that these leadership styles can be regarded as stable constructs; however, the related idea that transformational leadership with higher entrepreneurial orientation can contribute to higher business performance is less rigorously tested and forms a less credible part of the analysis. There is, at any rate, no discussion of whether or how to develop transformational leadership styles or entrepreneurial orientation. The construct of “entrepreneurial leadership” is here based on relatively shaky foundations.

However, the notion of transformational leadership does have some currency in the literature, particularly in opposition to other styles. Transactional leadership, for example, is based on the legitimate power given to the leader within the bureaucratic structure of the organisation (Burns, 1978; Kotter, 1990; Mullins, 2002). It heavily emphasises the end-result: for example, work tasks and outcomes, rewards and punishments (Mullins, 2002). It is also concerned with managing workers under strict rules and regulations to avoid change as far as possible and to avoid making decisions that could alter the status quo of the organisation. Transformational leadership, on the other hand, is considered a more appropriate model for an entrepreneurial context. Burns (1978) and Burnes (2004) portray transformational leaders as charismatics or visionaries who are able to inspire and energise workers into following them; such leaders thereby transcend self-interest in order to alter an organisation (Robbins, 1984). Transformational leaders are always looking for ways to overturn the status quo of their organisation through major change (Burnes, 2004). By using their ability to empower and to encourage others to achieve a shared vision, and by leading through example they are able to influence and motivate their followers to do

more than is expected (Yuki, 1989). In constantly changing markets, an entrepreneurial leader's ability to implement and support change in an organisation, rather than following or waiting for it to happen, is often the chief source of competitive advantage (Taffinder, 1995). The implications of this persistent theme in leadership literature is that in entrepreneurial contexts transformational rather than transactional leadership is a more appropriate "style".

Surie and Ashley (2007) are somewhat more careful than Yang (2008) in situating the notion of entrepreneurial leadership in earlier literature, but they begin with a working definition—"leadership capable of sustaining innovation and adaptation in high velocity and uncertain environments" (p. 235)—that colours their selection of sources. They focus on three perspectives that are consistent with those reviewed above: transformational, team-oriented, and values-based. Also consistent is their conclusion that entrepreneurial leadership is defined in part by the "ability to evoke extraordinary effort" in others, which is in turn "founded in the context of the firm's need to adapt to emerging environmental contingencies" (p.236). In this we see a convergence of several strands in the literature, particularly the psychological and contextual approaches—giving a more holistic and explanatory view of entrepreneurial leadership. Moreover, the working definition is generally credible, even though it is asserted more than argued. Nevertheless, there are still no clear implications for how to develop or teach entrepreneurial leadership.

A more critical view of entrepreneurial leadership, which seeks both to question received definitions of the construct and to understand its wider significance, is presented by Vecchio (2003). His model of entrepreneurial leadership concludes that "entrepreneurship is simply a type of leadership that occurs in a specific setting" (Vecchio, 2003: 322). This turns from a unified notion of entrepreneurial leadership and replaces it with a hierarchical typology in which leadership includes entrepreneurship. Similarly, Robinson, Goleby and Hosgood (2006: 1) look at entrepreneurship as "one type of leadership orientation", but are more concerned to develop an entrepreneurial paradigm than an entrepreneurial leadership paradigm.

Almost the opposite view can be found in Kuratko (2007), who seems to suggest that leadership is a type of entrepreneurship—or at least that today's leaders need to be entrepreneurial in order to be effective. He introduces a full special issue in a leadership journal on entrepreneurship in the twenty-first century, ranging widely over its global impact and the nature of people who have led this transformation. In an uncertain, risky, resource-constrained world, leadership that can respond to and thrive in that environment is the most appropriate. Thus the emphasis is on understanding and assessing leadership as an essentially entrepreneurial activity. But again, there is no specific attention to developing or teaching this conceptualisation of entrepreneurial leadership.

The variety of perspectives in Surie and Ashley (2007), Vecchio (2003) and Kuratko (2007), is certainly useful. Although they do not help to define entrepreneurial leadership conclusively, and in fact offer essentially conflicting models of it, these authors suggest the parameters of a critical debate that might form the basis for introducing the concept to students.

### 2.2.5. Summary of Key Themes in Entrepreneurial Leadership Literature

Although it ranges widely, the literature does show some key themes and patterns: the difference between leadership styles (assumed and not explained), specifically those that derive from or seem more effective in entrepreneurial settings; the role of context—industry, or team, or culture, etc.—in the expression of leadership activity in entrepreneurial environments; and the source of this activity in a combination of inherent personality traits, environmental influences, and/or learned behaviours. Overall, these key themes in the entrepreneurial leadership literature indicate a lack of understanding at the heart of the topic: very little attention is paid to how entrepreneurial leadership behaviours are learnt, whether they can be taught, and how this might be done. Moreover, though there are implications throughout the literature of what might be the critical elements for designing teaching materials for entrepreneurial leadership, these remain unclear. To sharpen these implications and to continue exploring the questions in our title—what exactly is entrepreneurial leadership and how can it be taught?—we now focus more attention on a subset of the literature concerning the teaching of entrepreneurial leadership.

### 2.3. Literature on Entrepreneurial Leadership Education

The paucity of literature on entrepreneurial leadership as a construct is highlighted in Bagheri and Pihie (2010). In trying to understand how entrepreneurial leadership competencies are developed in students they review the work of (Fayolle et al., 2006; Heinonen and Poikkijoki, 2006; Okudan and Rzasa, 2006; Zhao, Seibert, and Hills, 2005). However, they stop short of providing specific recommendations for teaching practices. Their notion of a process model in entrepreneurial education is similar to Leitch and Harrison (1999), though this lacks direct attention to leadership development. But by concluding with a call for further investigation of “entrepreneurial leadership learning processes in current entrepreneurship education systems which are highly dominated by traditional methods of entrepreneurship education” (p. 477) Bagheri and Pihie acknowledge the need for empirically informed improvements to the process of entrepreneurial leadership education.

Closer to the mark are Okudan and Rzasa (2006), who specifically address the teaching of entrepreneurial leadership, and argue for a project-based approach (similar to the process model discussed just above). Their work is based on a combination of their own experiences teaching in an engineering school and a survey of other entrepreneurial leadership teaching programmes in North American universities. They briefly review the entrepreneurial education literature, but almost none of the leadership literature. They are dismissive of three book-length studies of entrepreneurial leadership that we too have found overly theoretical and impractical: Smilor and Sexton (1996), Schulz (1999), and Eggert (1998). Their suggestions for leadership skill development in the context of entrepreneurial education are practical and well-tested: “the course has two foci: 1) leadership skills development, which utilizes concrete experience, reflective observation, abstract conceptualisation and active experimentation; and 2) business plan development and implementation, which primarily utilizes active experimentation,” (Okudan and Rzasa, 2006: 209). Their work suggests that certain elements should be central to the design of teaching materials: skills development exercises, workshops to form teams and observe team dynamics, and consistent “project dissection” or critical appraisal of the project as it evolves. We have attempted to accommodate these recommendations in Sections 5.2. Design Elements for Making Leadership Relevant to Entrepreneurship and 5.3. Design Elements for Making Entrepreneurship Relevant to Leadership below, while also drawing on our own, wider review of the literature.

This latter notion of the importance of critical reflection in entrepreneurial leadership learning is also strongly endorsed by Densten and Gray (2001). They suggest incorporating critical reflective practices into a leadership development programme through “critical lenses” that will enable students to build on previous experiences of leadership. Multiple perspectives that challenge future leaders to consider complex and uncertain environments, which they denote as “reflection-in-action”, constitute for them good teaching practices.

The general literature of entrepreneurship education endorses active or experiential learning methods that take students out of the lecture-room, especially through the use of technology, and regards the integration of such methods into entrepreneurial curricula as a progressive step in the effectiveness of entrepreneurial education (Bécharde and Grégoire, 2005; Charney and Libecap, 2000; Cooper, Bottomley, and Gordon, 2004; Jones and English, 2004; Kirby, 2004; Kourilsky, 1995; Kuratko, 2003; Leitch and Harrison, 1999; Lüthje and Franke, 2002; Neck, Neck, Manz, and Godwin, 1999; Vesper and Gartner, 1997). The same is true for general leadership education, although the idea is less comprehensively explored in that section of the literature (Brungardt, 1997; Mitchell and Poutiatine, 2001; Rost, 2000). One implication of this general predilection for active and experiential learning methods in both literatures is that such methods can be used to fuse the two educational agendas.

Finally, the recent work of Kempster and Cope (2010) explicitly endorses experiential methods for teaching entrepreneurial leadership competencies. Through “social interactive learning” and “reflective learning”, they argue, individuals can acquire entrepreneurial qualities. Social interactive learning enables individuals to develop self-awareness and communication skills, enhanced creativity, the ability to apply knowledge to problem-solving, and an interest in connecting individual knowledge with collective knowledge. Reflective learning enables individuals to reframe and re-contextualise events and facts, creating fundamental change in self-awareness and competency. Kempster and Cope consider many opportunities for social interactive learning and reflective learning that are crucial to entrepreneurial leadership education, and find that most entrepreneurs do have sufficient access to such opportunities. In an (admittedly small) sample of qualitative interviews with nine entrepreneurs, they observe that most entrepreneurs learn how to lead on the job more often than anywhere else; though such learning provides ample social interactivity it is usually very short on reflection. Clarke et al. (2006) also note that “the small business is the dominant situated crucible in which entrepreneurs learn to lead” (p. 26), but that this sphere of “bounded rationality” (p. 21) limits their ability to engage in appropriately diverse learning processes. Kempster and Cope’s call for properly constituted entrepreneurial leadership learning is welcome. But they avoid the question of whether such learning can occur in the educational environments of school or university, or more broadly whether entrepreneurial leadership can be taught.

#### 2.4. Conclusion to the Literature Review

Following some encouraging initial insights, there remains scope for exploring best practices in the *teaching* of entrepreneurial leadership, with the pragmatic intention of applying any new insights to the design of new, socially interactive, critically reflective and appropriate teaching materials.

