A contemporary approach to entrepreneurship education

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Abstract

Entrepreneurial education is the process of providing individuals with the ability to recognise commercial opportunities and the insight, self-esteem, knowledge and skills to act on them. It includes instruction in opportunity recognition, commercialising a concept, marshalling resources in the face of risk, and initiating a business venture. It also includes instruction in traditional business disciplines such as management, marketing, information systems and finance. The purpose of this paper is to describe the design and introduction of a new programme in entrepreneurship at the University of Tasmania. Within this programme the process and responsibility of learning has largely been reversed through the process of student centred learning. This method of learning represents a challenging departure from traditional mainstream teaching practices. In considering the benefits achievable from this teaching method, this paper also considers the difficulties in transferring increased responsibility to students to manage their futures.

Introduction

The growing literature on entrepreneurship education tends to argue that a different learning environment is required to support the study of entrepreneurship within a university setting (e.g. Gibb, 2002). Essentially, a teaching style that is action-oriented, encourages experiential learning, problem solving, project-based learning, creativity, and is supportive of peer evaluation. It is thought that such a process best provides the mix of enterprising skills and behaviours akin to those required to create and manage a small business. However, the departure from a traditional lecturer-centred, passive learning approach is all the more difficult when instruction in traditional business disciplines such as management, marketing, information systems and finance also contribute to the development of entrepreneurship knowledge.

The purpose of this paper is to describe the process of designing and introducing a new programme in entrepreneurship at the University of Tasmania in 2002. The paper is set out as follows. First, the local and global importance of entrepreneurial education is discussed. Second, a review of the extant literature provides support for the chosen curriculum. Third, the choices of teaching and delivery strategies that support a contemporary approach to entrepreneurship education are outlined. Finally, the outcomes to date are considered with possible future amendments to the existing entrepreneurship major canvassed.

Why entrepreneurial education is important

On 29 January 2001, the Australian Federal Government released its long-awaited innovations statement – Backing Australia's Ability. The programme provides $2.9 billion over five years to promote innovation in Australia. It consists of three key elements: strengthening our ability to generate ideas and undertake research; accelerating the commercial application of these ideas; and developing and retaining skills. One of the initiatives includes 2,000 additional university places to foster a culture of enterprise and innovation.

New entrepreneurship programmes have been emerging at business schools in Australia and overseas. In the USA, they have been launched at such prestigious institutions as Harvard, Stanford, Northwestern, and the University of Chicago. In 1999, there were 170 American universities offering courses in entrepreneurship. Less than

half of them existed three years earlier (Lord, 1999). Similarly, a growing number of Australian universities are offering entrepreneurship programmes in response to developments in overseas universities and accelerated by the Australian Federal Government's innovations statement.

The rise of these programmes has also been fuelled by unprecedented student demand as students look for a style of business education that will provide them with the transferable skills (Cooper *et al.*, 2004) needed to succeed in an increasingly divergent business environment. In the not too distant past, business schools might nod in the direction of entrepreneurship by offering an elective. Students today are demanding integrated programmes that teach practical skills for starting and expanding business enterprises (Farrell, 1994). Traditional business education programmes, although well attended, have come under criticism for failing to be relevant to the needs of the changing business environment.

For example, entrepreneurial education emphasises imagination, creativity, and risk taking in business whereas traditional business schools tend to over-emphasise quantitative and corporate techniques at the expense of more creative skills (Porter, 1994). Traditional business school programmes emphasise the large established corporation over the small or start-up venture and nurture the follower and steward over the leader, creator and risk taker (Chia, 1996). However, entrepreneurial education has firmly established a beachhead in academia as a result of a shift in academic thinking about the value of this field. It is now recognised that entrepreneurship is an important educational innovation that provides the impetus to learning about learning (Charney and Libecap, 2003) Interest in entrepreneurship as a field of research and teaching has been fuelled by the growing demand for entrepreneurship courses by business students.

Entrepreneurial educators have been questioned for attempting to teach what, until recently, has been considered unteachable. It has long been the conventional wisdom that some people are born entrepreneurs and will succeed with or without education, while no amount of education can provide business success for those who lack the "entrepreneurial spirit". Experience overseas demonstrates that people are entering business schools to learn about entrepreneurship, and there is a growing acceptance that elements of entrepreneurship can be taught and learned (Gottleib and Ross, 1997). However, a growing body of research and opinion on the value of entrepreneurial education is emerging (e.g. Gibb, 2002; Matlay and Mitra, 2002; Adcroft *et al.*,

2004) that cautions against entrepreneurship education being treated as just another additional teaching area in business schools. Entrepreneurial education is an opportunity to address some of the contemporary needs of business education in ways that the traditional system does not (Mitra, 2002).