Our proposals build mainly on the work of Vecchio (2003), who argues that leadership patterns that are specific to entrepreneurship have yet to be established by research; on Bagheri and Pihie (2010), who identify missing links in traditional entrepreneurship education that make it un conducive to leadership learning; on Kempster and Cope (2010), whose welcome emphasis on social interaction and reflection in entrepreneurial leadership learning nonetheless makes no recommendations for best practices in formal teaching; and on Okudan and Rzasa (2006), who formulate some key design elements for teaching materials that we have adapted to a wider appraisal of the literature. We attempt to apply these insights into entrepreneurial leadership learning to the context of formal educational institutions, using empirical data gathered in the UK.

### **3. Methodology**

Fifty-one educators were surveyed at higher education institutions in the UK, in the summer and autumn of 2008, with a response rate of 100 percent. Additional follow-up interviews with nine respondents were conducted by email and telephone. Although time-consuming, this mix of quantitative and qualitative methods—a multimethod/multi-trait design (Campbell and Fiske, 1959)—was chosen to ensure greater accuracy and less bias than other, simpler approaches.

The questionnaire was adapted from the Entrepreneurial Leadership Questionnaire of Eggers and Leahy (1992). Instead of addressing entrepreneurial leadership generally, it concentrated on how entrepreneurial leadership is taught. It also encouraged respondents to think about entrepreneurship education and leadership education separately before asking about instances of both topics in conjunction with each other—that is, entrepreneurial leadership education itself. The rationale for this approach was its potential to encourage respondents to reflect carefully on the matter without steering them too forcefully towards the researchers' expected outcomes (Conrad and Maul, 1981).

The questionnaire used a combination of open- and closed-response formats to identify the entrepreneurial and leadership content of education programmes, and to indicate their perceived prevalence, measured by a five-point Likert scale. The questions covered various categories: content and topics covered, learning methods, teaching, institutional support, and effectiveness. The results in each of these categories are reported below.

### **4. Survey Results and Analysis**

Our survey was designed to pursue two research questions—what is entrepreneurial leadership? and how should it be taught? These derived from the key considerations that emerged from our review of the literature on how leaders learn to be entrepreneurial and how entrepreneurs learn leadership. We must stress that the purpose of our empirical study was to gather data, not to test hypotheses. In the sections below, we report the results of the empirical study and give an analysis of key observations, with a view to making recommendations for teaching practice.

#### **4.1. Topics Covered**

Respondents were asked to list the entrepreneurship topics that were covered in their institutions; their answers clustered into the topics in Table 1:

Table 1

Topics Covered	Yes		No		Don't know	
	#	%	#	%	#	%
Entrepreneurship in stand-alone courses	41	80	9	18	0	0
Entrepreneurship embedded in other courses	48	94	3	6	0	0
Leadership in stand-alone courses	38	75	7	14	5	10
Leadership embedded in other courses	47	92	1	2	2	4
Leadership in entrepreneurial courses	33	65	12	24	4	8
Entrepreneurship in leadership courses	17	33	22	43	11	22

n = 51. Full results in Appendix 1

Roughly two thirds of entrepreneurial courses include some content on leadership and only about a quarter definitely do not; there is a small grey area of less than 10 percent. Conversely, only one third of leadership courses contain entrepreneurial content and nearly half definitely do not; the grey area is twice as big at 20 percent.

According to the respondents, a significant amount of leadership is taught within entrepreneurial courses and considerably less entrepreneurship within leadership courses. There is some perceived logic to including leadership as a subset of entrepreneurship—although about 10 percent of respondents report uncertainty about this. There is a lesser perception of the logic of including entrepreneurship as a subset of leadership: more respondents reject the idea than embrace it, and a fifth are uncertain. Interestingly, this goes against Vecchio’s position that “entrepreneurship is simply a type of leadership that occurs in a specific setting” (Vecchio, 2003: 322).

It is also interesting to note that there is generally more uncertainty around the teaching of leadership—whether it takes place independently, within other material, or at all. It is possible that the lack of clarity about entrepreneurial leadership comes from a lack of clarity about leadership pedagogy generally, implying that more effective entrepreneurial leadership education would pay careful attention to general leadership theory as a foundation for teaching entrepreneurial leadership specifically. We develop the implications of this for designing teaching materials in Sections 5.1. Rationale for Our Recommendations on How to Teach Entrepreneurial Leadership and 5.2. below.

In addition, looking at the statements about course content in responses to Q2 and Q3 (see Appendix 1), there is greater detail and subtlety in describing entrepreneurship topics, whereas leadership topics are often not specified beyond the word “leadership”. For example, one respondent names 11 entrepreneurship topics but only four leadership topics (Q2:42); another names 10 for entrepreneurship and none for leadership (Q3:43). This implies that the leadership topic agenda is perceived as simpler. Whether or not this is true is

immaterial; the perception of respondents is that leadership courses do not contain much content that is recognisably entrepreneurial, or similar to that found in entrepreneurial courses.

Finally, qualitative data indicate the implicit inclusion of leadership topics in entrepreneurial courses: for example, “none, specifically [are covered] but case studies used highlight the actions that entrepreneurs take and the consequences” (Q3:7). Comments about entrepreneurial topics in leadership courses do not seem to indicate even implicit coverage, except in the most general way: “mind-set, entrepreneurial behaviour, entrepreneurial thinking” (Q2:44, Q2:45).

## 4.2. Learning Methods

The portfolios of learning methods employed for entrepreneurship and leadership show some similarities—lectures dominate in each topic, role playing is only used about half the time in both topics, exams are sometimes used, while simulations, site-visits, and technology are rarely employed. More interestingly, there are some major points of difference in the profiles of each topic that indicate fairly little attention to entrepreneurial leadership.

Results show that group exercises comprise an important learning method for entrepreneurship only; they are used far less for leadership, especially where the group members are selected by the students themselves. About half of the respondents use self-selected groups in entrepreneurship, but only 20 percent do so in leadership. As Kempster and Cope show (2010), team dynamics can be a major source of “social interactive” learning, and an opportunity for students to witness close-hand any behaviours conducive to effective leadership. The lack of group exercises thus seems like a wasted opportunity. Moreover, self-selected groups provide opportunities for “reflective learning” on leadership effectiveness in ways that groups of strangers do not. Also, the paucity of group-work in leadership topics, relative to group-work in entrepreneurship topics, indicates little exploration of entrepreneurial topics inside whatever leadership group-work might occur. In short, it implies little teaching of entrepreneurial leadership.

More generally, responses concerning learning methods for leadership seem to emphasise the lower ends of the scale in almost all cases (other than lectures and case studies), with thin but even distribution around other levels. Responses for entrepreneurship are more evenly spread in the middle levels. This might indicate greater diversity in methods employed for entrepreneurship than leadership. More to the point, such a mismatch implies that attention to entrepreneurial leadership is more likely to emerge from an entrepreneurial perspective than a leadership one—that entrepreneurship teachers might be more receptive to including leadership content in their already diversified learning environments, while leadership teachers might find it harder to apply their material in an entrepreneurial context or to relate it to an entrepreneurial

perspective. Entrepreneurial leadership is therefore perceived as more a matter of entrepreneurship than leadership—apparently the opposite position to that stipulated by Vecchio (2003).

#### 4.3. Teachers

Teachers of entrepreneurship are reported as being academics in nearly 90 percent of cases, and these are supported by contributions from practitioners in about 50 percent of cases. Teachers of leadership are only 70 percent academics, with practitioners support in less than 50 percent of cases. These results do not tally with the learning methods responses concerning guest practitioners and speakers: about 40 percent in entrepreneurship, and somewhat over 40 percent in leadership. It seems that respondents report practitioner input differently when asked to focus on it more directly, and also minimise it somewhat.

Nonetheless, there is a perception among respondents that practitioner input is considerably less frequent than academic input in both topics. One implication of this might be that there is an opportunity for academics to conceptualise a theory of entrepreneurial leadership and to teach it more explicitly. If, however, there is little practitioner resource to draw on, then the topic risks being perceived as too theoretical and insufficiently practical. This is a concern not limited to entrepreneurial leadership, however; business and management pedagogy generally seeks to balance perspectives derived from research and experience.

#### 4.4. Institutional Support

This area of the responses suggests a general perception that entrepreneurial ideas are fairly well taught, whereas leadership ideas are less well taught. It also suggests that the teaching of leadership skills in an entrepreneurial context—entrepreneurial leadership—is not explicitly emphasised.

For example, 75 percent of respondents report that their courses provide the knowledge necessary to *start* a business, but only 60 percent report that they impart the knowledge necessary to *run* a business. While this is consistent with the fairly familiar idea of the serial entrepreneur—good at starting, bad at running—it also implies a perceived lack of opportunity to focus explicitly on entrepreneurial leadership in the form of the knowledge needed to lead a team at various stages of a company's evolution, even if this requires a shift in leadership techniques along the way. "Knowledge" of certain concepts relating to entrepreneurship and leadership is not resulting in a unified conceptualisation of entrepreneurial leadership.

Similarly, on the related subject of skills, respondents report that relatively few "leadership skills needed by entrepreneurs" are fostered, whereas more

“social skills needed by entrepreneurs” are encouraged. Again, this seems to demonstrate that a specific skill set for entrepreneurial leadership—however that is conceptualised in the “knowledge” conveyed—is not being identified or taught.

#### 4.5. Effectiveness

The effectiveness of leadership learning in fostering entrepreneurial activity was examined through questions about the rate of start-ups by students of different topics. While we observe that about 60 percent of entrepreneurship students are estimated to become entrepreneurs sometime after graduation, it is more interesting to note that only 14 percent of leadership students are estimated to become entrepreneurs at all. Also, by a rough estimate, their entrepreneurial involvement declines over time—only a very small percentage are estimated to start their own business within five years of graduation, as opposed to larger numbers of entrepreneurship students. There is a perception that people who study entrepreneurship are more likely to stick to it, whereas most people who study leadership move away from entrepreneurial activity. Does this imply that more focused teaching on entrepreneurial leadership would increase the overall proportion of students becoming and remaining entrepreneurs?

#### 4.6. Summary of Results

Two consistent results that emerge by implication in most of the five areas surveyed are that the teaching of leadership is perceived to be relevant to entrepreneurship, but relatively under-emphasised; and that there is little explicit teaching of entrepreneurial leadership.

#### 4.7. Limitations

This is not a rigorous analysis. It does not test anything; neither is it statistically validated. With such a relatively superficial analysis it would be unwise to make claims for a clear educational opportunity. Yes, explicit entrepreneurial leadership education seems nearly unavailable, but this might imply either that it is greatly in demand or that it is largely unwanted. And although the next section of this paper considers in the abstract the case for entrepreneurial leadership education, without consideration for demand from teachers or students, it seems important to reflect that students might still value greater explicitness in entrepreneurial leadership education.

## **5. Recommendations**

At the start of this paper, we asked how leaders learn to be entrepreneurial, and how entrepreneurs learn leadership. After reviewing the literature and conducting our survey, we feel that the current constructs for understanding these processes, and the current methods for teaching entrepreneurial leadership are not quite adequate to the task. Though we do not offer definitive alternatives, what follows are our recommendations for improving the situation, based on the insights above.

### **5.1. Rationale for Our Recommendations on How to Teach Entrepreneurial Leadership**

The results of our survey indicate that the role of leadership in entrepreneurship is under-emphasised and that the teaching of entrepreneurial leadership is not currently made explicit. Moreover, the literature reviewed suggests that a more systematic approach to the topic is needed. While the construct of entrepreneurial leadership continues to be debated, and the implications of our empirical data remain only suggestive and await more rigorous analysis, it will be difficult (and inappropriate) to prescribe the best means of teaching. But it should be possible and valuable to design a sequence of topics within which the contributing ideas can be debated critically, with the practical outcome of enhancing students' ability to lead in an entrepreneurial context.

The educational challenge is one of relevance: of making leadership relevant to entrepreneurship and entrepreneurship relevant to leadership. Because leadership is perceived by our survey respondents to be relatively under-emphasised, we recommend first exploring the construct of leadership, to seek ways in which it is relevant to entrepreneurship. Next, because entrepreneurship is perceived by our respondents to be a focused way of contextualising leadership, we recommend pursuing some of the connecting strands to look at aspects of entrepreneurship theory that are relevant to leadership. In both phases, we recommend looking directly at the two separate but related constructs—entrepreneurship and leadership—in order to teach students about a third construct, entrepreneurial leadership. Throughout, we recommend learning methods with strong process-oriented practitioner input that combine social-interactive and reflective techniques—drawing inspiration, for example from such texts as Burns (2005) on entrepreneurship generally, which we have found very clear and effective for teaching, and the process model of entrepreneurial leadership education suggested by Antonakis and Autio's (2007). From the diverse literature reviewed, our recommendations draw mainly from Vecchio's (2003) critique of trends and threads in the construct of entrepreneurial leadership; Bagheri and Pihie's (2010) team- and values-orientation; Kempster

and Cope's (2010) emphasis on social interactive reflective learning, and Okudan and Rzasa's (2006) model of experiential learning.

In the following sections, we give more detail on how the insights of the extant literature and our survey results can inform the design of teaching materials for effective entrepreneurial leadership education, in which entrepreneurship and leadership are equally relevant to each other.

## 5.2. Design Elements for Making Leadership Relevant to Entrepreneurship

We recommend an educational programme that starts by exploring leadership theory generally, and then highlights specific aspects that are relevant in entrepreneurial contexts. We suggest teaching methods in each section that the literature and our survey indicate will be most effective because they are critically reflective, socially interactive, and experiential. Each section also includes references to sources that can be used in building a bibliography for each topic.

### 5.2.1. General Leadership Theory Relevant in Entrepreneurial Contexts

As we saw in Surie and Ashley (2007) and Kempster and Cope (2010), certain types of leadership theory seem more conducive to entrepreneurial contexts, and are natural starting places for establishing relevance.

- **Team-oriented leadership:** This theory looks at the relationship the leader has with group members, specifically focusing on the leader's ability to elicit high levels of group participation (Gupta et al., 2004). There is a strong similarity between this form of leadership and entrepreneurial leadership: "In both cases the leader elicits high levels of participation and involvement by the group" (p. 6).
- **Value-based leadership:** This approach concentrates on the leader's ability to articulate an attractive vision and mission, and to appeal to followers by being admired and respected. The similarity between this approach and entrepreneurial leadership "lies in the leader's capacity to build a high-expectation vision and to convey confidence in the followers' ability to accomplish that vision" (Gupta et al., 2004: 6).
- **Neo-charismatic or transformational leadership:** This theory focuses on the leader's ability to evoke followers' performance through a transcendence of self-interested behaviour by adhering to the followers' needs for self-actualisation (Bass, 1985; Burns, 1978). This

kind of leadership “binds leaders and followers together in a mutual and continuing pursuit of a higher purpose” (Burns, 1978: 20).

Because of the generally pervasive attention to leadership styles in the literature, students should explore and learn to distinguish various styles and theories, specifically transformational leadership from transactional leadership (Kotter, 1990). Students should be encouraged to discuss whether, and in what ways, transformational leadership is both necessary and desirable in an entrepreneurial context. One productive learning method for juxtaposing different ideas and constructs is a debate: assign students the task of researching a concept and arguing for or against it in a highly structured format, usually with pairs or teams pitted against each other. Video samples demonstrating various leadership styles can also be very instructive.

### 5.2.2. Managerial vs. Entrepreneurial Leadership

Similar to the distinction between transactional and transformational leadership, the differences between “Managerial” and “Entrepreneurial” approaches are accentuated in a leadership context. Both require distinctive skills and capabilities in order to be effective (Burns, 2005, 2007; Duening and Sherrill, 2005; Morris et al., 2008). Managerial leadership uses discipline and control to reduce complexity, and is concerned with detail and logic. Entrepreneurial leadership, on the other hand, is more concerned with building up long-term reciprocal relationships along the value chain of an organisation, where effectiveness is determined by the ability to influence others, set direction, communicate, motivate, develop change, handle resources strategically, and encourage others to act in a competitively advantageous and opportunity-seeking way (Burns, 2005; Covin and Slevin, 2002; Ireland and Hitt, 1999; Rowe, 2001). Thus, understanding the traits and behaviours that distinguish the managerial leader from the entrepreneurial leader should also be embedded in entrepreneurial leadership education.

As with leadership styles, a structured debate, in pairs or teams, is recommended as an effective method for juxtaposing managerial and entrepreneurial approaches.

### 5.2.3. Influencing Strategies

Truly transformational leaders must be capable of moving an organisation towards its goals without relying solely on coercion. Similarly, Parks (2006) argues that successful entrepreneurship is not achieved by dictating what should happen, but by maintaining a shared understanding between an entrepreneurial

team and its leader. Thus entrepreneurial leadership education should also develop influencing strategies such as reason, friendliness, coalition forming, bargaining, assertiveness, appeals to higher authority, and the judicious threat of sanctions (Duening and Sherrill, 2005).

One method for exploring and expanding influencing skill is what we call a “Town Hall Meeting”. In this exercise, some students must convince others to approve a controversial decision at a meeting of civic leaders (closing a park or building a new road through a residential neighbourhood, for example). After learning about various influencing skills in theory, students can then try them out on their colleagues and observe their effects.

#### 5.2.4. Communicating a Shared Vision

“Vision is the cornerstone of the entrepreneurial architecture” (Burns, 2005: 85). In other words, entrepreneurial leaders need an ability to define and communicate a shared vision for an organisation. This shared vision in turn creates enthusiasm and motivation, builds confidence, and strengthens connections within a team and throughout an organisation by working on people’s emotions (Ireland, Hitt, and Sirmon, 2003). Being able to communicate at an emotional level and engender a sense of common concern through appropriately deployed influencing strategies are essential traits of entrepreneurial leaders, and should therefore be an important objective of entrepreneurial leadership education. Students should learn how to communicate emotionally about the value of opportunities, and to show that exploiting these opportunities will achieve the shared vision.

An often exciting method for developing students’ skill in communicating a vision is to film them making speeches, for example pretending to be candidates for election to political office, using techniques explored earlier to try to persuade their classmates to vote for them.

#### 5.2.5. Interpersonal Skills

In addition, entrepreneurial leadership education should develop particular sorts of interpersonal and team-working skills that focus on leading organisations by consensus and agreement, rather than command (Burns, 2005). Thus another role of entrepreneurial leadership education is to teach people how to build interpersonal skills that win them the trust, credibility, and respect of teams, and the ability to inspire and encourage high performance (Wickham, 1998).

Role playing exercises can be very effective methods for exploring interpersonal skills, either through set roles and situations, or improvised contexts that the students select and control themselves, depending on their level of engagement.

### 5.2.6. Conflict and Entrepreneurial Leadership

All leaders need to understand how to deal with conflict, and if necessary be able to adjust their preferred behaviours to handle conflict constructively (Jehn, 1997). Given the shifting complexity of most entrepreneurial environments, entrepreneurial leaders need this ability more than most (Burns, 2005); in other words, since entrepreneurial leaders generally face higher uncertainty and ambiguity, to be effective the entrepreneurial leader needs both a conceptual understanding of how to handle conflict, and an innate tendency to put this ability into practice. Burns cites the “Thomas-Kilman conflict modes instrument” for categorising the ways in which conflict is handled in different situations: avoidance, accommodation, compromise, competition and collaboration (Brooks, 2003; Burns, 2005; Thomas, 1976). Burns (2001) and Timmons (1999) observe that in entrepreneurial contexts, only certain types of response to conflict are effective: “successful entrepreneurs are interpersonally supporting and nurturing not interpersonally competitive” (Burns, 2001: 257). Thus entrepreneurial leadership education must develop this specific sort of conflict-handling ability.

Methods that find ways to provoke conflict and explore its different varieties can be very effective in illustrating as well as enacting these ideas. One technique that we have used is called the “Traffic Jam”, in which opposing teams of students must figure out a puzzle that tends to provoke extreme emotion but that requires coordination to solve. Similarly, a physical challenge such as asking a small team of people to walk on the same pair of skis or planks, in a race with another team —“Walking the Plank” —can create a vivid impression of how only certain forms of leadership will suffice to accomplish a task optimally.