Choosing a curriculum

While what is taught about entrepreneurship in universities varies, there are areas of general agreement. An excellent overview of the developing nature of curriculum within entrepreneurship education is made by Brown (2000), who cites several recent contributors (e.g. Noll, 1993; Kourilsky, 1995; Gottleib and Ross, 1997; Bechard and Toulouse, 1998; Roach, 1999). She also notes that no universally accepted definition of entrepreneur or entrepreneurship exists, but there is general agreement that entrepreneurship needs to be defined more broadly than business management because it includes creativity, risk taking, and innovation. These traits are not normally nurtured in a traditional business school environment (Noll, 1993). Kourilsky (1995) defines entrepreneurial education as opportunity recognition, marshalling of resources in the presence of risk, and building a business venture. Bechard and Toulouse (1998) define entrepreneurial education as a collection of formalised teachings that informs, trains, and educates anyone interested in business creation, or small business development. They point out that entrepreneurial education focuses on combining and carrying out a new combination of business elements while education for small business ownership focuses on the skills needed to reproduce or acquire an existing business. Entrepreneurial education has also been defined in terms of creativity and innovation applied to social, governmental, and business arenas (Gottleib and Ross, 1997).

Entrepreneurial education can be viewed broadly in terms of the skills that can be taught and the characteristics that can be engendered in individuals that will enable them to develop new and innovative plans. It focuses on the expertise that is used to conceive of and commercialise a business opportunity. The skills taught in traditional business education programmes are needed by entrepreneurs as well, but that curriculum generally addresses important functions of running a business rather than the elements of creating one. As such, the nature of the contract between university and student is generally about knowledge and not personal development (Gibb, 2002).

Kourilsky (1995) places curriculum components into three groups: opportunity recognition, the marshalling and commitment of resources, and the creation of an operating business organisation. Opportunity recognition involves the identification of unfulfilled needs in the marketplace and the creation of ideas for services or products that meet them. Opportunity recognition requires observation of the market, insight into customer needs, invention and innovation. Marshalling resources involves a willingness to take risks as well as skills in securing outside investment. The creation of an operating business organisation to deliver the product or service includes financing, marketing, and management skills.

Gottleib and Ross (1997) state that Bhide and Hart at the Harvard Business School focus on three main concepts in their entrepreneurial courses: evaluating opportunities, securing resources, and growing and sustaining the enterprise. Also, Roach (1999) lists the following objectives for her entrepreneurial course at North Georgia Technical Institute:

- knowledge of the characteristics of an entrepreneur;
- ability to recognise business opportunities;
- basic skills and knowledge to create an effective feasibility plan for a business venture;
- ability to identify the various business entry strategies available to entrepreneurs; and
- understanding of the skills needed and means available to collect the market information needed to evaluate the feasibility of a new business concept.

The three categories suggested by Kourilsky (1995) and Bhide and Hart are similar in their intention to teach the skills that are necessary to create a new business enterprise. Noll (1993), however, includes a focus on the behavioural characteristics of entrepreneurs – characteristics that can be applied to entrepreneurial enterprises whether they operate in business, government or non-profit sectors. Brown (2000) notes that Noll (1993) and Roach (1999) suggest defining the entrepreneur and entrepreneurship as the starting point with the following curriculum goals. First, learn to develop ideas by recognising business opportunities, researching customer insights, conducting a self-assessment of personal creativity, conducting a feasibility study, and identifying various business entry strategies. Second, prepare to start a business by assessing personal resources and financial status, researching and evaluating the risks necessary to get started, writing a working business plan, and approaching others for money and other resources. Finally, build a viable business by learning to allocate resources, using

various marketing strategies, and managing money and personnel.