### 5.2.7. Adversity

As with conflict, leaders must learn how to deal with adversity, failure and disappointment. They must be able to look at disruptions to progress and 1) analyse what went wrong, 2) learn from their mistakes, and 3) accept liability for their responsibility and move on (Lippitt, 1983, 1987). Other research suggest, however, that entrepreneurial leaders deal with adversity in somewhat different ways: less of 1, a more intuitive or semi-conscious approach to 2, and a great facility with 3. In short, they do not waste valuable time considering “what if?” but instead quickly learn from and take responsibility for their mistakes (Kirby, 2003). Entrepreneurial leadership education should therefore develop tactics that emphasise that failure is due to circumstance, not individuals—that failure is nobody’s fault (McGrath and MacMillan, 2000). Since failure is part of being creative and failure must be accepted in order for risk to be taken in the first place, an important role for entrepreneurial leadership is to channel creativity and risk in tandem, and maintain rules for coping with imbalances (Ireland and Hitt, 1999). Students of entrepreneurial leadership should learn how to foster sufficient

freedom to let creativity develop, but equally should learn methods of mitigating and tolerating adversity.

A method that we have found productive involves assigning teams of students an impossible task—“Mission Impossible”—and then afterwards asking them to reflect on the team dynamics as they dealt with frustration and failure.

### 5.2.8. Summary

These design elements for making leadership relevant to entrepreneurship are summarised in Table 2 below:

Table 2

<b>Design elements for making leadership relevant to entrepreneurship</b>	<b>Additional Readings</b>	<b>Suggested Methods</b>
General leadership theory relevant in entrepreneurial context • Team-oriented leadership • Value-based leadership • Neo-charismatic / transformational leadership	Gupta, MacMillan et al. 2004; Burns 1978; Bass 1985; Kotter 1990; Mullins 2002	Structured debate Videos of various leadership styles
Managerial vs. entrepreneurial leadership	Burns 2005; Duening and Sherrill 2005; Burns 2007; Morris, Kuratko et al. 2008; Ireland and Hitt 1999; Rowe 2001; Covin and Slevin 2002	Structured debate
Influencing strategies	Parks 2006; Duening and Sherrill 2005	“Town Hall Meeting”
Communicating a shared vision	Burns 2005; Ireland, Hitt et al 2003	“Election Speeches”
Interpersonal skills	Burns 2005 Wickham 1998	Role plays
Conflict	Jehn 1997; Burns 2001, 2005; Thomas 1976; Brooks 2003; Timmons 1999	“Traffic Jam” “Walk the Plank”
Adversity	Lippitt, 1983, 1987; Kirby 2003; McGrath and MacMillan 2000; Ireland and Hitt, 1999	“Mission Impossible”

### 5.3. Design Elements for Making Entrepreneurship Relevant to Leadership

Based on our findings, another challenge in entrepreneurial leadership education is to give strong attention to the aspects of entrepreneurship that are relevant to leadership. As before, we suggest in each section specific teaching methods that are critically reflective, socially interactive, and experiential, and we include in each section references to additional sources that may help build a bibliography for each topic.

#### 5.3.1. The Entrepreneurial Mind-Set

Entrepreneurial leadership education should teach students and potential entrepreneurs how to exploit and use an entrepreneurial mind-set—their own, as well as those of people working with them. An entrepreneurial mind-set is both an individual and collective phenomenon that is important to entrepreneurs, managers and leaders (Covin and Slevin, 2002). McGrath and MacMillan (2000) have defined it as a way in which individuals think about business, focusing on the benefits occurring with uncertainty. This means that an entrepreneurial mind-set is vital for capturing opportunities and, as a result, can contribute to an organisation's competitive advantage (Miles, Heppard, Miles, and Snow, 2000).

Methods that emphasise this might include materials and methods designed to increase 1) the ability to recognise and analyse entrepreneurial opportunities (Casson, 1982; Shane and Venkataraman, 2000); 2) entrepreneurial alertness (Alvarez and Barney, 2002; Kirzner, 1997); 3) real options logic; 4) entrepreneurial framework (Ireland et al., 2003); and 5) dominant logic (Bettis and Prahalad, 1995; Prahalad and Bettis, 1986). More simply, business planning assignments tend to touch on all of these elements; assigning teams of students to a feasibility study or business plan project and asking them to reflect on these areas afterwards can be a productive learning method.

#### 5.3.2. Corporate Entrepreneurship

Topics relating to corporate entrepreneurship (also called intrapreneurship) should be well-integrated into entrepreneurial leadership education, mainly because they allow access to entrepreneurial concepts for students less inclined to entrepreneurial activity themselves but interested in understanding it—students who intend to be consultants or investors, for example. In addition, it is important to stress that entrepreneurship can be considered as a set of skills transferrable to any organisational context in which innovation, risk-taking, opportunity recognition, and other similar imperatives occur.

Equally, corporate entrepreneurship education should emphasise leadership themes. Corporate entrepreneurship is the creation of new business in large established organisations through entrepreneurial people being innovative and creative and generating new ideas (Guth and Ginsberg, 1990; Sathe, 1985). Students should learn that entrepreneurship occurs in corporate contexts as well as in start-ups and smaller, younger organisations, and how leadership in such contexts differs from corporate or other traditional forms of leadership. Distinctive elements of leadership learning in a corporate entrepreneurship context should emphasise the following themes:

- **Creativity and innovation**, and how each should be encouraged and rewarded (Burns, 2005, 2007);
- **Creating and constructing the entrepreneurial culture** (Burns, 2005; Gibb, 1993);
- **The degree of freedom and encouragement** that is given to entrepreneurs to produce new ideas with potential (Dess, Lumpkin, and McGee, 1999; Kuratko and Hodgetts, 2004; Sinetar, 1985; Slevin and Covin, 1990);
- **Support and encouragement given to risk-taking** (Burns, 2005);
- **Management and organisation structure** (Burns, 2005);
- **Availability of resources**, both tangible and intangible (Hisrich and Peters, 1986; Hornsby, Naffziger, Kuratko, and Montagno, 1993; Katz and Gartner, 1988; Sathe, 1985; Sounder, 1981; Sykes, 1986; Sykes and Block, 1989; Von Hippel, 1977);
- **Teamwork** and cross-functional teams (Burns, 2005);
- **The learning organisation** (Burns, 2005);
- **Constructing an entrepreneurial architecture** (Burns, 2007); and
- **Strategic thinking** (Burns, 2005).

Learning methods that give students meaningful insight into corporate entrepreneurship include consulting projects, in which teams of students (by prior arrangement, and with an internal sponsor or mentor) spend time working on a real project with real deliverables within a real organisation, and write a report for assessment.

### 5.3.3. The Dark Side of Entrepreneurship

Entrepreneurial leadership education should also look at some of the risks and pitfalls to which it is particularly prone. Certain factors discussed can result in a destructive outcome for the entrepreneur (Kets de Vries, 1985), with salutary lessons for the entrepreneurial leader in any kind of organisation.

- **Confrontations with risk** (Kuratko, 2007; Morris et al., 2008): Entrepreneurial leaders are always changing and questioning the status quo of the organisation. This entails risk, and will be evaluated by the entrepreneurial leader against an associated reward. If tolerance of the risk cannot be communicated to other stakeholders, then confrontations destructive to team cohesion are more likely to occur.
- **Stress** also features strongly in spoiling the fulfilment of demands and expectations (Akande, 1992; Buttner, 1992; Kuratko, 2007; Morris et al., 2008), and ultimately in undermining an entrepreneur's ability to take responsibility for failure.
- **Lack of self-awareness** may also be associated with the dark side of entrepreneurial leadership. This may include unrealistic desire for success or too great a desire for control, resulting in distrust within an organisation (Kuratko and Hodgetts, 2007).

Case studies, ideally those written by the teachers on organisations that students can relate to directly or have experience of, constitute a good method for addressing these issues; teachers should steer discussion towards practical solutions for how entrepreneurs can and do avoid the dark side of entrepreneurial leadership.

### 5.3.4. Ethics

Ethics should be taught through means that demonstrate how important a "value system" is to entrepreneurial leaders' effectiveness (Kuratko, 2007). Research shows that leaders who are seen to take an ethical approach in their decision-making are more likely to be followed. Conversely, leaders who are seen to demonstrate an unethical approach are unlikely to keep followers within an organisation. Effective entrepreneurial leadership education should stress the importance of ethical behaviour in decision-making for entrepreneurs, both as a matter of principle and to improve organisational performance.

Ethical matters can be profitably explored through structured debates and role playing. Negotiation games or exercises, especially those that put some players in

an invidious position where they can “win” only by compromising their opponents, also illustrate ethical dilemmas and provide memorable and practical material for discussing how to work through such challenges.

### 5.3.5. Human Resource Management

Managing human resources is critical to the success of any firm; and all the more so for organisations that might contain no other resources in-house, such as start-up ventures (Morris et al., 2008). Thus, integrating human resource management (HRM) materials within a programme on entrepreneurial leadership is vital for introducing students to the central importance of investing considerably in this area. Properly understood, HRM can make the difference between success and failure in an entrepreneurial organisation or venture: in recruitment, through proper job descriptions and person specifications encouraging entrepreneurially inclined individuals to apply to the organisation; in selection, through properly structured interviews and psychometric evaluations; in hiring, through properly structured remuneration packages; and in development, through appropriate motivation and the dispensation of rewards and compensations that are effective in an entrepreneurial context.

Entrepreneurial leadership education should emphasise these features of HRM. Methods that provide insight into the reality and complexity of HRM include site visits and shadowing programmes, where students must face real life in real time; such activities should always be followed-up with a reflective report.

### 5.3.6. Empowerment

In order for entrepreneurs to be effective they need to feel empowered by a sense of themselves as leaders. Another role, therefore, of entrepreneurial leadership education is to create this sense of empowerment; our research suggests the following tactics for doing so:

- **Operate an empowerment-focused organisation** (Burns, 2005) and create empowering job designs such as job enlargement, job rotation and job enrichment (Brooks, 2003). Students will explore, and benefit from, the above points, recognising why they are key requirements for an entrepreneurial leader to empower and motivate an entrepreneurial team.
- **Build trust.** Entrepreneurial leaders must learn how to trust their employees to do their work and inspire them to take an active role over their actions instead of using tight control mechanisms (Burns, 2005).

If the employees feel trusted, they also feel more empowered to be creative and innovative for the good of the organisation.

- **Continuously train** employees (Burns, 2005) with on- and off-the-job training in order to capitalise on opportunities to innovate as they arise. Training should be continuous because of the constantly evolving nature of entrepreneurial organisations.
- **Reward success. Develop the knowledge and skills** to encourage and support the rapid transfer of knowledge and information sharing between one another (Burns, 2005). Students will learn and understand how important it is to recognise employee's contributions.
- **Tolerate mistakes and failures.**
- **Involve employees in decision-making** by giving them authority and listening to their ideas, suggestions and solutions (Burns, 2005).
- **Maintain a decentralised, flat organisational structure** (Brooks, 2003).
- **Be approachable** (Burns, 2005).

Methods for conveying these lessons include mentoring and similar opportunities to observe accomplished professional doing their jobs well, and providing a model (ideally a positive one) for students to aspire to.

### 5.3.7. Summary

The design elements for making entrepreneurship relevant to leadership are summarised in Table 3 below:

Table 3

<b>Design elements for making entrepreneurship relevant to leadership</b>	<b>Additional Readings</b>	<b>Suggested Methods</b>	
The entrepreneurial mind-set	Covin and Slevin 2002; Miles, Heppard et al. 2000; Casson 1982; Shane and Venkataraman 2000; Kirzner 1997; Alvarez and Barney 2002; Ireland, Hitt et al. 2003; Prahalad and Bettis 1986; Bettis and Prahalad 1995	Business Planning with follow-up reflection	
Corporate entrepreneurship	Gibb, 1993; Guth and Ginsberg 1990; Sathe 1985	Consulting project with sponsor, deliverables, and follow-up report	
• Creating and constructing the entrepreneurial culture	Burns 2005		
• Creativity and innovation	Burns 2005, 2007		
• Freedom to perceive and pursue opportunity	Sineta 1985; Slevin and Covin 1990; Dess, Lumpkin et al 1999; Kuratko and Hodges 2004		
• Support for risk-taking	Burns 2005		
• Flat areas of management and organisation structure	Burns 2005		
• Availability of resources tangible and intangible	Von Hippel 1977; Souder 1981; Sathe 1985, Hisrich and Peters 1986; Sykes 1986; Katz and Gartner 1988; Sykes and Block 1989; Hornsby, Naffziger et al 1993		
• Cross-functional teams	Burns 2005		
• Learning organisation	Burns 2005		
• Entrepreneurial architecture	Burns 2007		
• Strategic thinking	Burns 2005		
The dark side of entrepreneurship	Kets de Vries 1985		Case studies
• Confronting risk	Kuratko 2007; Morris Kuratko et al. 2008		
• Stress	Akande 1992; Buttner 1992; Kuratko 2007; Morris, Kuratko et al 2008		
• Lack of self-awareness	Kuratko and Hodgetts 2007		
Ethics	Kuratko 2007	Structured debates Negotiation games	
Human resource management	Morris, Kuratko et al. 2008	Site visits Shadowing with follow-up report	
Empowerment	Burns 2005; Brooks 2003	Mentoring	

## **6. Conclusion**

This paper has reviewed current literature relating to entrepreneurship and leadership and surveyed teaching practice in the UK, and on this basis makes specific recommendations for designing teaching materials for entrepreneurial leadership.

In the literature review, we ranged through the existing literature on entrepreneurship education, leadership education, and entrepreneurial leadership education in an attempt to define and clarify the best practical approaches in teaching. We offer no strong definition of entrepreneurial leadership, and instead merely explored various ways in which it can be presented and debated most productively in the classroom.

In the empirical study, we engaged in a process of gathered and reporting data rather than a formal process of testing strict hypotheses. Rather than offering a prescription for the best way to teach entrepreneurial leadership, we offer carefully considered suggestions (including bibliographical sources) that educators can adapt to their own needs.

Our overall conclusion is that entrepreneurial leadership education should teach students how to cultivate their entrepreneurial capability in leadership roles and their leadership capability in entrepreneurial contexts. Essentially, it should be about developing appropriate abilities with which to combine, exploit, and maintain the particular capabilities of entrepreneurial teams, especially balancing creativity, influence, a particular attitude to risk, and an ability to access scarce resources strategically. Through learning these general and specific things concurrently in socially interactive, reflective and experiential ways, students can become proficient in exploiting opportunity, maintaining their teams' core competencies for pursuing innovation, and gaining competitive advantage for their organisations in uncertain environments—in short, to become entrepreneurial leaders.

## Appendix 1

### SURVEY RESULTS

#### A: PROVISION, CONTENT AND TOPICS

Q1: Topic coverage	Yes		No		Don't know	
	#	%	#	%	#	%
Entrepreneurship in stand-alone courses	41	80	9	18	0	0
Entrepreneurship embedded in other courses	48	94	3	6	0	0
Leadership in stand-alone courses	38	75	7	14	5	10
Leadership embedded in other courses	47	92	1	2	2	4
Leadership in entrepreneurial courses	33	65	12	24	4	8
Entrepreneurship in leadership courses	17	33	22	43	11	22

n = 51

Q2	Entrepreneurship topics covered
1	not sure what this means
2	social enterprise, new ventures, innovation creativity
3	entrepreneurs' role in + practice of new venture creation & development
5	Entrepreneurial, marketing, business planning opportunity recognition
7	principles and practice of entrepreneurship, high technology entrepreneurship, raising venture capital, entrepreneurship and small business development, business planning, raising finance, entrepreneurship and innovation management, problems with innovation and invention, stages of growth, estimating marketing potential, conditions that promote innovation
8	Business start-up (mainly)
9	entrepreneurship and new venture creation, entrepreneurial thinking and behaviour, ent'l environment, ent'l opportunity development and management, ent'l business development and growth, business planning, small enterprise management
12	Creativity, Innovation, theories of entrepreneurship, new venture creation, entrepreneurial strategy and marketing.
13	all aspects of entrepreneurship
14	Start-up; ideas; business plans; creativity; social enterprise; finances; marketing; strategic entrepreneurship
17	Generic Enterprise/Marketing/Finance in an Enterprise context
18	Skills and behaviours; opportunity seeking; new venture start-up; networking; entrepreneurial marketing and communications, planning;
19	Law, finance, marketing, sales
20	Everything from business planning, innovation models, entrepreneurial finance etc.

21	both theory & practice
22	opportunity recognition, business planning, financing, managing growing business, Venture Capital
23	start-up and enterprising behaviours
24	Entrepreneurship and innovation; Commercialisation or implementation; New venture development; Data evaluation; Intellectual property rights; Creativity within organisations; Strategic options; Support available from external bodies; Preparing and presenting business plans; Business Planning; Market Research; Competitive Business Strategy; Operations; Forecasting Results; Business Controls
25	creativity, pre-business starts, business planning, commercialising ideas
27	Creating a New Business, Entrepreneurship and Small Business Management
28	Management and Business
30	Small Business Management, Entrepreneurship, Social Entrepreneurship
31	New Venture Creation
32	Small Business Management; Entrepreneurship
33	Starting a New Business, Small Business Management
34	Social Enterprise, Family Business Management, Creating a New Business
35	How to Start a New Business; Small Business Management; Managing Technology -Oriented Businesses
36	social enterprise management; small business, creative business management
37	Enterprise Development, Entrepreneurship, New Venture Creation
38	SMALL BUSINESS
39	Creativity and Innovation, Small Business Start-up
40	Corporate Entrepreneurship, Social Enterprise, Family Business Management
42	Creativity, Opportunity Recognition, Project Management, intellectual property, funding - business planning, networking
43	Finding the idea, Skills, Marketing, Business Models, Sales, Finance, Building the team, Legal, Making the Presentation, Business Plan
44	mind-set, business start-up, planning, networking
45	enterprise, entrepreneurial behaviour, entrepreneurial management
46	Corporate Entrepreneurship, Social Entrepreneurship, International Entrepreneurship
49	Small Business Management, Corporate Entrepreneurship, New Venture Creation
50	SME Development, Entrepreneurship, Family Business
51	International Enterprise and Business Development, Social Enterprise Development, New Technology and Digital Enterprise MANAGEMENT

<b>Q3</b>	<b>Leadership topics covered</b>
1	not sure what this means
2	don't know
3	forms of leadership and their practical application
5	attitudes, behaviours, traits, personality
7	none, specifically - but case studies used highlight the actions that entrepreneurs take and the consequences, so the issue is dealt with implicitly
8	don't know
9	People leadership and management, Strategic leadership and business transformation, leadership and management of change
11	Overview of leadership; creative leadership, leadership development
13	all aspects of leadership
14	Not sure
17	Critical leadership Studies/Leaders in Organisations
20	not known
21	don't know as do not teach in area
22	self-awareness and personality, building and managing teams, dealing with conflict, motivation and influence, networking, evaluating organisational performance
23	psychological approaches to leadership including motivation, traits, charisma, styles, and self leadership
25	team building, creativity
27	Leading and Managing People
28	Organisation, Communication, Team building, visionary and creative thinking
30	Leading and Managing People
31	Leadership
32	Leadership
33	Leadership Management
34	Leadership Development, Leading People
35	Leading and Managing People
36	Leadership project; Leadership and Management
37	Leading Teams, Leadership Development, Leadership
38	Leadership
39	Leadership in Business
40	Leadership and Creativity, Leading and Managing
42	HR, Management of Change, Project Management, Consultancy
44	people management, time management, project management
45	leadership dilemma, intrapreneurship
46	People MANAGEMENT, Professional Management
49	Leadership in Management Perspective, Leading Teams
50	Leading and managing people
51	Leading organisations, Leadership, Building Teams