Drawing from the literature and a survey of 128 university entrepreneurship programmes worldwide by Vesper and Gartner (2001), the objectives illustrated in Table I were adopted as the basis for building a curriculum structure at the University of Tasmania. They consist of two sets of objectives operating in parallel. The first set of objectives focus on the personal development of students. It puts entrepreneurship into perspective and asks them to consider the role of an entrepreneur compared with their own skills and behaviours. The second set of objectives focuses on the knowledge and skills that are used to develop an enterprise from initial opportunity recognition to final harvesting.

The next step was to determine the best way in which to package a curriculum structure programme to achieve maximum penetration at minimum cost. The alternatives included a stand-alone degree, a major within the existing Bachelor of Commerce degree, or a cluster of freestanding electives. Another issue was that commerce students generally want a qualification that leads to recognition for employment in fields such as accounting, information systems or marketing. Entrepreneurship does not offer any form of professional recognition and, therefore, might struggle to achieve significant enrolments. After a great deal of debate, an Entrepreneurship major within the Bachelor of Commerce degree was chosen because it represented a curriculum structure that was familiar to everyone. It already had established articulation arrangements with other degrees and a variety of other institutions, including TAFE programmes that were clearly understood. From an efficiency perspective, it incorporated a number of existing commerce units so that only four units needed to be developed specifically for the new major. Therefore, the major could be introduced wherever the Bachelor of Commerce already operated, including the combined degrees with law, arts, information systems and science. This significantly increased accessibility and the viability of enrolments. The view held was that students were more likely to be attracted to entrepreneurship if they could select it as a second major. This was an advantage over freestanding electives because it would appeal to the students' sense of credentialism. Moreover, it represented an exciting companion for their first major instead of asking students to make a mutually exclusive choice.

The Bachelor of Commerce is a full-time 24-unit degree over three years. The first year consists of six compulsory core units plus two nominated elective units that lead into the various majors.

Table I Personal and enterprise development objectives

Personal development	Enterprise development
Concept of entrepreneurship	Identifying and evaluating opportunities
Characteristics of an entrepreneur	Commercialising a concept
Value of entrepreneurship	Developing entry strategies
Creativity and innovation skills	Constructing a business plan
Entrepreneurial and ethical self-assessment	Finding capital
Networking, negotiating and deal-making	Initiating the business
	Growing the business
	Harvesting strategies

Students then go on to complete an eight-unit sequence in one of the majors. The remaining eight units may be taken as electives, but most students use them to complete a second major. The following curriculum structure presented in Table II was adopted for the major in Entrepreneurship incorporating the objectives previously identified.

Therefore, only four new units were required to mount the Entrepreneurship major. The first two units are offered in Year 2 based on the personal development objectives, and the second two units are offered in Year 3 based the enterprise development objectives. The first new unit is Foundations of Entrepreneurship. It provides an introduction that focuses on the nature of entrepreneurship and its role in business. Topics include the entrepreneurial perspective in individuals, entrepreneurial schools of thought, ethical and social responsibility, sources of information and assistance, assessing and evaluating opportunities, strategic planning for emerging ventures and managing growth.

The second unit, Entrepreneurship and Creativity unit covers a range of creative problem-solving methods including problem definition techniques, idea generation methods, and the evaluation and implementation of creative ideas. The objective is not to "teach" creativity but to assist students to develop whatever creative capacity they bring to the unit. Topics include problem redefinition, mind mapping, morphological analysis, brainstorming, lateral thinking, and idea evaluation. The third unit, Entrepreneurship and Innovation unit concentrates firmly on the process of

commercialisation using the resource-based view of entrepreneurship. Topics include intellectual property, identifying key resources and capabilities, feasibility analysis, entry strategies, developing a business plan, securing venture capital, and networking. Lastly, the Project Evaluation and Planning unit is a project-based capstone unit for the Entrepreneurship major. Students are expected to make practical use of everything they have learned in a structured opportunity to research, develop and present a business plan that will stand up to the standards expected by a venture capitalist.

The University of Tasmania and the Tasmanian State Government entered into a partnership agreement in November 2000 that acknowledged the important role which higher education plays in the social and economic development of the Tasmanian community. Tangible evidence of the partnership occurred with the recommendation by the Tasmanian State Innovations Advisory Board for a grant of $200,000 to develop and introduce the new Entrepreneurship major. A decision to mount the programme was clearly galvanised by the offer of external support and the University approved the Entrepreneurship major at the end of 2001 for 2002 enrolments. Despite the limited opportunity to promote the new major, the initial enrolment of 96 students was very respectable for a small university. We were also fortunate to have Edward de Bono in Tasmania for one week during the launch of the programme. His presence and participation in a variety of public forums contributed a great deal of exposure for the establishment of entrepreneurial education at the University of Tasmania.

Table II Course structure of the entrepreneurship major

Semester	Year 1	Year 2	Year 3
1	*New units	Organisational Behaviour	Business Logistics
1		Foundations of Entrepreneurship*	Entrepreneurship and Innovation*
2		Financial Management	Project Evaluation and Planning*
2	Principles of Marketing	Entrepreneurship and Creativity*	Strategic Management, or Electronic Marketing

Choosing a teaching and delivery strategy

Before discussing the process associated with delivering the four new units outlined above, the teaching strategy is discussed. Inasmuch as there is no unified theory of entrepreneurship, the first step in developing a teaching strategy was to try to identify a conceptual framework. Essentially, the literature in entrepreneurship consists of a series of schools of thought. Kuratko and Hodgetts (2001) suggest these can be condensed into three macro schools of thought (i.e. environmental, financial, and displacement) and three micro schools of thought (i.e. traits, venture opportunity, and strategic formulation). Each school of thought makes a significant contribution to our understanding of entrepreneurship, but none represents a framework with which to operationalise this knowledge. They are largely descriptive in nature and generally take the perspective of the detached academic as opposed to the practising entrepreneur. Why not teach students to think like entrepreneurs by designing a teaching strategy based on the entrepreneurial process itself?

The framework that underpins our teaching strategy is the Resource-based View of the Firm adapted from the strategic management literature (Barney, 1991; Barney *et al.*, 2001). It is an intuitively appealing framework because it leads directly into a means for teaching entrepreneurial practice. Dollinger (2003) characterises the resource-based approach to entrepreneurship through four activities:

(1) The efficient acquisition of strategically relevant resources and capabilities.
(2) The transformation of such resources and skills into a product or service.
(3) The deployment and implementation of an entrepreneurial strategy.
(4) The selling of a product or service to maximise returns.

Echoing previous resource-based theorists, he states that a sustainable competitive advantage is created when the entrepreneur controls and employs key resources and capabilities that are, valuable, rare, hard to copy, and non-substitutable. That is, they exploit an opportunity using resources not available to other competitors, resources that cannot be duplicated or substituted.

A taxonomy for identifying and evaluating key strategic resources and capabilities is needed. Dollinger (2003) recognises six categories of resources and capabilities (i.e. physical, reputational, organisational, financial, intellectual/human, and technological) that he refers to as the "profit" factors. Thus, the resource-based view of the firm provides an operational framework for the study of entrepreneurship, particularly when it is combined with the entrepreneur's key intellectual capabilities for creativity, risk taking and innovation. It is a framework for identifying and evaluating opportunities, commercialising a concept, developing an entry strategy, constructing a business plan, finding capital, launching the business, growing the business and harvesting strategies. It is a teaching strategy modelled on the entrepreneurial process itself.

Having established a conceptual framework for studying entrepreneurship, the next step was to design a matching delivery programme. The delivery programme is based on a model called student-centred learning in which students have a great deal of autonomy over how they learn, when they learn and where they learn. Unlike traditional teaching strategies, it is not a passive experience, but rather a deeper learning process. It includes collaborative activities, goal-driven tasks, intellectual discovery, activities that heighten thinking, and activities that provide practice in learning skills. A combination of new technology and traditional resources is used to provide students with a rich variety of learning experiences. The objective is to create an environment in which students are encouraged to engage actively with the entrepreneurial process rather than simply read about it.

It is the needs of the learner that ultimately shapes the nature of the delivery process. In turn, it is the learning process that ultimately determines whether the students are engaged in entrepreneurial-type learning behaviours. Given the stated personal development objectives, the chosen delivery process aims to empower the students fully. It seeks to surrender control of the contact time (between lecturer and students) to the students. With the exception of the Project Evaluation and Planning, the other three new units use case studies and student presentations to encourage exposure to problem solving and a wide range of entrepreneurial behaviours. Students are aware that their fellow students assess the actual behaviours and skills used to not only prepare for the case but also its presentation. As such, the presentations seek to encourage "opportunity seeking, taking independent initiatives, actively seeking to achieve goals, coping with and enjoying uncertainty, taking risky actions in uncertain environments, solving problems creatively, commitment to making things happen, flexibly responding to challenges and persuading others" Caird (1993), cited in Gibb, (1996, p. 313). Given the infancy of the programme, it was considered premature to include interaction with external (workplace) environments from which students

could be immersed in an even deeper learning process (Cooper *et al.*, 2004).