**B: LEARNING METHODS**

Q4: Entrepreneurship learning methods	1 Rarely		2		3		4		5 Mainly	
	#	%	#	%	#	%	#	%	#	%
Lectures	1	2	5	9	13	26	15	29	17	33
Case study	3	6	9	18	20	39	14	28	4	8
Guest practitioners	3	6	16	31	15	29	14	28	3	6
Guest speakers	13	26	7	14	16	31	13	26	2	4
Role playing	22	43	9	18	10	20	6	12	2	4
Seminars or small classes	7	14	6	12	17	33	12	24	7	14
Writing papers/articles	18	35	13	56	9	18	6	12	1	2
Pre-assigned groups	22	43	11	22	7	14	4	8	3	6
Pre-assigned projects	22	43	5	10	10	20	5	10	6	12
Self-selected groups	6	12	7	14	14	28	13	26	11	22
Self-selected projects	7	14	8	16	9	18	17	33	7	14
Simulations	27	53	10	20	7	14	3	6	1	2
Site visits	28	55	10	20	7	14	3	6	1	2
Technologies	23	45	4	8	16	31	4	8	2	4
Text book readings	4	8	14	28	18	35	9	18	4	8
Workshops	9	18	4	8	17	33	14	28	6	12
Written examinations	24	30	8	16	14	28	7	14	5	10
Other:	3	6	0	0	4	8	1	2	3	6
2	live projects									
9	problem solving through games and interactivity, board room challenge etc.									
18	intensives; master-classes; ideas competitions; action learning sets									
20	student society									
26	Seminars events									
28	verbal presentations PowerPoint Research									
42	Self negotiated projects with employers; providing solutions to problems; a self devised venture investigation and analysis; written and verbal presentation									
43	Dragon's Den									

n = 51

Q5: Leadership learning methods	1 Rarely		2		3		4		5 Mainly	
	#	%	#	%	#	%	#	%	#	%
Lectures	1	2	1	2	5	10	6	12	24	47
Case study	1	2	9	18	9	18	10	20	6	12
Guest practitioners	12	24	9	18	5	10	7	14	2	4
Guest speakers	20	39	4	8	5	10	4	8	2	4
Role playing	21	41	4	8	8	16	1	2	0	0
Seminars or small classes	10	20	4	8	8	16	5	10	7	14
Writing papers/articles	16	21	4	8	5	10	7	14	2	4
Pre-assigned groups	22	43	5	10	2	4	1	2	3	6
Pre-assigned projects	24	47	2	4	1	2	2	4	3	6
Self-selected groups	15	29	3	6	5	10	7	14	2	4
Self-selected projects	14	28	2	4	7	14	8	16	2	4
Simulations	22	43	3	6	8	16	0	0	0	0
Site visits	24	47	3	6	3	6	2	4	2	4
Technologies	21	42	3	6	5	10	3	6	1	2
Text book readings	7	14	7	14	13	26	3	6	3	6
Workshops	9	18	5	10	7	14	8	16	6	12
Written examinations	10	20	3	6	9	18	6	12	6	12
Other:	4	8	0	0	1	2	1	2	0	0
3	journal articles									
9	as for entrepreneurship									
14	Not involved									
21	Don't know as don't teach it									
42	Consultancy reports									

n = 51

**C: TEACHING**

Q6: Teachers of entrepreneurship are mainly	1 No		2		3		4		5 Yes	
	#	%	#	%	#	%	#	%	#	%
Academics	0	0	0	0	6	12	12	24	32	63
Practitioners	17	33	7	14	13	25	6	12	5	10

n = 51

Q7: Teachers of leadership are mainly	1 No		2		3		4		5 Yes	
	#	%	#	%	#	%	#	%	#	%
Academics	0	0	1	2	4	8	8	16	28	55
Practitioners	18	35	6	12	7	14	5	10	2	4

n = 51

**D: INSTITUTIONAL SUPPORT**

Q8: Rank	1 No		2		3		4		5 Yes	
	#	%	#	%	#	%	#	%	#	%
The atmosphere in our institution inspires students to develop new businesses:	3	6	18	35	13	26	11	22	6	12
The courses foster the social skills needed by entrepreneurs	3	6	9	18	14	28	17	33	8	16
The courses foster the leadership skills needed by entrepreneurs	8	16	11	22	14	28	12	24	5	10
The courses provide the students with the knowledge necessary to START a business	1	2	3	6	8	16	26	51	13	26
The courses provide the students with the knowledge necessary to RUN a business	2	4	2	4	16	31	22	43	9	18
The courses support building diverse teams	1	2	9	18	21	41	13	26	7	14
The institution provides a strong network of investors and access to sources of financial support	13	26	18	35	8	16	8	16	4	8
The institution actively promotes the process of founding a new company	6	12	13	26	15	29	9	18	8	16

n = 51

**E1: EFFECTIVENESS: quantitative data**

<b>Entrepreneurship students</b>	<b>Yes</b>		<b>No</b>		<b>Don't Know</b>	
	<b>#</b>	<b>%</b>	<b>#</b>	<b>%</b>	<b>#</b>	<b>%</b>
Q9: Do students who study entrepreneurial content go on to start businesses after graduation?	30	59	4	8	16	31
Q10: What percentage immediately after graduation?	See E2 for qualitative results					
Q11: What percentage within 2 years of graduating?	See E2 for qualitative results					
Q12: What percentage within 5 years of graduating?	See E2 for qualitative results					
Q13a: Are these estimates?	38	75				
Q13b: or exact numbers?	2	4				

n=40

<b>Leadership students</b>	<b>Yes</b>		<b>No</b>		<b>Don't Know</b>	
	<b>#</b>	<b>%</b>	<b>#</b>	<b>%</b>	<b>#</b>	<b>%</b>
Q14: Do students who study <b>leadership</b> content go on to start businesses after graduation?	7	14	9	18	29	57
Q15: What percentage immediately after graduation?	See E2 for qualitative results					
Q16: What percentage within 2 years of graduating?	See E2 for qualitative results					
Q17: What percentage within 5 years of graduating?	See E2 for qualitative results					
Q18a: Are these estimates?	29	57				
Q18b: or exact numbers?	2	4				

n = 31

**E2: EFFECTIVENESS: qualitative data**

Entrepreneurship students starting companies after graduation:

	<b>Q10: Immediately</b>	<b>Q11: Within 2 Years</b>	<b>Q12: Within 5 Years</b>
2	?	?	?
3	10-20%	20-304	?
4	5%		don't know!
6	?	?	?
7	Small	Small	15%
8	don't have data	don't have data	don't have data
10	Under 10%	Still measuring this.	Still measuring this
11	Minority ca 20-30	30	30
13	data not available	data not available	data not available
14	Approx. 17%	Not sure	Not sure
15	0.5	1	2
17	5%	5%	10%
18	very small - not sure	very small - not sure	not sure
19	15%	35%	50%
20	around 9% of MBAs. Figures from open entrepreneurship training only measured anecdotally	not known	not known - this is difficult, ask the NCGE
21	don't know	don't know	don't know
22	5	10	15
23	5	don't know	don't know
24	10-15	10-15	10-15
25	1%	1%	don't know
26	25% ?	25% ?	?
27	0	1	1
28	0%	5%	10%
30	1	1	1
37	0	1	5
39	0	1	2
40	1	3	5
41	0	0	0
43	2	10	25
44	Don't know	Don't know	Don't know
45	2% roughly, but no hard data	5%; an estimate	no data
46	1	1	5
48	1	2	3
49	0	1	3
51	0	2	4

n=40

**Leadership students starting companies after graduation:**

	<b>Q15: Immediately</b>	<b>Q16: Within 2 Years</b>	<b>Q17: Within 5 Years</b>
2	?	?	-
7	don't know	d/k	-
8	don't have data	don't have data	-
11	Don't know	-	-
13	data not available	data not available	-
15	0.5	1	2
17	5%	5%	0
18	don't know	don't know	-
21	don't know	don't know	-
22	0	0	10
23	0	0	0
26	0?	0?	0
27	0	1	1
28	Unknown	Unknown	-
30	0	0	0
43	0	0	0
44	Don't know	Don't know	-
45	no data	no data	-
46	0	0	1
48	0	0	1