Therefore the delivery process (i.e. student-centred learning) provided exposure to entrepreneurial behaviours and skills, while the peer assessment provided the direct feedback through which the students learn by doing. It is argued (Gibb, 1996) that the interaction of the above-mentioned factors provides the stimuli for the development of entrepreneurial behaviours, skills, and attributes. Thus, while the curriculum determines the Major's parameters and scope (i.e. enterprise development), it is the delivery process that that enables the students' personal development inline with the future requirements needed to start and run a small enterprise. Given that in practice, innovative, and opportunistic behaviours will not always be forthcoming upon demand, peer assessment is spread over six fortnightly workshops, and a group assignment.

The class meets once each fortnight for three hours supplemented by independent group collaboration outside of class. Conventional lectures and tutorials have been replaced by workshops with WebCT used as an interactive platform for delivering parts of the programme online (e.g. discussion boards and chat rooms). The purpose of this mixed-mode learning format is to enable students to exercise a significant degree of flexibility over how they learn and to make the learning process as creative and innovative as the subject matter itself. In the workshops, students operate in small groups presenting, discussing and debating the cases and issues under examination.

Peer evaluation is a key element in the teaching programme. It shifts the learning and assessment focus from lecturer- to student-centred. A fundamental premise that underpins student involvement in assessment is that taking part in the process is something for which they are uniquely qualified. They already know what assessment is all about, they bring a student's perspective to the assessment process, and they are personally aware of the performance of each of the members of their own group as well as the performance of the other groups in the class. Peer evaluation ratings are used to monitor, evaluate and reward both individual and group performance. Internal peer evaluation focuses on the individual's contribution and performance within their group and focuses upon the development of communication, coordination and planning skills that reinforce collaborative behaviour. External peer evaluation focuses on group performance during workshop presentations. A student's overall result is a function of their individual internal peer evaluation and external peer evaluation of their group.

Preliminary assessment of outcomes to date

Our experience so far reinforces our commitment to this style of teaching because it positively shapes the students' belief in their ability to take control of the future. There are, however, specific issues relating to the desired outcomes of the programme that need further consideration. Before considering the issue of desirable outcomes, the positives that have occurred to date will be outlined. Our overriding reason for teaching entrepreneurship in the way we have chosen is the belief that it is especially suited to the development of entrepreneurial behaviours and skills. The transformation to student-centred, active, group-based learning from traditional, lecturer-centred, passive learning called for a dramatic and sometimes uncomfortable shift in the approach to teaching and learning. This initial uncomfortableness, it would appear, was shared equally by both lecturers and students. However, beyond this period of role adjustment, both the lecturing team and students appeared excited and enthusiastic about participation in the new Entrepreneurship programme. Data gathered to evaluate the Foundations of Entrepreneurship unit delivered in semester 1, 2003 provide an insight into the attitudes of students encountering this form of learning for the first time. Included below are several students' comments made on the confidential and unidentifiable Foundations of Entrepreneurship evaluation forms.

Seeing such interesting presentations was often inspiring.

The unit was extremely interesting and an enjoyable class to attend.

I really enjoyed this subject, it was interesting and challenging and I really enjoyed the presentations. Also, the fact that we were treated like adults and the self-marking.

Interesting way of teaching. The presentations allow us to make understanding of the unit.

Never thought learning can be so innovative and creative. Very glad I did this subject, it stretched my mind and creativity, and innovativeness. Highly recommend to other students.

Flexible learning is great and we still had contact with the lecturer, which is important.

To date, the introduction of an enterprising approach (Gibb, 1996) to teaching entrepreneurship at the University of Tasmania has been well accepted by students. The feedback received is that students are increasingly interested in enterprising activities that offer an alternative career path. However, with the first cohort of

students set to graduate from the Major within months, the issue of desired outcomes is coming into view. The value of group structures to provide a vehicle for individuals to collectively learn from doing, solve problems creatively, and respond to the feedback from within their learning environment may have some limitations.

Many students currently engaged in the Project Evaluation and Planning unit appear lost, confused, and unmotivated about working individually on their business plan. The Project Evaluation and Planning unit represents the first fully-fledged individual effort by students within the programme. A possible explanation of this loss of direction and enthusiasm in some cases may be the creative tension (Senge, 1990) associated with the students' vision of a future enterprise, and the current reality that becomes very visible when attempting to complete a solid business plan. This gap between vision and reality may provide a source of energy and creativity during the early stages of the Major. However, during the write-up stage of the business plan, the enormity of the task for those not fully committed to self-employment is becoming evident. It appears that the Project Evaluation and Planning unit has become a fork in the road. One path towards a strong and entrenched vision, the other to an emotional disappointment filled with anxiety, discouragement and worry.

So while the entrepreneurial abilities of a few are presently being demonstrated through their articulation of tight business concept, for many, the coming day of judgement (i.e. graduation) is overwhelming. Many students it would seem have yet to acquire all the necessary skills to complete a solid business plan. They lack adequate market research skills and the ability to prepare sound financial statements. What is also becoming clear is that not all students enrolled in the programme want to be an entrepreneur. They, however, appear to benefit greatly from the personal development aspects of the programme. It is conceivable that many have unrealistic visions of what they are capable of initially achieving. This suggests that the existing programme may require multiple entry and exits outcomes.

Originally, it was thought that the programme would make and ideal second major for many students. However, from the perspective that future students with different academic backgrounds (e.g. Commerce and Arts) will undertake the programme as either their first or second major, it is likely that future cohorts will have different desired outcomes. For many the programme will supplement their first chosen major, with outcomes perhaps more related to intrapreneurship. Under these circumstances the

nature of the business plan completed in the Project Evaluation and Planning unit changes. The business plan may revolve around an existing business or even a phantom business that will never exist. Alternatively, the business plan may represent either a bold graduation business venture or a baby business designed to offer a safe haven for experimentation and future learning. However, regardless of the purpose for completing the business plan, the abilities of students to undertake market research and prepare financial statements must improve. This suggests that the behavioural skills associated with presentations and assignments may need to be broadened to include these areas. Attention to these issues will increase the programmes concentration on the developmental processes that enable entrepreneurs (or intrapreneurs) to exploit future opportunities. This would also enable the expectations of individual students to be better managed within the programme, thus reducing the possibilities of creative tension negatively impacting students completing the Project Evaluation and Planning unit.

Conclusion

This paper began by suggesting the need for entrepreneurial education to be conducted in a different learning environment. Essentially, a teaching style that is action-oriented, supportive of experiential learning, problem-solving, project-based, creative, and involves peer evaluation. The results so far reinforce our commitment to this style of teaching. However, just as entrepreneurship is not easily defined, neither are the motivations and expectations of students enrolling in the Entrepreneurship Major. Given that popularity of entrepreneurship at the University of Tasmania is likely to increase, the challenge remains deliver a programme that is relevant to differing needs of students. This is a challenge that must be met immediately to ensure the value of the energy and enthusiasm created through the delivery process spills over into the Project Evaluation and Planning unit. Without students completing the requirements of this unit in a context relevant to them (i.e. baby business, existing business, phantom business, or a bold graduation business venture), the outcomes related to the programme may be diminished. It would seem an ongoing learning process awaits both the developers of the programme and the students enrolled to identify desirable outcomes.

Rather than seek to interfere unduly with the nature of students expectations, it seems the potential outcomes for students need to be

repositioned. Student acceptance of student centred learning is high regardless of individual intention to engage in new enterprise. What appears to differ is the students' appreciation of what they expect to gain from the major. The skills developed throughout the major (e.g. communication, problem solving, teamwork, self-management, presentation, planning, and self-management) fit nicely with calls from industry groups representing the needs of future employers. The fork in the road that divides students between self-employment and those desiring employment should not be viewed as a negative. Education of this kind enables the development of skills that are transferable (Cooper *et al.*, 2004) across all workplace settings, therefore increasing student employability. It should not simply be the number of new enterprise start-ups that determine the future direction and (internal and external) assessment of the major. The development of a truly student centred learning experience that delivers measurable outcomes for future entrepreneurs and innovative employees should be the aim of any such programme.