n=31

## References:

- Akande, A. (1992), "Coping with entrepreneurial stress", *Leadership and Organisational Development Journal*, 13(2): 27-32.
- Alvarez, S. A. and Barney, J. R. (2002), "Resource-based theory and the entrepreneurial firm" in M. A. Hitt, R. D. Ireland, S. M. Camp and D. L. Sexton (eds), *Strategic Entrepreneurship: Creating a New Mindset*, Oxford: Blackwell.
- Antonakis, J. and Autio, E. (2007), "'Entrepreneurship and Leadership'" in J. R. Baum, M. Frese and R. Baron (eds), *The Psychology of Entrepreneurship*, London: Routledge.
- Bagheri, A. and Pihie, Z. (2010), "Entrepreneurial Leadership Learning: In Search fo Missing Links", *Procedia*, 7(c): 470-479.
- Bass, B. M. (1985), *Leadership and Performance Beyond Expectations*, New York: Free Press.
- Béchar, J.-P. and Grégoire, D. (2005), "Entrepreneurship Education Research Revisited: The Case of Higher Education", *Academy of Management Learning & Education*, 4(1): 22-43.
- Bettis, R. A. and Prahalad, C. K. (1995), "Strategic Management Journal", *Strategic Management Journal*, 16: 5-14.
- Brockhaus, R. H. (1982), "The psychology of an entrepreneur" in C. Kent, S. D and V. K (eds), *Encyclopedia of Entrepreneurship* (pp. 39–56), Englewood Hills, NJ: Prentice Hall.
- Brooks, I. (2003), *Organisational Behaviour*, Essex: Pearson Education Limited.
- Brungardt, C. (1997), "The Making of Leaders: A Review of the Research in Leadership Development and Education", *Journal of Leadership & Organizational Studies*, 3(3): 81-95.
- Burnes, B. (2004), *Managing Change*, Essex: Pearson Education Limited.
- Burns, J. M. (1978), *Leadership*, New York: Harper and Row.
- Burns, P. (2001), *Entrepreneurship and Small Business*, Hampshire: Palgrave.
- Burns, P. (2005), *Corporate Entrepreneurship Building an Entrepreneurial Organisation*, Hampshire: Palgrave Macmillan.
- Burns, P. (2007), *Entrepreneurship and Small Business*, Hampshire: Palgrave Macmillan.
- Buttner, E. H. (1992), "Entrepreneurial Stress: Is it hazardous to your health?", *Journal of Managerial Issues*, 4(2): 223-240.
- Campbell, D. and Fiske, D. (1959), "Convergent and Discriminant Validation by the Multi-Trait-Multi-Method Matrix", *Psychological Bulletin*, 56: 81-105.
- Casson, M. (1982), *The Entrepreneur*, Totowa, NJ: Barnes and Noble Books.
- Charney, A. and Libecap, G. D. (2000), "The impact of entrepreneurship education" in *Insights: A Kaufman Research Series*, Kansas City
- Chell, E., Karata-Özkan, M. and Nicolopoulou, K. (2007), "Social Entrepreneurship Education: Policy, Core Themes and Developmental Competencies", *International Journal of Entrepreneurship Education*, 5: 143-162.
- Chen, M. (2007), "Entrepreneurial Leadership and New Ventures: Creativity in Entrepreneurial Teams", *Creativity and Innovation Management*, 16(3): 239-249.
- Chen, Z., Li, H., Kong, S. C. W. and Xu, Q. (2006), "An analytic knowledge network process for construction entrepreneurship education", *Journal of Management Development*, 25(1): 11-27.
- Clarke, J., Thorpe, R., Anderson, L. and Gold, J. (2006), "It's all action, it's all learning: action learning in SMEs", *Journal of European Industrial Training*, 30(6): 441-455.
- Cogliser, C. and Brigham, K. (2004), "The intersection of leadership and entrepreneurship: Mutual lessons to be learned", *The Leadership Quarterly*, 15(6): 771-799.
- Cohen, A. (2004), "Building a Company of Leaders", *Leader to Leader*
- Conrad, E. and Maul, T. (1981), *Introduction to Experimental Psychology*, New York, NY: John Wiley & Sons, Inc.
- Cooper, S., Bottomley, C. and Gordon, J. (2004), "Stepping out of the classroom and up the ladder of learning: An experiential learning approach to entrepreneurship education ", *Industry and Higher Education*, 18(1): 11-22.
- Covin, J. G. and Slevin, D. P. (Eds.). (2002). *The Entrepreneurial Imperatives of Strategic Leadership*. Oxford: Blackwell.

- Cox, L. W., Mueller, S. L. and Moss, S. E. (2002), "The impact of entrepreneurship education on entrepreneurial self-efficacy", *International Journal of Entrepreneurship Education*, 1(1): 229-245.
- Densten, I. L. and Gray, J. (2001), "Leadership development and reflection: what is the connection?", *The International Journal of Educational Management*, 15(3): 119-124.
- Dess, G., Lumpkin, G. T. and McGee, J. E. (1999), "Linking corporate entrepreneurship to strategic, structure and process: suggested research directions", *Entrepreneurship: Theory and Practice*, 23(3): 11-28.
- Duening, T. N. and Sherrill, W. (2005), *Entrepreneurism: exploring entrepreneurship from a business process perspective*, Phoenix, AZ: Arizona State University, Atomic dog publishing.
- Eggers, J. and Leahy, K. (1992), *Entrepreneurial Leadership Questionnaire*, San Diego, CA: Center for Creative Leadership.
- Eggert, N. (1998), *Contemporary Leadership for Entrepreneurial Organizations: Paradigms, Metaphors, and Wicked Problems*, Westport: CT: Quorum.
- Ensley, M. D., Hmieleski, K. M. and Pearce, C. L. (2006a), "The importance of vertical and shared leadership within new venture top management teams: Implications for the performance of startups", *The Leadership Quarterly*, 17(3): 217-231.
- Ensley, M. D., Pearce, C. L. and Hmieleski, K. M. (2006b), "The moderating effect of environmental dynamism on the relationship between entrepreneur leadership behavior and new venture performance", *Journal of Business Venturing*, 21(2): 243-263
- Eyal, O. and Kark, R. (2004), "How do Transformational Leaders Transform Organizations? A Study of the Relationship between Leadership and Entrepreneurship", *Leadership and Policy in Schools*, 3(3): 211-236.
- Fayolle, A., Gailly, B. and Lassas-Clerc, N. (2006), "Assessing the impact of entrepreneurship education programmes: a new methodology", *Journal of European Industrial Training*, 30(9): 701-720.
- Fernald, L., Solomon, G. and Tarabishy, A. (2005), "A New paradigm: Entrepreneurial Leadership", *Southern Business Review*, Spring
- Fleming, P. (1996), "Entrepreneurship Education in Ireland: a longitudinal study", *Academy of Entrepreneurship Journal, European Edition*, 2(1)
- Galloway, L. and Kelly, S. (2009), "Identifying entrepreneurial potential? An investigation of the identifiers and features of entrepreneurship", *International Review of Entrepreneurship*, 7(4): 1-24.
- Gibb, A. (1993), "Enterprise Culture and Education: understanding enterprise education and its links with small business, entrepreneurship and wider educational goals", *International Small Business Journal*, 11(3): 11-34.
- Gorman, G., Hanlon, D. and W, K. (1997), "Some research perspectives on entrepreneurship education and education for small business management: a ten-year literature review", *International Small Business Journal*, 15(3): 56-77.
- Gupta, V., MacMillan, I. C. and Surie, G. (2004), "Entrepreneurial leadership: developing and measuring a cross-cultural construct", *Journal of Business Venturing*, 19(2): 241-260.
- Guth, W. D. and Ginsberg, A. (1990), "Guest editor's introduction. Corporate entrepreneurship", *Strategic Management Journal*, Special Issue: 5-16.
- Hannon, P. D. (2006), "Teaching Pigeons to Dance: sense and meaning in entrepreneurship education", *Education + Training*, 48(5): 296-308.
- Hannon, P. D. (2007), "Enterprise for all?: the fragility of enterprise provision across England's HEIs", *Journal of Small Business and Enterprise Development*, 14(2): 183-210.
- Hannon, P. D., Scott, J., Sursani, S. K. and Millman, C. (2006), "The state of education provision for enterprise and entrepreneurship: A mapping study of England's HEIs", *International Journal of Entrepreneurship Education*, 4: 41-72.
- Harrison, R. T. and Leitch, C. M. (1994), "Entrepreneurship and leadership: the implications for education and development", *Entrepreneurship and Regional Development*, 6(2): 111-125.
- Hartshorn, C. and Hannon, P. D. (2005), "Paradoxes in Entrepreneurship Education: chalk and talk or chalk and cheese?: a case approach", *Education + Training*, 47(8/9): 616-627.

- Heinonen, J. and Poikkijoki, S.-A. (2006), "An entrepreneurial self-directed approach to entrepreneurship education: mission impossible?", *Journal of Management Development*, 25(1): 80-94.
- Henry, C., Hill, F. and Leitch, C. M. (2003), *Entrepreneurship Education and Training*: Ashgate Publishing.
- Hisrich, R. D. and Peters, M. P. (1986), "Establishing a new business venture unit within a firm", *Journal of Business Venturing*, 1(2): 307-322.
- Hornsby, J. S., Naffziger, D. W., Kuratko, D. F. and Montagno, R. V. (1993), "An interactive model of the corporate entrepreneurship process", *Entrepreneurship: Theory and Practice*, 17(2): 29-37.
- Ireland, R. D. and Hitt, M. A. (1999), "Achieving and maintaining competitiveness in the 21st century: the role of strategic leadership", *Academy of Management Executive*, 13(1): 43-57.
- Ireland, R. D., Hitt, M. A. and Sirmon, D. G. (2003), "A model of strategic entrepreneurship: the construct and its dimensions", *Journal of Management Development*, 29(6): 963-989.
- Jack, S. R. and Anderson, A. R. (1999), "Entrepreneurship education within the enterprise culture", *International Journal of Entrepreneurial Behaviour & Research*, 5(3): 110-125.
- Jehn, K. A. (1997), "A Qualitative Analysis of Conflict Types and Dimensions in Organizational Groups", *Administrative Science Quarterly*, 42(3): 530-557.
- Johnson, D., Craig, J. B. L. and Hildebrand, R. (2006), "Entrepreneurship Education: towards a discipline-based framework", *Journal of Management Development*, 25(1): 40-54.
- Jones, C. and English, J. (2004), "A contemporary approach to entrepreneurship education", *Education and Training*, 46(8/9): 416-423.
- Katz, J. and Gartner, W. B. (1988), "Properties of emerging organisation", *Academy of Management Review*, 13(3): 429-441.
- Katz, J. A. (2003), "The Chronology and Trajectory of American Entrepreneurship Education: 1876-1999", *Journal of Business Venturing*, 18(2): 283-300.
- Kempster, S. and Cope, J. (2010), "Learning to lead in the entrepreneurial context", *International Journal of Entrepreneurial Behaviour & Research*, 16(1): 5 - 34.
- Kets de Vries, M. F. R. (1985), "The Dark Side of Entrepreneurship", *Harvard Business Review*, Nov-Dec: 160-167.
- Kirby, D. A. (2003), *Entrepreneurship*, Berkshire: McGraw Hill Education.
- Kirby, D. A. (2004), "Entrepreneurship education: can business schools meet the challenge?", *Education and Training*, 46(8/9): 510-519.
- Kirzner, I. (1997), *How Markets Work: Disequilibrium, Entrepreneurship and Discovery*: The Institute of Economic Affairs.
- Klapper, R. (2004), "Government goals and entrepreneurship education – an investigation at a Grande Ecole in France", *Education and Training*, 46(3): 127-137.
- Kotter, J. (1990), "What Leaders Really Do", *Harvard Business Review*, 68(3): 103-112.
- Kourilsky, M. L. (1995), "Entrepreneurship Education: opportunity in search of curriculum" in *Business Education Forum*, Knasas City, MO: Ewing Marion Kauffman Foundation.
- Kreiser, P. M., Marino, L. D. and Weaver, K. D. (2002), "Assessing the Psychometric Properties of the Entrepreneurial Orientation Scale: A Multi-Country Analysis", *Entrepreneurship: Theory & Practice*, 26(4): 71-94.
- Kuratko, D. F. (2003). *Entrepreneurship Education: emerging trends and challenges for the 21st century*: U.S. Association of Small Business & Entrepreneurship
- Kuratko, D. F. (2005), "The Emergence of Entrepreneurship Education: Development, Trends, and Challenges", *Entrepreneurship Theory and Practice*, 29(5): 577-598.
- Kuratko, D. F. (2007), "Entrepreneurial Leadership in the 21st Century: guest editor's perspective", *Journal of Leadership and Organisational Studies*, 13(4)
- Kuratko, D. F. and Hodgetts, R. M. (2004), *Entrepreneurship Theory, Process, Practice*, Mason: OH: Thomson South-Western.
- Kuratko, D. F. and Hodgetts, R. M. (2007), *Entrepreneurial: Theory, Process, and Practice*, Mason OH: Thomson South-Western.
- Leitch, C. M. and Harrison, R. T. (1999), "A process model for entrepreneurship education and development", *International Journal of Entrepreneurial Behaviour & Research*, 5(3): 83-109.
- Lippitt, G. L. (1983), *Putting life in Perspective*, Bethesda: MD: Development Publications.