References

Adcroft, A., Willis, R. and Dhaliwal, S. (2004), "Missing the point? Management education and entrepreneurship", *Management Decision*, Vol. 42 No. 3/4, pp. 521-30.

Barney, J.B. (1991), "Firm resources and sustained competitive advantage", *Journal of Management*, Vol. 17 No. 1, pp. 99-120.

Barney, J.B., Wright, M. and Ketchen, D.J. (2001), "The resource-based view of the firm: ten years after 1991", *Journal of Management*, Vol. 27 No. 6, pp. 625-41.

Bechard, J.P. and Toulouse, J.M. (1998), "Validation of a didactic model for the analysis of training objectives in entrepreneurship", *Journal of Business Venturing*, Vol. 13 No. 4, pp. 317-32.

Brown, C. (2000), *Entrepreneurial Education Teaching Guide*, 00-7, available at: www.celcee.edu/publications/digest/Dig00-7.htmlVol. 00-7, CELCEE Kaufman Centre for Entrepreneurial Leadership Clearinghouse on Entrepreneurship Education.

Caird, S.P. (1993), "What do psychological tests suggest about entrepreneurs", *Journal of Psychology*, Vol. 8 No. 6, pp. 11-20.

Charney, A.H. and Libecap, G.D. (2003), "The contribution of entrepreneurship education: an analysis of the Berger program", *International Journal of Entrepreneurship Education*, Vol. 1 No. 3, pp. 385-417.

Chia, R. (1996), "Teaching paradigm shifting in management education: university business schools and the entrepreneurial imagination", *Journal of Management Studies*, Vol. 33 No. 4, pp. 409-28.

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 & Higher Education*, Vol. 18 No. 1, pp. 11-22.

Dollinger, M. (2003), *Entrepreneurship: Strategies and Resources*, 3rd ed., Prentice-Hall, Englewood Cliffs, NJ.

Farrell, K. (1994), "Why b-schools embrace entrepreneurs", *Venture*, Vol. l6 No. 4, pp. 60-3.

Gibb, A.A. (1996), "Entrepreneurship and small business management: can we afford to neglect them in the twenty-first century business school", *British Journal of Management*, Vol. 7 No. 4, pp. 309-21.

Gibb, A. (2002), "In pursuit of a new 'enterprise' and 'entrepreneurship' paradigm for learning: creative destruction, new values, new ways of doing things and new combinations of knowledge", *International Journal of Management Reviews*, Vol. 4 No. 3, pp. 233-69.

Gottleib, E. and Ross, J.A. (1997), "Made not born: HBS courses and entrepreneurial management", *Harvard Business School Bulletin*, Vol. 73 February, pp. 41-5.

Kourilsky, M.L. (1995), *Entrepreneurship Education: Opportunity in Search of Curriculum*, Center for Entrepreneurial Leadership, Ewing Marion Kauffman Foundation, Kansas City, MO.

Kuratko, D.F. and Hodgetts, R.M. (2001), *Entrepreneurship: A Contemporary Approach*, 5th ed., Harcourt College Publishers, Sydney.

Lord, M. (1999), "Attention, aspiring capitalists: B-school students are studying entrepreneurship", *US News Online*, available at: www.usnews.com

Matlay, H. and Mitra, J. (2002), "Entrepreneurship and learning: the double act in the triple helix", *International Journal of Entrepreneurship and Innovation*, Vol. 3 No. 1, pp. 7-16.

Mitra, J. (2002), "Consider Velasquez: reflections on the development of entrepreneurship programmes", *Industry & Higher Education*, Vol. 16 No. 3, pp. 191-202.

Noll, C.L. (1993), "Planning curriculum for entrepreneurship education", *Business Education Forum*, Vol. 47 No. 3, pp. 3-6.

Porter, L. (1994), "The relation of entrepreneurship education to business education", *Simulation and Gaming*, Vol. 25 No. 3, pp. 416-9.

Roach, K. (1999), *Entrepreneurial Education Planning for Success Syllabus*, North Georgia Technical Institute, Clarkesville, GA.

Senge, P.M. (1990), *The Fifth Discipline – The Art & Practice of the Learning Organization*, Random House, Sydney.

Vesper, K.H. and Gartner, W.B. (2001), *University Entrepreneurship Programs*, Lloyd Greif Center for Entrepreneurial Studies, Marshall School of Business, University of Southern California, Los Angeles, CA.