- Lippitt, G. L. (1987), "Entrepreneurial leadership: a performing art", *Journal of Creative Behaviour*, 21(3): 264-270.
- Lüthje, C. and Franke, N. (2002). *Fostering entrepreneurship through university education and training: Lessons from Massachusetts Institute of Technology*. Paper presented at the 2nd Annual Conference on: Innovative Research in Management. Retrieved March 2009, from <http://labels.pesarosviluppo.it/docindexer/Uploads%5C189-Fostering%20entrepreneurship%20through%20university%20education%20and%20training.pdf>.
- Matlay, H. (2005a), "Entrepreneurship Education in UK Business Schools: conceptual, contextual and policy considerations", *Journal of Small Business and Enterprise Development*, 12(4): 627-643.
- Matlay, H. (2005b), "Researching Entrepreneurship and education: Part 1: what is entrepreneurship and does it matter?", *Education + Training*, 47(8/9): 665-677.
- Matlay, H. (2006), "Researching Entrepreneurship and Education: Part 2: what is entrepreneurship education and does it matter?", *Education + Training*, 48(8/9): 704-718.
- Matlay, H. and Carey, C. (2007), "Entrepreneurship Education in the UK: a longitudinal perspective", *Journal of Small Business and Enterprise Development*, 14(2): 252-263.
- McGrath, R. G. and MacMillan, I. C. (2000), *The Entrepreneurial Mindset: strategies for continuously creating opportunities in an age of uncertainty*, Boston: MA: Harvard Business School Press.
- McKeown, J., Millman, C., Sursani, S. K., Smith, K. and Martin, L. (2006), "Graduate Entrepreneurship Education in the UK", *Education + Training*, 48(8/9): 597-613.
- Miles, G., Heppard, K. A., Miles, R. E. and Snow, C. C. (Eds.). (2000). *Entrepreneurial Strategies: The Critical Role of Top Management*: Sage Publications.
- Mitchell, M. M. and Poutiatine, M. I. (2001), "Finding an Experiential Approach in Graduate Leadership Curricula", *Journal of Experiential Education*, 24(3): 179-185.
- Morris, M. H., Kuratko, D. F. and Covin, J. G. (2008), *Corporate Entrepreneurship and Innovation*, Mason: OH: Thomson South-Western.
- Mullins, L. J. (2002), *Management and Organisational Behaviour*, Essex: Pearson Education Limited.
- Muzychenko, O. and Zalan, T. (2008), "Developing Competencies for International Entrepreneurship: The Role of a Global Mindset", *International Journal of Entrepreneurship Education*, 6(4): 217-240.
- Nahavandi, A. (2002), *The Art and Science of Leadership* (3rd edition ed.), Upper Saddle River, NJ: Prentice Hall.
- Neck, C. P., Neck, H. M., Manz, C. C. and Godwin, J. (1999), "'I think I can; I think I can': a self-leadership perspective toward enhancing entrepreneur thought patterns, self-efficacy, and performance", *Journal of Managerial Psychology*, 14(5/6): 477-501.
- Nicholson, N. (1998), "Personality and Entrepreneurial Leadership: A Study of the Heads of the UK's Most Successful Independent Companies", *European Management Journal*, 16(5): 529-539.
- Okudan, G. E. and Rzasa, S. E. (2006), "A project-based approach to entrepreneurial leadership education", *Technovation*, 26(2): 195-210.
- Parks, S. (2006), *How to be an Entrepreneur*: Pearson Education Limited.
- Prahalad, C. K. and Bettis, R. A. (1986), "The Dominant Logic: a new link between diversity and performance", *Strategic Management Journal*, 7(6): 485-501.
- Robbins, S. P. (1984), *Essentials of Organisational Behaviour*, Englewood Cliffs: NJ: Prentice Hall.
- Robinson, D. A., Goleby, M. and Hosgood, N. (2006). Entrepreneurship as a values and leadership paradigm. Bond University.
- Rost, J. (2000), "Leadership Education in Colleges: Toward a 21st Century Paradigm", *Journal of Leadership & Organizational Studies*, 7(1): 3-12.
- Rowe, W. G. (2001), "Creating wealth in organisations: the role of strategic leadership", *Academy of Management Executive*, 15(1): 81-94.
- Sathe, V. (1985), "Managing an entrepreneurial dilemma: nurturing entrepreneurship and control in large organisation", *Frontiers of Entrepreneurship Research*: 636-356.

- Schulz, W. (1999), *Creating Value through Skill-Based Strategy and Entrepreneurial Leadership*, New York, NY: Pergamon.
- Shane, S. and Venkataraman, S. (2000), "The promise of entrepreneurship as a field of research", *Academy of Management Review*, 25: 217-236.
- Sineta, M. (1985), "Entrepreneurs, chaos and creativity: can creative people really survive large company structure?", *Sloan Management Review*, 65(5): 57-63.
- Slevin, D. P. and Covin, J. G. (1990), "Juggling entrepreneurial style and organisation structure: how to get your act together", *Sloan Management Review*, 31(2): 43-54.
- Smilor, R. W. and Sexton, D. L. (1996), *Leadership and Entrepreneurship: Personal and Organizational Development in Entrepreneurial Ventures*: Greenwood Publishing Group.
- Smith, A. J., Collins, L. A. and Hannon, P. D. (2006), "Embedding New Entrepreneurship Programmes in UK Higher Education Institutions; Challenges and Considerations", *Education + Training*, 48(8/9)
- Solomon, G. (2007), "An examination of entrepreneurship education in the United States", *Journal of Small Business and Enterprise Development*, 14(2): 168-182.
- Souder, W. (1981), "Encouraging entrepreneurship in large corporations", *Research Management*, 14(3): 18-22.
- Stevenson, H. and Gumpert, D. (1985), "The Heart of Entrepreneurship", *Harvard Business Review*, March-April
- Streeter, D. H., Jaquette, J. P. and Hovis, K. (2002). University-wide Entrepreneurship Education: Alternative Models and Current Trends. Unpublished Working Paper. Cornell University: Department of Applied Economics and Management.
- Surie, G. and Ashley, A. (2007), "Integrating Pragmatism and Ethics in Entrepreneurial Leadership for Sustainable Value Creation", *Journal of Business Ethics*, 81: 235-246.
- Swiercz, P. and Lydon, S. (2002), "Entrepreneurial leadership in high-tech firms: a field study", *Leadership & Organization Development Journal*, 23(7): 380-389.
- Sykes, H. B. (1986), "The anatomy of a corporate venturing program", *Journal of Business Venturing*, 1(2)
- Sykes, H. B. and Block, Z. (1989), "Corporate venturing obstacles and solutions", *Journal of Business Venturing*, 4(3): 159-167.
- Taffinder, P. (1995), *The New Leaders Achieving Corporate Transformation Through Dynamic Leadership*: Kogan.
- Thomas, K. (1976), "Conflict and Conflict Management" in M. D. Dunnette (ed), *Handbook of Industrial and Organisational Psychology*, Chicago: Rand McNally.
- Timmons, J. A. (1999), *New Venture Creation: entrepreneurship for the 21 century*, Singapore: McGraw Hill International.
- Vecchio, R. P. (2003), "Entrepreneurship and leadership: common trends and common threads", *Human Resource Management Review*, 13(2): 303-327
- Vesper, K. H. and Gartner, W. B. (1997), "Measuring progress in entrepreneurship education", *Journal of Business Venturing*, 12(5): 403-421.
- Von Hippel, E. (1977), "Successful and failing internal corporate ventures: an empirical analysis", *Industrial Marketing Management*, 6(3): 163-174.
- Wickham, P. A. (1998), *Strategic Entrepreneurship*: Pitman Publishing.
- Wicklund, J. and Shepherd, D. (2005), "Entrepreneurial Orientation and small business performance", *Journal of Business Venturing*, 20(1): 71-91.
- Wilson, F., Kickul, J. and Marlino, D. (2007), "Gender, Entrepreneurial Self-Efficacy, and Entrepreneurial Career Intentions: implications for entrepreneurship education", *Entrepreneurship Theory and Practice*, 29(5): 577-598.
- Yang, C. (2008), "The Relationships Among Leadership Styles, Entrepreneurial Orientation, and Business Performance", *Managing Global Transitions*, 6(3): 257-275.
- Yuki, G. (1989), *Leadership in Organisations*: Prentice-Hall International.
- Zhao, H., Seibert, S. and Hills, G. (2005), "The mediating role of self-efficacy in the development of entrepreneurial intentions", *Journal of Applied Psychology*, 90(6): 1265-1272.

